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**VALUE CHAIN COORDINATION: A NEW STRATEGY FOR DEVELOPING SOFT  
INFRASTRUCTURE IN REGIONAL AGRI-FOOD SYSTEMS IN THE UNITED STATES**

A Dissertation in  
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by  
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## ABSTRACT

Public and policy interest in local and regional food systems remains strong in the U.S., but there is debate about strategies for food system development that will achieve economic development, equity and environmental goals. To address the continuing viability challenges facing small and mid-scale food producers, attention has recently shifted towards the potential importance of “soft” or “social” infrastructure through enhanced coordination of regional values-based food supply chains. This research offers an in-depth critical examination of *value chain coordination* through a mixed methods nested case study focused on the national and regional work of Food LINC (for *Leveraging Investment through Network Coordination*), a pilot initiative led by a partnership between the U.S. Department of Agriculture and an NGO, the Wallace Center that was launched in 2016.

The research design centers on a focal national-level case study of Food LINC, including its support of “value chain coordinators” in 13 sites across the U.S. Examination of the national case study fills theoretical and applied gaps in understanding how value chain coordination work is organized and performed, while nested regional case studies in two of the 13 sites examine how coordination efforts contribute to developing relationships or *social infrastructure* for regional food value chains, through convening events that brought together value chain actors focused on mixed organic products and small grain and malt products in Southeastern and Mid-Atlantic U.S. cases, respectively.

Drawing from organizational sociology, this study applies a process of legitimation framework to examine how concepts of “value chain coordinator” and “value chain coordination” are understood and function within Food LINC as new prototype strategies

for agri-food development. This study further integrates network and development literatures on social infrastructure to frame the relationship-building that value chain coordinator professionals influence through organizing convening events in their respective regions. The nested case studies integrate social network analysis surveys and qualitative interviews to show how convening events foster embedded, horizontal and vertical tie formation among and between direct value chain actors and indirect, or support actors such as research, Extension, advocacy non-profits, and lenders. This study identifies contradictions and challenges within the notion of individual *value chain coordinators*, while finding that *value chain coordination* co-performed by multiple regionally-focused individuals and organizations may be a viable strategy for values-based supply chain development, and regional and entrepreneurial development more broadly, with caveats that the work is transitional and hybrid in nature.

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## LIST OF KEY TERMS AND ABBREVIATIONS

**Value Chain Coordination (VCC):** the roles and activities performed by food system professionals and others, as well as the ensuing effects.

**Value Chain Coordination Professional (VCCP):** a particular individual performing value chain coordination tasks and activities.

**Value Chain Coordination Entity (VCCE):** a specific business or organization within which one or more VCCPs may work.

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## **CHAPTER ONE**

### **INTRODUCTION**

Technological changes and federal agricultural policies continue to advance a more than three-decade long trend of consolidation in U.S. agriculture which has led to the growing economic dominance of fewer and larger producers and production operations (MacDonald, Hoppe and Newton 2018). At the same time, there has been growing concentration in markets throughout the food and agricultural system, with fewer suppliers of critical inputs and services and fewer processors and buyers in most commodity sectors (Howard 2016). The ongoing restructuring of the food and agricultural system has put continuing pressure on the viability of small and medium-sized farms (Lyson, Stevenson and Welsh 2008; DeMaster 2018). In response, some have emphasized developing niche market opportunities such as direct sales through farmers markets and Community Supported Agriculture (CSA) to support smaller scale producers and to address the growing consumer demand for local and regional food products.

However, others are concerned that these direct market opportunities which represent less than 2% of total market share in the country, are not large enough for mid-scale farms (Kirschenmann et al. 2004). Farms that represent this disappearing “agriculture of the middle” are often too large to rely on direct market channels, but also too small to compete in commodity markets (Lyson, Stevenson, and Welsh 2008). During the past decade, public and private funders in the U.S. have turned to a newer set of strategies focused on reviving and developing wholesale and intermediated market channels to build regional farm and food economies that can support small and medium

scale farms. These efforts have focused heavily on developing needed “hard” infrastructure such as food processing or aggregation and distribution facilities (often known as “food hubs”) that will provide small and medium scale farm and food producers the ability to reach larger markets within their regions. However, the results of “hard” food systems infrastructure investments thus far have been mixed, with some ventures experiencing great success, while others have eventually failed (Barham 2016).

Insights from some of the less successful ventures have inspired a more recent shift in strategy for supporting regional agricultural and rural development. This newer approach emphasizes the importance of “soft” or social infrastructure in the form of better business and social connections between food systems actors in a particular region. Soft infrastructure is thought to undergird a community’s ability to cooperate effectively and make efficient use of hard infrastructure resources (Barham 2015; Brislen et al. 2015). However, there is a pressing need to understand in more detail if and how soft infrastructure approaches work to develop and strengthen regional food systems in countries like the United States.

## **Research Aims**

This dissertation offers a critical exploration of *value chain coordination* as a strategy for developing soft infrastructure to support small and midscale producers in local and regional agri-food networks in the United States. Through in-depth consideration of the case of the Food LINC initiative, a public/private investment jointly led by the United States Department of Agriculture (USDA) and the Wallace Center, a leading U.S. based sustainable agriculture and food NGO, this research examines the emergent concept and

recent practice of food value chain coordination (VCC) both nationally and in two specific regions in the U.S. The study considers the specific and varied roles of individuals now doing VCC work, as well as the organizational context for such work and some of the impacts of VCC work within communities. The purpose of this mixed methods nested case study of the Food LINC initiative is to provide a theoretically informed empirical assessment of a significant public-private initiative that seeks to bolster the development of local and regional food systems in the U.S. in order to provide recommendations to improve future practice and policy. This research integrates literature from diverse academic fields including the sociology of food and agriculture, the sociology of organizations, network analysis, supply chain management, development and economic sociology, and applied agricultural economics to address the complexities, cross-sectoral features and interdisciplinary nature of value chain coordination work. This research applies the process of legitimation framework (Johnson et al. 2006) to describe the emergence and possible trajectory of value chain coordination as a new construct within agri-food systems development, while utilizing a social networks perspective of social capital and brokerage to describe the process and impacts of relationship development among value chain actors and others within VCC communities.

Over the past decade, strategies have been explored to bolster the viability of small and mid-scale food producers and processors and strengthen food economies linked to specific communities and geographic regions. While previous investments focused on rebuilding eroded physical food systems infrastructure such as aggregation and processing facilities and delivery and transportation logistics, more recent attention has shifted from these “hard” investments to efforts which instead focus on developing “soft” or “social

infrastructure." By examining the focal case study of the Food LINC initiative, a public-private development program intended to bolster food economies through investment for training and funding for individuals to build and foster relationships among diverse actors across the food value chain in their respective geographic regions, this research aims both to interrogate and to enhance the emergent concept of agri-food *value chain coordination*. It describes individuals, organizations, processes and activities that encompass VCC work, while using network concepts to frame the impacts of VCC work through social infrastructure and social capital development. This dissertation examines findings on the roles and impacts of value chain coordination through the broader framework of legitimation, suggesting challenges and support for value chain coordination as a new social prototype. The history of the development of Food LINC initiative, which I was a part of as an engaged researcher since its inception, is outlined in the following section.

### **Overview and Brief History of the Food LINC Initiative**

Because this dissertation is closely tied to a specific programmatic endeavor to foster and improve value chain coordination, it is necessary to describe the genesis and history of that initiative. In the Fall of 2015, towards the end of the Obama Administration, the Know Your Farmer, Know Your Food (KYF2) initiative of the USDA committed one million dollars towards funding and supporting what they called "food value chain coordinators." Through a cooperative agreement with USDA Rural Development, the Wallace Center at Winrock International joined in at the launch of Food LINC to serve as a leadership partner for this initiative. In tandem with USDA staff, Wallace Center staff coordinated the program through a combination of federal Rural Development funding and

private matching funds from each of the Food LINC value chain coordination entity participants. Seeking to enhance ongoing efforts to develop local and regional food networks, the new initiative was named Food LINC (LINC standing for Leveraging Investment through Network Coordination). Food LINC targeted both urban and rural communities across the U.S. where promising and innovative food systems business networks had already emerged. The initiative reached out to varied organizations and business structures including food hubs, non-profits, retail co-operatives, and local government and partnership groups in which individuals engaged in value chain coordination work were situated (Wallace 2017). Food LINC provided the organizations and businesses that ultimately participated in the initiative with direct support in the form of two years of matching funds for value chain coordination professionals' (VCCPs') work. The expected returns from this investment were increased revenue, discernible job creation, as well as increased access to healthy and affordable food in the targeted communities (USDA AMS 2016).

The Wallace Center and USDA Agricultural Marketing Service (AMS) leadership selected participating Food LINC communities by identifying geographic areas where value chain coordination efforts were a) either established or b) had sufficient traction to support a new position centered on value chain coordination. Of the initial ten communities that joined Food LINC in January 2016 for its first year of operation, half were located within Strikeforce for Rural Growth and Opportunity initiative states, states with high rural poverty and which have been identified by the USDA as areas of focus for economic development (USDA 2015). Nine months into the initiative, three additional communities

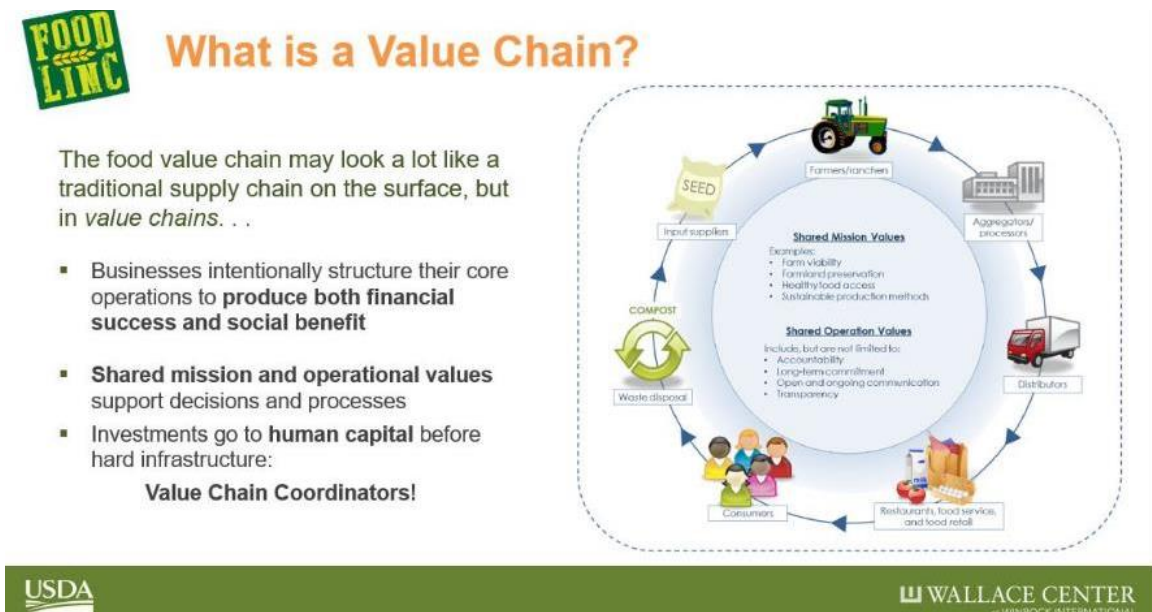


in California, Texas and Illinois joined Food LINC to broaden regional diversity of the pilot cohort members.

In addition to channeling funding support, the Food LINC initiative also sought to create a community of practice (CoP) in which individuals doing work related to value chain coordination could share with and learn from each other. The Wallace Center facilitated the VCC CoP to include monthly phone calls, webinars, an email listserv, and in person-site visits, workshops and field trips for participating members of Food LINC. The community of practice, comprised of VCCPs and federal government and foundation staff, first all met in person at a kick-off event at the USDA in January 2016, and continued meeting on subsequent monthly phone calls. The in-person gatherings of Food LINC participants in the CoP included visits to Louisiana, Portland, Oregon, and Chicago, Illinois. On these trips, VCCPs had the opportunity to tour operations, receive trainings on special technical assistance topics such as funding, business operation management, evaluation and metrics, and equity and justice frameworks. Food LINC also supported VCCPs in attending conferences and participating in national meetings hosted by the Food Distribution Research Society, the Northeast Sustainable Agriculture Working Group, and National Food Hub conferences held in 2016 and 2018.

From the outset, a central focus for the Food LINC initiative has been the concept of *value chain coordinator*, a notion put forward in Food LINC training and public-facing materials, as shown below in Figure 1.1.

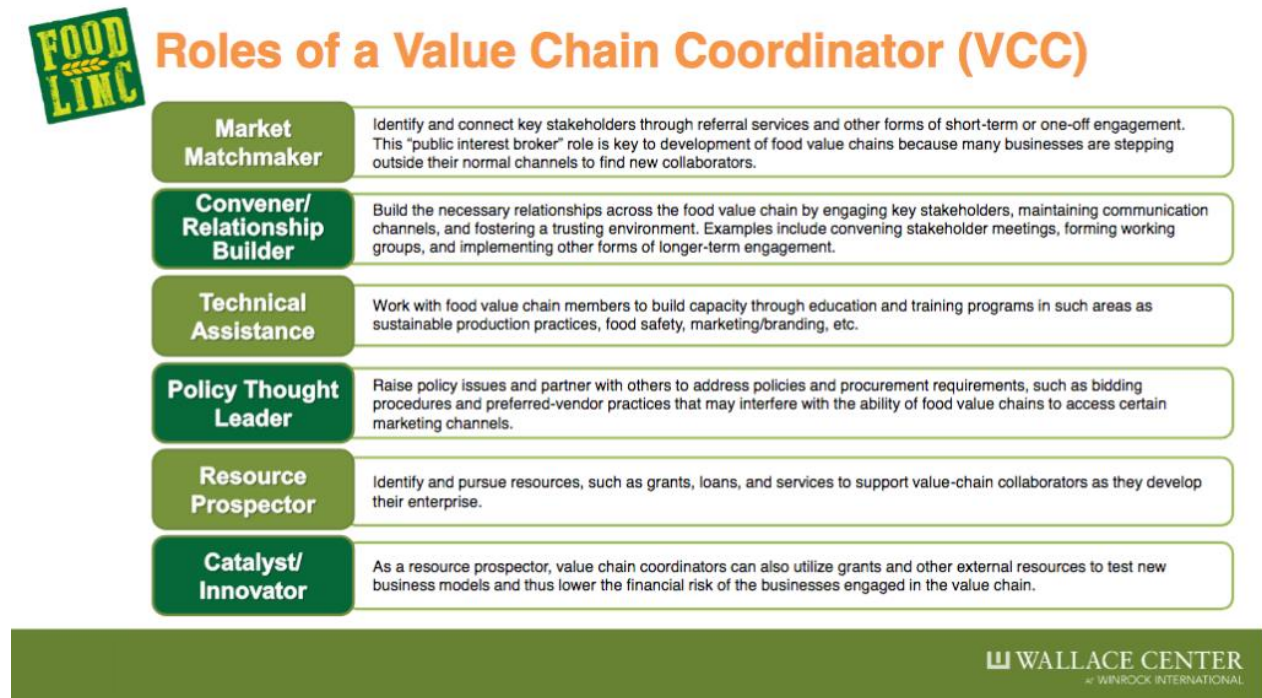
**Figure 1.1. Food LINC Description of Value Chain and Coordinators**



Source: Public-facing report on the Wallace Center website, the virtual homepage for the Food LINC initiative (Wallace 2016).

Beyond naming and spotlighting the concept of value chain coordinator, the Food LINC initiative further proposed and delineated six main activities or roles that value chain coordinators perform (Figure 1.2). These roles were mentioned and discussed frequently at Food LINC meetings and webinars within the CoP, and in public-facing reports on the Wallace Center website, as well as at conference presentations at the National Good Food Network Food Hub Conferences in 2016 and 2018.

**Figure 1.2. How Food LINC Has Presented Six Roles of Value Chain Coordination**



Source: Public-facing report on the Wallace Center website, the virtual homepage for the Food LINC initiative (Wallace 2016).

To understand the impact of the Food LINC initiative, leaders at USDA and the Wallace Center also contracted with a third part evaluator who was responsible for capturing metrics and assessing impacts of the program over its three years. The Wallace Center website, which is the formal home of the Food LINC initiative, shows report data from the evaluator reporting an important distinction among the types of organizations participating in Food LINC, based on discussions among the VCCPs regarding differences in the value chain coordination entities (VCCs) in which they worked. According to the report (Wallace 2017), six of the VCCs are "Social Enterprises" in which businesses are embedded in the value chain which they coordinate. Examples of these include food

distribution and aggregation hubs, kitchen incubators and retail outlets. The other seven VCCEs were referred to as “Relational VCCs,” which do not have their own infrastructure assets such as storage, distribution or retail space, but do work to move products through the value chain. Relational VCCEs tended to be housed in community development organizations, conservation organizations or local government (Figure 1.3).

**Figure 1.3: Food LINC Social Enterprises and Relational VCCs**



Source: Public-facing report on the Wallace Center website, the virtual homepage for the Food LINC initiative (Wallace 2016).

Food LINC’s explicit articulation of the concept of *Value Chain Coordinator* and the six roles or activities that individual coordinators do (or should) perform, as well as the distinction between social enterprise and relational value chain coordination entities, are points of departure for this dissertation’s inquiry into how the new concept of value chain

coordination becomes legitimized or challenged as a development strategy for regional food systems development.

The remainder of this dissertation is organized as follows. Chapter Two provides a review of recent relevant literature on the notion of the “agriculture of the middle,” value chain coordination, social capital development in agri-food systems and network frameworks. I conclude with the two research questions structuring this dissertation. In Chapter Three, I present the research design and methods and further relevant background on the focal national-level Food LINC case. In Chapter Four, I present the results from qualitative interviews with Food LINC value chain coordinator professionals, examining how VCCPs reinforce or contest concepts of “value chain coordinator” and “value chain coordination” as organizational social prototypes. In Chapter Five, I present results from the nested case studies in two of thirteen Food LINC sites, using social network analysis surveys and qualitative interview data from value chain actors, to show the effects of VCCP-organized value chain convening events on developing agri-food social infrastructure in their respective regions. Chapter Six concludes the dissertation with further discussion of key findings, limitations of the research, and directions for future research, practice and policy.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **Introduction**

To conduct this dissertation, it was necessary to complete a critical review of current and relevant literature. The review has been ongoing and adapted through research conceptualization and design, data collection, and data analysis stages. While the topic of coordination of value chains in agri-food systems is not new, this research investigates the novel use of the term “value chain coordinator” as a soft infrastructure development strategy for regional agri-food systems, focusing on the recent U.S. public-private partnership initiative Food LINC. This dissertation expands understanding about the use and significance of the term “value chain coordinator,” comparing language from public documents, perceptions of professionals who are within Food LINC and perform the coordination work, as well as actors within regional food systems who share the experience of being coordinated (i.e., buyers, suppliers, distributors, etc.). To develop this analysis, I first engage and inter-relate literatures from the sociology of agriculture, sociology of organizations, social networks, community development and applied agricultural economics.

I begin by discussing consolidation and concentration within the U.S. food and agricultural system, and also considering strategies to support small and mid-scale producers. While such strategies have included focus on direct and local markets, they have more recently stressed the importance, but also the challenges, especially for producers, of “scaling up” to reach larger wholesale and intermediated markets (Mount

2012). Although hard infrastructure development through funding food hubs has been a key strategy pursued by public and private food systems funders, attention has more recently turned to developing 'soft' or social infrastructure to improve linkages among actors in regional food systems and to help regional partners make better use of new and existing hard infrastructure resources. I introduce the concept of *value chain coordination* from applied economic development literature on wealth-building, as an important antecedent to the terminology adopted by Food LINC, the focal case study for this research.

Additionally, I review the origins of the regional agri-food concept of *values-based supply chains*, and its predecessor concept, *value chains*, with its origins in business and management literature. Value chains and values-based supply chains have been shown to create competitive advantage and generate wealth for individuals and the entire cluster of value chain actors who, when geographically proximal, cooperate with one another. Still, there is a significant gap in the literature regarding the governance and coordination of these chains, including what roles are needed to build and maintain chain functionality. Finally, I conclude this chapter by presenting economic and community development theories where social infrastructure plays an important role, and which speak to issues of coordination and governance that are relevant for this dissertation's broader inquiry into the conceptual contours, empirical manifestations and practical significance of food value chain coordination.

### **Restructuring of the U.S. Agri-food System and Concerns about Agriculture of the Middle**

Over the past several decades, the United States has seen increasing consolidation in the agricultural production sector, as croplands shift to fewer and larger farms (Hoppe et

al. 2010; O'Donahue et al. 2011). Structural changes within the U.S., such as shifting tax policies, lending programs and environmental and safety regulations, coupled with producer adoption of technological advancements, have resulted in better financial returns for larger farms that use labor and capital more intensively (MacDonald et al. 2013), while the development of new international rules, regulations and private standards have promoted larger-scale operations and consolidation in global food production, processing and retailing (Busch and Bain 2004; Henson and Reardon 2005). Increasing vertical integration among global agri-food supply chain actors (Hendrickson et al. 2001), concentration of power of global food manufacturers (Howard 2016) and supermarket retailers (Burch and Lawrence 2005) are also on the rise. The market dynamics of increasingly consolidated, industrial-scale agricultural production and food manufacturing have led to growing economic challenges for small and medium size farmers in the United States, leading many families to abandon farming as a livelihood (Lobao and Meyer 2001; Constance 2014).

Scholars addressing issues of the "Agriculture of the Middle" (AOTM) have identified challenges which have led to the decline of mid-scale producers (Stevenson et al. 2001; Lyson et al. 2008). Mid-scale farms, with between \$10,000 and \$250,000 in gross annual sales, manage significant land resources and account for an important part of the U.S. farm population (Guptill and Welsh 2014: 37). Many of these farms are what the USDA's Economic Research Service considers "farming-occupation farms" and "large family farms" (Hoppe et al., 2000, Hoppe et al., 2010; Hoppe and MacDonald, 2013). The loss of these farms therefore has implications for landscape, environment, soil health and consumer choice (Kirschenmann et al. 2008). While consumer demand has grown for locally-



produced, niche products produced with environmental and social values (Martinez 2010), challenges remain for smaller and mid-scale producers to access these markets. AOTM scholars suggest that consideration of the “agriculture of the middle” is not just matter of scale, but also of markets, with mid-scale farms in particular being too large to rely solely on direct-to-consumer markets and too small to be competitive in large-scale commodity markets (Kirshenmann et al. 2008).

To better address the economic viability of small and medium size farm operations, AOTM scholarship has further examined the development and operation of values-based supply chains as a promising alternative market strategy (Clancy and Lehrer 2010; Low and Vogel 2011; Stevenson et al. 2011; Guptill and Welsh 2014). Before its application in regional agri-food development, however, the values-based supply chain concept had roots in the field of business and management, the history of which is explored in the following section.

### **Development of the Agri-food Value Chain Concept**

The concept of “value chain” was first articulated in the business management literature by Porter (1985), who described the manner in which a raw product’s value is increased through subsequent and interlinked processing activities, so that a firm’s ability to integrate these processes provides a greater return and advantage over competitors. Given challenges articulated with the increasing vertical integration of the global food system, it is not surprising that regional food scholars turned to this approach to capture more value for small and mid-scale producers through fostering linkages across production, processing and distribution. However so as not to lose the unique attributes

that set apart small and mid-scale producers from commodity production, AOTM scholars adapted Porter's concept to recognize "values-based" in addition to "value creating." Regional values-based supply chains (VBSCs) are thus defined as "strategic business alliances among small and medium sized farms or ranches and other agri-food enterprises that (a) handle significant volumes of high quality, differentiated food products; (b) operate effectively at regional, multistate levels; and (c) distribute profits equitably among strategic partners" (Stevenson et al. 2011:27). In contrast to arms-length commodity chains, VBSCs emphasize sharing goals, risk and profits among the actors in the chain, where relations are based on high degrees of trust and transparency (Stevenson and Pirog 2008). Social, cultural and quality values of the products or associated with the manner of processing and distribution are also features which make values-based chains distinct from commodity arrangements (Lev et al. 2015).

In the field of community and economic development, notably similar concepts of value chains as development strategies emerged around the same time. Launched in 2009, research associated with the Ford Foundation's Wealth Creation in Rural Communities Project helped to propel the concept of wealth building value chains (WBVCs) as a development strategy for rural Appalachian communities (Ratner and Allen 2013). WBVCs are described as "a business model based on shared economic, social and environmental values in which buyers, processors, producers and others work together for mutual benefit to create value in response to market demand (Ratner and Markley 2014:346). In WBVCs, Ratner and colleagues depict a coordinated network of people, businesses, organizations and agencies that address market opportunities and meet demand for products and services, while being rooted in a commitment to building local and regional wealth.

Publications from the Agricultural Marketing Service within the USDA have similarly promoted this strategy, suggesting that values-based supply chain arrangements have the capacity to distribute equity among stakeholders, meaning opportunities for producers to receive a greater share of the profits than through traditional commodity chains (Diamond et al. 2014). Such work suggests that food value chains move differentiated product through regional networks of food producers, distributors, buyers, and end customers and are distinct in their “commitment to transparency, collaborative business planning and exchange of market intelligence and business knowhow among chain partners, and their interest in developing business strategies and solutions that yield tangible benefits to each participant in the system” (Diamond et al. 2014:iii). Such applications in community and agricultural economic development use the abbreviated terminology of “food value chains” or “value chains” which make it difficult to distinguish these new arrangements from the original definition provided by Porter (1985), and even international definitions of value chains used in international development contexts (McMichael 2013; Stahlbrand 2017). This ambiguity between *value chains* and *values-based food chains* is a thread that carries forward through the literature and in practice, including in the USDA initiated program, Food LINC that provided the focal case for this research.

### **Research on Agri-food Value and Values-Based Chains**

Research on value chains has been growing, with attention to the way they are created and how they develop and perform over time. Empirical work has explored the values-based supply chains approach in various case studies conducted across the U.S. (DeMaster 2018), including studies on VBSCs to foster food hub development (Jablonski et

al. 2011; Fischer et al. 2013; Hardesty et al. 2014; Hardy et al. 2015), to promote regional agricultural development (Selfa and Qazi 2005; Clark and Inwood 2015), to increase farm-to-school, institutional and intermediated sales (Feenstra et al. 2011; Dimitri and Gardner 2018) and to access large retail markets through “hybrid” chain arrangements with more conventional partners (Bloom and Hinrichs 2011a; Bloom and Hinrichs 2011b). In recent years the values-based supply chain approach has also emerged in European scholarship examining effects on territorial development and farm level viability and resilience (Hooks et al. 2016; Ostrom et al. 2017; Stotten et al. 2017).

Across the literature there is evident interest in understanding the drivers of VBSCs, with particular questions regarding the structure and governance of value chains, including the actors who participate, how value chains are created and organized, and how business relationships among and between value chains are fostered and sustained over time. In their initial articulation of VBSCs in a local food context, Stevenson and Pirog (2008) acknowledge the importance of facilitation for connecting disparate actors and expanding the value chain network to include more diverse participants. Clancy and Ruhf’s (2010) concept of ‘driver organizations’ was an early reference to need for a coordinating entity that also helps to ensure trust, transparency and equity in food chains. Others have referred more generally to the importance of ‘outside actors’ (Lerman 2012) such as non-profits that can help to facilitate, provide outreach and education (Zajfen 2008; Diamond and Barham 2011) and to provide access to grants and funding to support food chain activity (Schmidt et al. 2011), as well as community partners who act as liaisons between different VBSC actors and help to institutionalize processes (Conner et al. 2011).

From the community and economic development scholarship, which is not limited solely to the agri-food sector, Ratner and Markley (2014) suggest that a wealth-based framework for regional development is stimulated by investments in material, social and environmental assets. They see “coordinating institutions” as critical for facilitating chain development. From the same Ford Foundation research, Lyons and Wyckoff (2014) reframe the concept of the “intermediary coordinating institution” to “value chain coordinators,” or individuals or organizations which they suggest perform a specific set of roles. More recently still, applied agricultural economists have discussed how VBSCs nest within the broader context of regional food networks (RFNS) in which “umbrella organizations” (Duncan et al. 2018) and “network coordinators” (Lyons and Lee 2018) are important, but not always available in communities. While many parallel ideas have emerged to refer to the importance of coordination within values-based, value, wealth creating chains and food networks, no single model or concept has yet achieved prominence. Questions still remain about which individuals and entities are best suited to perform the coordinating work, what the roles of coordination entail, as well as broader questions about evaluation, funding, and governance that gain complexity from the nested and overlapping scales at which coordination of VBSCs occurs.

### **Legitimation Potential of Value Chain Coordinator Concept**

As suggested above, the concept of a coordinating entity for values-based and value chains has not been formally set or agreed upon in the Agriculture of the Middle literature. This study examines the new use and prioritization of the term “value chain coordinator” by the USDA’s Food LINC initiative to signal a particular and important professional

endeavor-- developing better social and business connections across regional agri-food values-based chains. Food LINC describes itself as a 'pilot' initiative dedicating funding to entities selected as now performing or potentially performing the roles of "value chain coordinator." Thus, Food LINC's use of "value chain coordinator" may be seen through a sociology of organizations lens (cf., Meyer and Rowan 1977; Meyer and Scott 1983), where value chain coordinator is considered an emergent organizational form, or a *social prototype* concept. Within the sociology of organizations, researchers claim that legitimacy is critical to organizational survival and success and that the pathway to legitimacy is itself a social process that merits exploration (Zelditch 2001). Theories of legitimation trace back to Weber's (1978) fundamental articulation that legitimacy arises through the collective construction of social reality, comprised of norms, values and beliefs.

From an institutional perspective, Meyer and Scott (1983:201) suggest that legitimacy can be understood as the "degree of cultural support" that an organizational form receives. Others offer that legitimacy occurs when the actions of an entity are seen as "desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions" (Suchman 1995: 574). Organizational ecologists suggest that an organizing form is legitimate when its form is assumed or taken for granted (Hannan and Carroll 1992). Johnson, Dowd and Ridgeway (2006: 57) argue that across varying definitions of legitimacy, all definitions share fundamental similarities including that 1) legitimacy is created through the construction of social reality, 2) although mediated by individual perceptions and behaviors, the process of legitimation is a collective one, 3) legitimation is dependent on apparent, not actual consensus of actors in a local situation, and 4) legitimation includes a cognitive dimension that it is valid and

normative, and also a prescriptive dimension that the social object is morally right. In Chapter 4, I examine the concepts of *value chain coordinator* and *value chain coordination* as prototype ideas, applying Johnson et al.'s (2006) process of legitimation to frame the emergence and possible trajectory of these new constructs in agri-food development. The potential use of these concepts to guide future research and practice also depends on issues of measurement and metrics for assessing the outcomes of relationship-building aspects of value chain coordination. I now turn to a review of metrics in agri-food development research and draw specific attention to critical gaps in methods for soft infrastructure strategies, such as value chain coordination.

### **Metrics in Agri-Food Values-Based and Value Chain Research**

As value chain coordination is an emergent development strategy, so too are the methods for understanding impacts of this work. Some outcomes of food value chain coordination have been partially documented through gathering business operations data from food hubs or intermediaries that perform value chain coordination activities but are also engaged in aggregating, distributing, and sometimes retailing products (Matson et al. 2013; Diamond et al. 2014; Hardy et al. 2016). For operations that are embedded within the value chain and moving product, success has been tracked in measures such as gross sales, pounds or units of product sold, number of producers and vendors served, and jobs created or retained (Appalachian Sustainable Development 2017). Other scholarship has focused on articulating more externalized benefits such as economic multipliers, which capture dollars generated and the additional value created and captured by mutually supported businesses working together within a community (Jablonksi et al. 2016). Some

authors point to the limitations of economic indicators such as multipliers, as they count the potential as opposed to actual impacts (DeWeerdts 2009). For value chain coordinators who are not directly placed within the value chain and moving product, capturing economic impacts of their work may be especially challenging. There remains a gap in values-based and value chain research to understand how the “soft investments” in relationship-building lead to social and other types of outcomes.

O’Hara and Pirog (2013) caution that focusing exclusively on increasing jobs created can overshadow other kinds of benefits to social welfare, health, equity and environmental stewardship. Additionally, they suggest there is a need for studies that encompass a larger geographic scope and capture spillover effects of local food markets, including fostering entrepreneurship, attracting customers to patronize other local businesses, and the promotion of social capital within a community. Others promote the use of hybrid metrics to evaluate value chains, where economic measures are coupled with social, ethical and environmental aspects. Gomez et al. (2011) claim that in addition to economic costs, indicators should include considerations of distributional equity, impacts on environment including use of energy resources, social well-being of consumers and farmworkers. Stevenson and Pirog (2008: 138) suggest that value chains should be measured by “the increase of volume of food sold by companies that are committed to food quality enhancement, environmental and resource stewardship, transparency, and the equitable sharing of power and economic returns across the value chain.” Broader management literature has suggested that tracking new relationships made between buyers, sellers and consumers is a measurement of chain development, particularly in the context of



convening or trade show events, which is one strategy for coordination (Gottlieb, Brown and Ferrier 2014; Sarmiento, Simões, and Farhangmehr 2015).

More sociologically, social capital has been offered as a way to frame processes and outcomes of relationship development. Social capital has been articulated as a necessary component for development of communities, local and regional food economies, and business supply chains at large (Glowacki-Dudka, Murray and Isaacs 2013). It has been described in terms of benefit for individuals, businesses and organizations, chains, and whole networks or communities. The following section reviews intersecting research that engages network-based social capital and social infrastructure frameworks as a way to frame the impacts of value chain coordination. This includes cross-cutting literatures from the fields of supply chain management, food systems and community development, economic sociology, business and network analysis.

### **Social Capital in Agri-Food and Economic Development**

Social capital has played a prominent role in food systems research in the United States over the past several decades. At a local community level, interaction between and among producers and consumers is said to be key for stimulating innovation in a direct market context (Hinrichs et al. 2004). Benefits for regional economic development occur through individual connections of backwards and forwards linkages of interfirm actors, as well the clustering and agglomeration that fosters both cooperation and competitiveness (Boys and Hughes 2013). Likewise, the absence of social capital or fragmentation has been found to create more competition rather than cooperation among actors in local food chains (Hinrichs 2000; McFadden and Marshall 2014). Social capital linked to specific

placed-based contexts has been viewed as part of development strategies that contribute to increasing capacity, prosperity and adaptability of communities (Wilson 1997; Chaskin 2001), community agency (Brennan and Luloff 2007) and entrepreneurial activity (Flora and Flora 1993; Swanson 1992; Flora et al. 1997; Sharp and Flora 1999; Sharp et al. 2002). Social capital has been further linked with creating and enabling other forms of capital (Flora et al. 2005) and rural wealth (Ratner and Allen 2013).

In describing the process of how WBVCs are developed and sustained, Ratner and Allen (2013) articulate a capitals framework, which they call “Wealthworks.” The capitals framework describes the interplay of seven capitals that must be fostered to achieve and sustain rural wealth. Influenced by the work of Emery and Flora (2006) and Pender et al. (2012), Ratner and Allen (2013) suggest that seven capitals are necessary to foster and maintain rural wealth. These include social, individual, built, natural, political, financial and cultural capital. Chief among the capitals is social capital, which they describe as leveraging and serving as the foundation for building and expanding other capitals. Important to this process are value chain “intermediaries” who hold the vision, build relationships among all participants, and design strategic interventions to develop value chains to an appropriate scale. Given the risk of reducing robust relationships into commodities (Lin 2002), social capital has certainly been subject to critique. However, its potential to help make visible the otherwise hard to describe assets of relationships may outweigh some possible drawbacks.

## **Network Concepts Applied in Agri-food Research**

References to chain relationships as part of broader networks have been discussed in agri-food development research in the form of hybrid chains (Cohen and Derryck 2011), value webs (Block et al. 2008), and agri-food webs (Marsden 2010). Some scholars have offered reframing studies positing food and agricultural chains instead as relational and situated agri-food networks (Whatmore and Thorne 1997) or value networks (Meter, 2011). Cohen and Derryck (2008) link value chains to Lyson's (2004) concept of civic agriculture, defined as networks of small-scale producers, bounded in local communities, working together towards a more decentralized, socially and environmentally just food production system. Despite their having alternative goals, some scholars note that even local food value chains still operate in tandem with or within larger mainstream food systems (Feenstra and Ohmart 2012) and as such may sometimes reproduce some of the inequities they ostensibly oppose (Bloom and Hinrichs 2011a). Literature from the field of agricultural economics has described the notion of support activities as a "support ecosystem" in the context of regional food networks or RFNs (Lyons and Lee 2018:33), while geography scholarship has given rise to the idea of considering regional food networks as a unit of analysis to help reveal the embeddedness of the chains within communities (Jarosz 2000). Jarosz suggests that studying agrifood development from within communities and focusing on social relations, particularly trust and cooperation among actors, can help to identify obstacles and opportunities. Networks bring "industrial and organic, large scale and small-scale producers, brokers, retailers, and consumers together spatially and socially through their relations and interactions within regional agri-food networks" (Jarosz 2000: 281).

## **Linkages between Social Capital and Network Studies**

Research from the field of business and management on interfirm collaboration has shown social capital to be associated with high levels of innovation (Cohen and Fields 1999) and reducing risk, while increasing competitive advantage over arms-length business arrangements (Uzzi 1996). Research on intrafirm networks likewise links social capital with innovation (Cohen and Fields 1999; Landry et al. 2002), shared vision and extent of resource exchange (Tsai and Ghoshal 1998). Seminal research in economic sociology posits explicit connections between social structures and economic activities including effects on prices of goods and services, labor acquisition, and productivity, compliance and innovation (Granovetter 1985, 2005; Uzzi 1996). Broadly speaking, the social structure of networks, the development of which are forms of social capital, positively facilitates economic action by reducing transaction costs. In particular, reducing the costs of searching for viable business partners, as well as novel and appropriate information, reduces risk for those involved within the chains, while a lack of social capital may require more external controls including regulations, monitoring, and enforcement systems.

## **Network Definitions of Social Capital**

In its broadest sense, social capital can be understood as norms and networks that facilitate action and help individuals and groups to reach mutual goals (Portes and Sensenbrenner 1993). Adler and Kwon (2000: 93) offer a networks perspective on social capital, defining it as “a resource for individual and collective actors created by the configuration and content of the network of their more or less durable social relations.”

They explain that the primary distinction cutting across definitions of social capital is whether the benefits of the capital are oriented from an *egocentric* perspective, with a focus on an individual's direct and indirect ties to external actors, or a *sociocentric* perspective, concerned with the broader structure of collective actors and the attributes and configurations of all of the ties internal to the particular structure of the collective. Egocentric, or individual level analysis, can offer insight as to why certain actors perform better or achieve more rapid advancement than others as a result of their connections, whereas a sociocentric, or network level analysis, can reveal the community's overall capacity for benefits such as efficiency, innovation and resilience. Adler and Kwon (2000) note how most definitions of social capital tend to be focused either on the egocentric value generated for individuals (Bourdieu 1986; Coleman 1990; Portes 1998) or the sociocentric value for collectives (Fukuyama 1995; Putnam 1995). They offer a definition that incorporates both internal and external aspects of social capital, following the footsteps of a handful of other scholars (Loury 1992; Pennar 1997; Woolcock 1998).

Adler and Kwon (2002) put forth a useful organizing framework in their distinction between internal and external social capital. Internal social capital can be thought of as essentially structural social capital, and is the extent to which the network, or community, as a whole gains advantage from its overall structure. This kind of social capital enables people to work together for common purposes, facilitate norms of trust and reciprocity, and collaboratively achieve economic goals (Portes and Sensenbrenner 1993; Fukuyama 1995; Putnam 1995;). External social capital, often observed in the form of relationship ties, is the advantages that individuals receive which may include access to resources, knowledge, opportunities, support and other benefits (Bourdieu 1985; Burt 1992, 2004;

Knoke 1999). More simply put, “External ties to others give actors the opportunity to leverage their contact’s resources...internal ties create the opportunity to act together” (Adler and Kwon 2002: 24). Social capital can also exist at a network level, as where Coleman (1988) suggests that network closure, or density-- the extent to which actors in the network have ties to each other-- can facilitate benefits for the group by increasing trust and lowering the risk for actors to cooperate. In contrast, Burt (2002) warns that overly dense networks can lead to redundancy and substandard performance. Burt suggests that structural holes within networks create opportunities for the transfer of new ideas, as well as network resilience, as actors who serve as bridges are better able to anticipate change and suggest innovative solutions for adaptation. Freeman (1978) likewise suggests there is value in the extent that an actor has a position of betweenness, where an actor brokers information and resources between other actors and groups.

Social ties do not always contribute positively towards enhancing trust, collaboration or efficiency among actors. What some have called the “dark side” (Schulman and Anderson 1999), “down side” (Portes and Landolt 2000; Portes 2014), or paradox (Uzzi 1997) of social capital has been demonstrated in cases where too much connectivity can create redundancy or cliques and thwart productivity and efficiency of communication. Others stress that it is impossible to predict whether social ties will give rise to or solidify trust, or raise opportunities for malfeasance in the future; thus some authors suggest that the best strategy to is look to historical studies which show the development and evolution of ties to observe patterns in how network structures evolve (McGuire, Granovetter and Schwartz 1993). The concept of *social infrastructure*, a broader term for the interconnection of relationships, takes into account that social ties are not inherently

positive or negative, and are instead a neutral scaffolding, which depending on the specific context of the actors and their goals may either be perceived as a positive form of capital or as a burden.

### **Social Infrastructure Impacts on Economic and Community Action**

From the applied agricultural economics literature, linkages among food supply chain actors and support actors have been shown to reduce transaction costs for businesses in economic clusters in which actors are geographically proximal (Boys and Hughes 2013). Within these clusters, benefits occur through two channels: 1) direct supply chain linkages, which are impacted by sales, and 2) linkages between businesses that constitute other kinds of partnerships or collaboration, such as business-supported workforce training programs. These linkages outside of the direct chain are what Lyons and Lee (2018) refer to as the *support ecosystem* of regional food networks. Hughes and Boys (2015) apply the economic concept of “agglomeration economies” to suggest that benefits of reduced transaction cost occur among linkages of business activity that are clustered around a specific area. Porter (2000: 16) describes economic clusters as “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms, in related industries, and associated institutions in a particular field that compete but also cooperate in producing similar products.” Collaborating with proximal businesses and organizations creates advantage in economies of both scale and scope, reducing costs per unit and producing broader mixes of products, while also reducing distance related costs such as transportation. These findings were echoed by Brasier et al. (2007) in their study on agricultural clustering in Northeastern United States.

The value of social infrastructure and the relationship to economic action are situated within a larger debate between new institutional economics and economic sociology. New institutional economics brings up the core concept, notably absent in neoclassical economics, of transaction cost, that is, the cost of negotiating, securing and completing transactions within the market (Nee 2005). Critiquing neoclassical economics, Coase (1960) claims it is ill-equipped to deal with finding viable solutions to economic problems, because of its failure to recognize these costs. Coase suggests that transaction costs will determine whether firm activities are internalized or externalized. These activities include search costs, information costs, bargaining costs, decision costs, and policing and enforcing costs. Williamson (1981) builds upon Coase's idea of transaction costs, suggesting that firms are under constant pressure to adapt by economizing transaction costs, and the importance of governance structures to support credible commitments and agreements. North (1991) maintains that while norms and social ties are important, they are not sufficient to enforce credible commitments or agreements, and thus laws and rules provided by constitutional law are needed. Greif (1997) questions the significance of laws and rules asking why some economic actors follow rules but others do not, and further applies game theory to examine how cultural beliefs shape the relationships between principles and agents. This research on the importance of networks in value chain development is situated in what Nee refers to as the "sociological turn" in new institutional economics, ushered in by Granovetter's embeddedness approach. Granovetter (1985: 491) challenged the notion that institutional arrangements and generalized morality do not exist a priori, and instead asserted that trust in economic life is born out of social relations.



Granovetter (2005) posits that of all network social capital metrics, four primary attributes contribute to positive economic outcomes for those in the network. These attributes include the presence of structural holes, the presence of embedded ties, density of the network and the presence of weak ties. He suggests that when economic and non-economic activities are mixed, they have an effect on overall costs and available techniques for economic activity. A primary example he provides is the ability for economic cost savings to be achieved through non-economic institutions, processes and practices, such as recruiting employees through social networks. “Employers who recruit through social networks need not—and probably could not—pay to create the trust and obligations that motivate friends and relatives to help one another to find employment. Such trust and obligations arise from the way a society’s institutions pattern kin and friendship ties, and any economic efficiency gains resulting from them are a byproduct, typically unintended, of actions and patterns enacted by individuals with non-economic motivation” (Granovetter 2005: 35). Additionally, these attributes have been shown to lead to positive outcomes in the prices of goods and services, effective labor acquisition, employee productivity, compliance and innovation (Granovetter 1985, 2005; Uzzi 1996). These authors suggest that networks contribute three major advantages to economic development through facilitating trust, providing access to detailed, timely and reliable information, and allowing collective problem solving by actors (Granovetter 2005).

While Granovetter’s theory (1985; 2005) provides an appropriate lens to understand how value chain coordination may be fostering social capital creation that can be leveraged for economic gains, it focuses very specifically on the benefits for individuals

and firms. Values-based supply chain coordination arguably creates outcomes for more than just individual firms alone, although this is the primary focus of business and management scholars. Researchers from the fields of community and economic development also engage with the concept of social infrastructure to describe a community's capacity to foster entrepreneurial development. *Entrepreneurial social infrastructure* (ESI) is a concept that emerged from rural development scholars, describing the community level characteristics which make a community more likely to have the capacity to successfully engage in self-determined, endogenous economic activity (Flora and Flora 1993; Sharp and Flora 1997). Flora and Flora (1993) suggest that networked connectivity is essential for ESI and posit that effective, capital-creating networks have three main characteristics: a diversity of ties that are not too dense, horizontal ties for lateral learning, and vertical ties to institutions and outside resources.

Unlike recent scholarship which suggests that “social infrastructure” can be thought of as publicly accessible physical spaces or gathering areas in which informal social interaction takes place (Klinenberg 2018), this study follows the lineage of rural sociologists, who see social infrastructure as the relationships within a community that provide social scaffolding to foster leadership and decision-making capacity (Swanson 1992), as well as natural, political, intellectual, human and capitals (Flora et al. 2005) that influence a community's capacity for endogenous development. In one offshoot, the concept of ESI has been adapted to fit a specific industry, such as the case with Agricultural Social Infrastructure (or ASI), which links high agricultural production with the extent of a community's agricultural identity and engagement (Henshaw 2015). Others articulate that social infrastructure relates more broadly to rural enterprise development (Lyons 2002),

or entire community level entrepreneurial systems (Lichtenstein and Lyons 2001; Lichtenstein et al. 2004), which leverages assets and fosters new ideas within a community (Lyons 2005) and creates better market opportunity to achieve efficiencies by sharing resources (Li et al. 2015).

An entrepreneur's goal is to create or capitalize on new economic opportunities through innovations (Lichtenstein and Lyons 1996). An entrepreneurial community is one which has a "critical mass" of entrepreneurs engaged in creating new markets and where this group of entrepreneurs constitutes a "distinct, recognizable community within the community" or a "network of relationships through which support, resources, know-how and businesses pass" (Lichtenstein et al. 2004:7). Lichtenstein and Lyons (2001) propose the entrepreneurial development system (EDS) for transforming community economies. The goal of EDS is "to build a diverse supply of entrepreneurs who are capable of building successful companies in sufficient numbers to create wealth for the entire economy" (Lichtenstein and Lyons 2001:4). A community's supply of entrepreneurs is developed by increasing a developer's ability in the value chain to achieve their goals, and thus they suggest seeing development as increasing competencies to deal with emerging circumstances. Drawing from Ackoff (1981:35), development is "an increase in the capacity and potential, not an increase in attainment." They suggest that development not be solely focused on the attainment of new products to markets, new jobs, and increased sales. Rather, the increase of individual and collective capacity through skills, competencies and connections should be the measure of success.

This point aligns with the focus of VCCP work on convening, relationship building, and technical assistance providing, and also affirms challenges with metrics and evaluation

experienced by some VCCs in this dissertation research, which are presented in subsequent chapters. Lichtenstein and Lyons (2001) note that most development organizations are not focused on developing entrepreneurs, but instead narrowly focused on providing services or solutions to business challenges, and thus don't necessarily help the entrepreneur to develop their own capacity to solve their own challenges. Value chain coordination through developing intellectual, human and social capital enables businesses with resources to be able to innovate niche products and processes and respond more quickly to changes in the market. They stress the primary goal of enterprise development is primarily to develop entrepreneurs, and secondarily to provide services to help entrepreneurs become successful. As they express, "Land, labor, and capital are tangible assets that are easily duplicated by other firms and countries; they can be purchased. The ability to invent and innovate is an intangible asset that must be cultivated (Lichtenstein and Lyons 2001:9).

In the broader context of Flora and Flora's Community Capitals, VCCPs through their work contribute to the increased capacity of intellectual, human and social capitals for current and potential agri-food entrepreneurs. Values based supply chain development therefore nests at the intersection of economic, community and entrepreneurial development, as it has goals for supporting independent businesses, as well as the broader chains and regional communities in which they in turn are nested. Network and organizational governance, examined in the following section, presents a related area that is critical for understanding factors that may serve as drivers and influences on social infrastructure development.

## Network Governance

Scholars have made the point that effective social networks don't just spontaneously appear and coordinate themselves, but instead require attention and maintenance at varying levels. In their cross-sectoral study of value chain development, Lyons and Wyckoff (2014) found that the most effective value chains had individuals or organizations actively engaged in monitoring and coordinating communication, resources and information between actors of the chain. Scholars from network studies of organizations and businesses provide deeper insight on the characteristics of effective network structures that facilitate social capital creation. Network theorists who focus primarily on community development suggest this is a process of "knowing and knitting" the network, which includes mapping relevant stakeholders and their connections, identifying structural holes and clusters within the group, and building bridges for strategic partnerships (Krebs and Holley 2006). They use the terminology *network facilitator* and *network guardian* to describe the roles required both to manage individual operations and to coordinate needs in the network. Provan and Milward (1995) refer similarly to a "centralized core agency" to monitor activity, facilitate connections, coordinate projects, and delegate resources which was more effective in delivering client-service satisfaction than decentralized networks. They later refine this notion as "network administrative organization" (Provan and Milward 2001).

The governance structure of networks is openly debated, with considerations around tradeoffs of efficiency and resilience in having a centralized or decentralized coordinating entity. Research linking governance characteristics of networks to network effectiveness continues to be limited to a few case studies. Attempting to generalize which

network governance structures are most effective may be a somewhat moot point, as the question of effectiveness is a matter of perspective according to group and individuals' goals and values. Provan and Kenis (2008:229) suggest that the question of measuring network effectiveness should really begin with, "Effective for whom? Or, towards what end, or towards which goals?" Certain kinds of networks may value particular attributes over others; for instance, in the case of illegal collusion networks, networks were designed for secrecy over efficiency (Baker and Faulkner 1993). These studies show that defining what makes a network "effective" is relative and contextual to specific networks and the goals of the individuals who are coordinating them.

### **Brokerage Orientation**

In addition to governance structure, the orientation of individuals and organizations performing coordination of social infrastructure is another key area needing to be explored in considering food value chain coordination. In network theories, brokers are actors who transfer information or resources and serve as a link to other actors with complementary interests (Dubini and Aldrich 1991; Fernandez and Gould 1994). In addition to serving individual actors, brokers may create benefits at the network level, for example by expanding the group by soliciting new members and building strategic partnerships (Krebs and Holley 2006). Brokers have also been identified as engines of social capital generation, which theorists suggest is created through deliberate and intentional coordination of networks (Bourdieu 1986; Coleman 1988). Adler and Kwon (2000) suggest that social capital needs maintenance to remain productive, as untended relationships will otherwise erode over time. Although many authors agree that social capital is a public good, and that

its maintenance is the responsibility of the group (Putnam,1995), Kwon and Adler (2000) note that this seldom happens. This research looks at the work of Food LINC value chain coordination professionals through the lenses of brokerage and network governance, in particular through their work in organizing business to business and public convening events.

## **Conclusion**

Based on the foregoing literature review and the specific case of the Food LINC initiative, this dissertation poses two main research questions. First, *How is the work of food value chain coordination performed, contested and legitimized?* This question addresses issues raised in domestic Agriculture of the Middle (AOTM) scholarship in which there is reference to, but large gaps in understanding the practices, achievements and shortfalls of individuals and entities attempting to coordinate value and values-based supply chains. As the focal case study, the Food LINC initiative is examined as a prototype strategy for naming and organizing this coordination work. Chapter 4 investigates articulation of this new strategy of “value chain coordinators” and “value chain coordination” through reviewing public documents, materials, and interviews with professionals who have been deemed by Food LINC as national exemplars performing this coordination work. This research does not take the Food LINC designated term of “value chain coordinator” at face value, but instead problematizes the concept by elevating contested perceptions from the individuals in Food LINC who are performing this work. Using Johnson et al.’s (2006) framework, this research tests the proposed Food LINC concept of “value chain coordinator” as a new social prototype in the stages of legitimation. Chapter 4 additionally

examines a second social prototype concept which emerged from the interviews-- “value chain coordination”-- as a strategy shared among multiple individuals and organizations.

The second research question probes selected outcomes of the social prototype strategy of “value chain coordination.” I explore one of the main activities in value chain coordination-- organizing convening events-- with the question: 2) *How do the convening efforts of food value chain coordination professionals affect social infrastructure development in the regions in which they work?* Food LINC describes the investment in “value chain coordinators” as “soft” or social infrastructure, as opposed to hard infrastructure development, and represents a relatively new case of investing in social connectivity or infrastructure as a strategy for regional agri-food development. Assessing actual outcomes of social infrastructure development remains a gap in research and evaluation of AOTM and agri-food systems in the U.S. more broadly. This research addresses this gap directly. I turn now to Chapter Three and a discussion of the research methods for conducting this study.



## **CHAPTER THREE**

### **RESEARCH METHODS**

#### **Introduction**

This dissertation examines value chain coordination efforts of 13 food value chain coordination entities (VCCEs) participating in the Food LINC initiative, a public-private investment and training program launched in January 2016 and designed to strengthen and build ‘soft’ social infrastructure in local and regional food economies. Using a pragmatic mixed method, nested case study approach, this research combines qualitative methods and social network analysis to understand the functions, benefits, challenges and outcomes of value chain coordination work within local and regional food value chains.

I begin by describing the case study approach and research design. I also provide some further context and background on the Food LINC initiative to support research design decisions. I then describe the nested, comparative case studies of two VCCE sites at the regional level. I give an overview of the data collection procedures which included observation, network surveys and interviews across the two levels of cases. I then describe my analytical procedures for this mixed methods research, including the process of memo-writing, coding procedures, analyzing multi-level data sets, and interpretive approach. I conclude by discussing validity considerations and researcher stance.

#### **Description of Case Study Approach and Research Design**

This dissertation project employed case study methodology, which has utility not just as a methodology but as an overall research strategy. As Stake (2000:435) suggests, “case study is not a methodological choice but a choice of what is to be studied.” With

growing attention towards the role of value chain coordination, it was a logical and appropriate choice to utilize a case study approach to understand this emergent strategy in local and regional food systems development. Food LINC is a public-private initiative that supports 'soft' social infrastructure, putting forth the framework of value chain coordination for the first time in the local and regional food systems development space. Case studies can be useful for describing or explaining processes as they unfold (Yin 1994). This research emerged from the opportunity to examine the Food LINC initiative in "real-time," from shortly before its formal launch in January 2016 through June 2018, representing 2 ½ years of the three-year pilot initiative.

#### *Food LINC as National Focal Case*

This research begins from the premise that value chain coordination (VCC) is still an emerging concept in local and regional food systems, yet the functions of such work occur now in various settings and organizations across the U.S., even if not always formally identified as such. As Food LINC leaders sought to gain participants for their pilot cohort, they engaged professionals who were performing the roles of VCC in settings such as food hub businesses, agriculture and development non-profits, or planning groups within local councils of government. The VCCEs selected to be part of the pilot cohort of Food LINC were chosen because of their prior success building local food markets in their particular regions and communities, because they had dedicated at least one full-time position for VCC work, and because they were located in an area of relative economic need. Value chain coordination as proposed by the Food LINC organizers, USDA and the Wallace Center, has been framed as a development strategy with goals of increasing regional food production

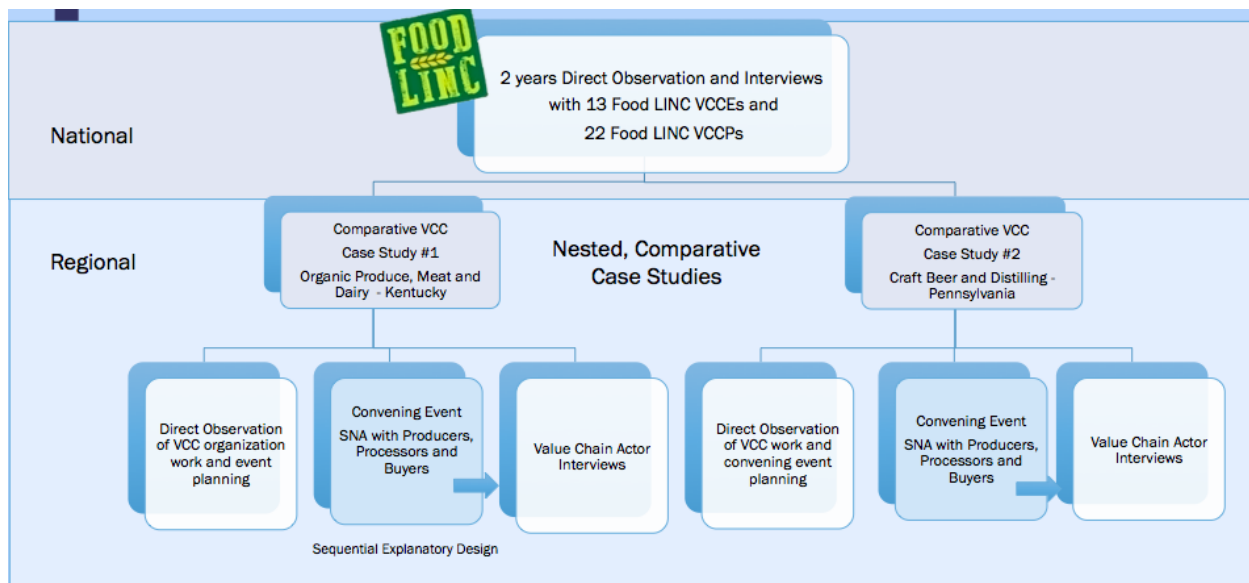
and sales and greater consumer access to regional food in respective communities (Wallace Center 2017). I have therefore selected the Food LINC initiative as the overarching case for this dissertation because it represents a unique instance of public-private collaborative efforts to pilot investment for social infrastructure of food systems in order to foster place-based development. Further, the Food LINC initiative uniquely elevates value chain coordination as a new development strategy and a potential profession within local and regional food systems. Following Stake's description of intrinsic cases (1995), Food LINC stands as a case of interest in and of itself because it represents the first publicly funded initiative framed as "soft infrastructure" development for regional agri-food systems through the novel framework of value chain coordination. Intrinsic case studies are intentionally exploratory, designed to tease out a particular phenomenon rather than build theory or make generalizable claims. The overarching focal case study of Food LINC is a cross between a unique case (Plano and Clark, 2008) and a prelude case (Yin, 1994) in its exploration of the emergent concepts of value chain coordinator and value chain coordination within regional agri-food development.

#### *Nested Regional Level Case Studies*

While the larger Food LINC initiative represents a national scale case, to understand the community level impact of value chain coordination among actors with whom Food LINC VCCPs work, this study also incorporates purposively selected, nested comparative case study analyses of value chain networks in two of the 13 Food LINC VCCEs. Tashakkori and Teddlie (2010) describe the concept of nesting in multi-level mixed methods sampling, when distinct units of analysis fit within each other. This dissertation research design

integrated the structure of nesting in two distinct ways. First, there were site level cases nested within the overarching Food LINC initiative case, allowing consideration of not only how VCCPs talked about their work, but also of how that work looked in action at two specific regional sites and communities in which VCCPs worked. A second form of nesting occurred in how the mixed methods data at the site level were analyzed and synthesized. Described in more detail later, the social network surveys distributed to local suppliers, producers, processors and buyers associated with each of the two sites generated social network sociograms of overlapping ego-data, visual representations of how actors were connected to each other in terms of business and professional advice sharing relationships. These network maps provided a visual space in which qualitative information is nested in a relational-spatial context. Figure 3.1 presents the dissertation research design and key data collection activities.

**Figure 3.1. Research Design: Food LINC as a Mixed Methods Nested Case Study**



Source: Author.

Broadly, this multi-level case study approach offers a process of some concurrent triangulation, in which the methods and various data sets inform each other in design and analysis. Specifically, social network analysis surveys were used to identify certain patterns of relationship development taking place among value chain actors in the two sites and created a boundary of analysis from which to observe, albeit partially, how value chain relationships were influenced by VCCPs. The social network analysis revealed structural characteristics of individual nodes and clusters of actors within the networks, which provided a relational context within which to examine and analyze the qualitative interview data.

I focused on two of 13 Food LINC sites in order to gain greater depth of knowledge about how value chain coordinators interact with and are perceived by actors in their respective communities. The two nested case studies both focused on VCCs specifically in the 'no hub' category (i.e., those without physical food hubs) who work in the purely relational space of building social relationships among current and potential value chain actors including direct actors such as: input suppliers, producers, processors and buyers and indirect support such as: lenders, researchers, and technical assistance providers. The comparative case study sites for this research were selected based on the size of network, the timing of their network coordinating activities with the length of time needed to conduct these analyses, and willingness and goodness of fit between value chain coordinators and their respective value chain members in participating with a year-long study. Additionally, each of these value chain coordinator organizations had planned convening events to facilitate networking and education for actors in the value chains, including farmers, processors and wholesale buyers.

The VCCE in the Mid-Atlantic region is a non-profit based in a major metropolitan area and coordinating the development of value chains focused on regional small grains including wheat, oats and barley for craft milling, baking and distilling. The second VCCE is in the southeastern U.S. and housed within a public-sector initiative at the municipal level, one that is working to build a stronger network of organic producers across the state and focusing especially on meeting the needs of the city’s restaurant, retail and institutional markets. These two “VCC site level” nested cases are also opportunities for cross-case analyses (Miles and Huberman, 1994), in which similarities, differences and uniqueness become important considerations for comparative analysis. Table 3.1 summarizes features of the two nested study sites.

**Table 3.1. Characteristics of nested Food LINC VCC case study site**

<b>Feature</b>	<b>Mid-Atlantic VCC Organization</b>	<b>Southeastern VCC Organization</b>
Commodity/product focus	Small grains for brewing, distilling and baking	Mixed organics (produce, meat, grains and dairy)
Length of time VCCE involved in coordinating value chain	Less than 1 year	3 years
Attendance at convening event	80 Individuals 44 Businesses	148 Individuals 82 Businesses
Number of network survey participants	20 (25%) Individuals 16(38%) Businesses	31 (21%) Individuals 27 (32%) Businesses
Value chain categories in network	Input Supplier, Producer, Processor, Distributor, Retailer, Extension/Research, Other Support: Lender/ Policy, Coordinator	Input Supplier, Producer, Maltster, Miller, Brewer, Distiller, Baker, Brew Pub, Restaurant/Retail, End Consumer, Education/ Research Other Support: Lending/ Marketing/Consulting, Coordinator

Organizing and hosting conferences and stakeholder meetings is a common strategy employed by VCCPs to facilitate market matchmaking, provide technical assistance, and foster systems-level conversations across diverse food systems actors in the network. In this study's two regional cases, such events focused on technical assistance particularly aimed at producers and processors, with topics such as: production and post harvesting techniques, value-added processing, quality control, packaging and marketing. Studying these convening events allowed more explicit, if still partial examination of the social connectivity work of the value chain coordinator organizations in each respective site. A significant portion of a VCCP's work takes place via one-on-one phone calls, emails and in-person visits to farms, processing facilities, restaurants, etc.

Because tracking relationships formed through emails, phone calls and visits would be overly intrusive and logistically impossible given time, resources and current technology on gathering social connectivity data, other approaches to data collection were needed. For this study, convening events represented unique VCCP-led settings where a majority of the direct and indirect support actors in the relevant food value chains came together to interact in a shared space and time. Convening events were deemed suitable and appropriate venues for examining the social connectivity impacts of value chain coordination efforts as they represent physical gatherings where many long-term, as well as newer, and even prospective contacts of the VCCPs are brought together to network with each other.

## **Data Collection**

In this section, I detail sources and procedures for mixed methods data collection in this study including the national focal case and nested regional level case studies.

### *National Focal Case Study Interviews and Observation*

I submitted a full human subjects review proposal including survey and interview instruments and description of the proposed research relationships with Food LINC organizers and VCCEs as partners from whom data would be gathered and with whom summaries of results would be shared. This research was approved under exempt status by the Institutional Review Board at Penn State University. Data collection at the national VCC cohort level documents and explores the roles of value chain coordination by considering all 13 VCCEs partnering with the Food LINC initiative.

As an engaged researcher, I participated regularly in monthly Food LINC group phone calls and semi-annual Food LINC trainings and meetings. These activities informed my understanding of what value chain coordinators do in their day-to-day work, and how they talk about the roles and impacts of their work. I also conducted 22 semi-structured interviews (N = 4 in person and N = 18 by telephone) with VCCPs to explore these topics and additional questions related to the values influencing their VCC work, as well as their perceptions of their roles and the challenges and impacts of their work. (A copy of the interview guide can be found in the Appendix).

### *Observation, Surveys and Interviews for Comparative Regional Level Cases*

Of the roles that VCCPs perform, the social relationship building roles of convening and matchmaking represent some of the most common activities of VCC



(Barham et al. 2018), but also have few metrics that articulate impacts of the relationship building aspects and indeed focus of their work. As mentioned, convening events provided key opportunities to gather relevant data from a large number of food systems actors working across these developing food value chains who also represented some of the most active local actors in the chains. Each VCCE selected for the site level case studies hosted annual convening events related to their work building the particular values-based food supply chain in their region.

A social network analysis survey was administered following the convening events hosted by VCCPs in in the Mid-Atlantic and the Southeastern regions. In network analysis there are several ways to collect data, including surveys, interviews, and secondary sources such as databases or social networking sites. Collecting buyer/supplier network data is relatively novel, with the only other example found in the literature taking place in Europe within a niche beef value chain, where in-person interviews were conducted (Martino 2013). In the present study, piloting a social network analysis survey at a buyer/supplier convening event was experimental, and also pragmatic (an effort to gather relevant network data while minimizing participant perceptions of being overly intrusive, given that such data is often considered highly sensitive and even proprietary).

To prepare for developing the network survey and subsequent interview instrument, I engaged in six months of intermittent participant observation, centered on site visits, informal interviews, regular phone and email communication, and attendance at convening event planning meetings. I communicated frequently and openly with representatives of each of the regional VCCEs who served as the hosts and primary organizers of their convening events. The VCC organizations were informed by Food LINC organizers about the opportunity to work with an outside researcher

and two voluntarily agreed to collaborate, which allowed for the gathering of network data from their events.

Designing the network survey instrument was an iterative process between the researcher and the two VCCs over several months. The survey design was based on the need for specific and detailed requirements of network analysis, with the pragmatic realities of evaluation logistics for these events, including the organization's willingness and capacity to support data collection. As there were no other network studies on value chain convening events, the surveys were a novel innovation on the part of the researcher. The surveys were developed with the aim to not overly burden attendees or the VCC organizations. Thus, the survey instrument was relatively short including only core questions related to VCCPs' goals of fostering economic exchange and advice and information sharing. Demographic data was kept very succinct and roles in the value chain were requested. The latter roles were pre-determined survey categories developed by the researcher in tandem with the VCC organization. (A copy of the network survey can be found in Appendix.)

Surveys were designed to be completed in less than ten minutes and included the following demographic questions: name, title, business name, business ZIP, category along the value chain (i.e. producer, processor, retailer, etc.). Surveys were almost identical for the value chain convening events in the two different regions, with the exception that descriptions of the value chain categories were aligned to the respective value chain foci of the two events (i.e., diversified organic agriculture in the Southeast region and grain and malt supply chain for craft brewing, baking, and distilling in the Mid-Atlantic region). Two relationships were chosen for investigation in the network analysis, based on common goals many VCCPS have for their events: 1) facilitating business exchange and 2) transferring advice and information. These ties

were operationalized on the network survey as 1) "Of the attendees at this event, with whom are you currently buying or selling goods or services?" and 2) "Of the attendees at this event, with whom do you share professional advice and information related to your business?"

While this first set of questions identified a baseline of who knew whom, a second set of questions asked about new relationships made at the event and the potential for future collaborations. "Which new contacts did you make at the \_\_ conference that you plan to do business with in the future?" and "Which new business resource contacts did you make at the \_\_ conference?" As opposed to a roster model where participants receive a list of all event attendees, this study used a name generator model, where participants wrote in the names of people with who they already had or had formed ties. The name generator model was determined the more feasible for both regional convening events, given that the attendee lists were large, and also not fully known in advance, as both events had day-of registration.

Surveys were administered on the day of event, given in welcome packets at the registration table for each event with one per attendee. They were collected at the end of the event at the registration tables and also by the researcher and volunteers who walked around the event in the final hours of the day to ask for completed surveys. Most surveys were collected at the event, although approximately 2-3 surveys from each event were mailed or scanned and emailed to the researcher by attendees who took them home to complete. All mailed and emailed surveys arrived within approximately one week following the event.

Over the 9-12 months after the convening events, I conducted semi-structured qualitative interviews with survey participants to learn more about their perception of the event and their perspective on what had taken place subsequently with each of the

connections they had indicated on the network surveys. These interviews also served as a form of member checking to determine that the network surveys were reported accurately. I conducted interviews with all survey participants who had given permission on their survey to be contacted and were willing to participate in a phone interview. A copy of this interview guide can be found in Appendix. Interviews lasted approximately 30-60 minutes and were conducted via phone.

### *Survey Samples*

The Southeastern region convening event had a total 148 attendees, with 31 valid surveys completed (21% response rate). This is a far lower number than the 80% needed in sociocentric analysis (Stork and Richards 1992), but is sufficient and interesting for some forms of egocentric analysis, while providing insight to the overall development of the network, even if the whole network can't be seen. The 31 respondents identified 81 of the approximately 120 (66%) businesses and organizations which were present at the conference and yielded 230 network connections in total. Of the 31 survey respondents, 18 individuals representing producers, input suppliers, processors, buyers and support actors were willing to participate in a follow-up phone interview. Those 18 interviewees also yielded data for 92 additional connections approximately one year following the event.

At the Mid-Atlantic small grain and malt convening event, there were approximately 80 individual participants, representing 44 businesses and organizations. Twenty valid surveys were completed (25% individual response rate) by representatives of 16 businesses (38% of all businesses). These respondents identified 39 of the 44 (89%) businesses and organizations which were present at the event and yielded 88 relationships in total. Ten follow-up phone interviews with brewers, restaurateurs, maltsters, input suppliers, lenders and other support

businesses yielded data for 19 additional network connections approximately one year following the event.

### **Analysis of Mixed Methods, Nested Data**

Whereas research Q1 is primarily answered by data from interviews and direct observation at the national VCC cohort level, research Q2 is primarily answered by data collected at the nested comparative case study sites. Information and themes from the national cohort interviews provide context for phenomena taking place at the regional site levels, and vice versa when data from the site level serves to exemplify aspects of on-the-ground value chain coordination work which was theoretically described in the cohort interviews. While analysis is conducted separately according to the research questions and methods, these methods and levels are also blended in a process of analyzing and synthesizing, which is discussed further below.

### *Memo Writing*

While memo-writing is often seen as central to qualitative research, it can be useful in analytically relating diverse data sources and emerging insights in a mixed methods study such as this dissertation. Maxwell (2013: 104) suggests that the qualitative researcher begins analysis the moment the first interview is conducted and the process continues until the project is complete. I relied strongly on memo-writing in this research, especially in the early phases centered on participant observation and interviews with all Food LINC VCCPs, and I sustained memo-writing as an active and iterative analytical process throughout the research. Grounded theorists have long understood the importance of memo-writing during the analytic process. Charmaz (2006: 72) explains that writing memos is a pivotal intermediate step between data collection and writing in that it helps to

analyze data and lay the foundations for codes early in the research process. Maxwell (2013:105) similarly suggests that memos not only capture the thinking about the data, but also facilitate such thinking and stimulate analytic insight. In the conceptual phase, the first four months of the research before I had identified the two VCCE cases with whom I would be working for the nested case studies, I utilized memos to keep track of evolving ideas about research goals, methods and design, tracking changes as they emerged. During this time, I was primarily observing the focal case of the full Food LINC initiative, which was still then clarifying its own identify and goals. I memoed on new literature I encountered, current events and observations from my daily experiences that related to the participation of VCCPs in the Food LINC community of practice, as well as how VCCPs described their work in their respective VCCEs and the regions in which they worked. During data collection, I wrote memos after each interview, or site visit, to capture my initial reflections about salient points in the conversation or environments, aspects about VCC experiences that surprised me in some way, as well as broad notes about what seemed unique or common. These memos served as the early foundations for codes used later in analyzing the interview transcripts.

### *Analyzing Multiple Data Sets*

This research draws on four main sources of data:

- 1) Interviews with all Food LINC value chain coordinators about their perceptions of their work (research Q1).
- 2) Public documents (e.g. presentations and reports from Food LINC), field notes and memos from direct observation of Food LINC meetings (research Q1).
- 3) Social network analysis of VCC convening events among producers, processors and buyers and food system stakeholders (research Q2).
- 4) Post-survey interviews with producers, processors and buyers who attended the convening events (research Q2).

This dissertation implemented a sequential explanatory design (Creswell 2009) at the VCC site level, which began with direct observation of the VCC organization, followed by the development and implementation of a SNA survey, which was in turn followed by qualitative interviews with participating value chain actors. Although the sequential approach tends to be more commonly employed by researchers with stronger quantitative leanings, and more weight is given to the quantitative measures, this research starts and ends with qualitative analysis, and is guided by a qualitative orientation to frame and synthesize results from the multiple, mixed methods data sets. Below I describe the coding and analysis frameworks for each of these data sets as well as the interaction between data sets.

#### *Coding for National Focal Case Study*

All interview data for the VCCP cohort interviews and nested case study interviews with direct and indirect value chain actors was audio recorded and transcribed by the researcher and a third-party transcriptionist. For the VCCP cohort interviews, I employed sequential methods of first and second cycle coding following techniques outlined by Saldana (2009). This began with initial or open coding (Strauss and Corbin 1967; Charmaz 2006) which spoke to critical components of roles and activities related to value chain coordination. I then implemented pattern coding to help develop major themes and also patterns around challenges, roles, and nature of impact of value chain coordination work. Parent codes for the VCC cohort level match the guiding questions of this research and include: “Perception of Roles of VCC”, “Skills and Training of VCC”, “Values that Guide VCC”, “Funding and Support” “Challenges to VCC” and “Changes to VCC work Post-Food LINC.” Related to Q1, I also have two parent codes for the “positive adoption of VCC” and

“challenges to legitimation of VCC”. Public documents, presentations, and notes from Food LINC meetings share some of these codes but have additional distinct parent codes of “Formalization of Roles” and “Formalization of Impacts.”

#### *Coding for Nested, Regional Case Studies*

At the regional case site level, I coded the follow-up qualitative interviews with value chain actors using thematically derived parent codes which included: “Perceptions of VCC”, “Motivations for participating in regional value chain convening,” “Benefits of participating in VCC convening”, and “Challenges with participating in VCC convening.” The interviews also included a series of questions unique to the social network analysis survey, in which, a distinct coding scheme was created to categorize relationship outcomes of value chain actor (survey participants) approximately one year following the convening event.

#### *Coding Surveys for Network Concepts*

I drew from two fields of literature relevant to the study of value chain coordination and which also engage with the description of network attributes that are relevant for economic activity of firms and communities. I developed a framework which integrates two theories, one from Granovetter (2005) and one from Flora and Flora (1993), which describe social structure attributes that impact economic action. Table 3.2 outlines the four conditions of social structures posited by Granovetter and the three attributes by the Floras, and links them to their corresponding network metrics for whole and partial networks.



**Table 3.2. Social Infrastructure Network Attributes and Corresponding Metrics and Methods**

Theoretical Foundation	Network Attribute	Whole Network Metrics	Partial /Ego-Network Metrics and Methods
Social Infrastructure Impact on Economic Action (Granovetter, 2005)	Density	Tie Count / Density	Tie Count
	Strength of Weak Ties	Density/ Clique Analysis	*
	Structural Holes	Structural Holes	*
	Embeddedness	Multiplex ties (economic and non-economic)	Qualitative Data
Entrepreneurial Social Infrastructure (Flora and Flora, 1993)	Horizontal Ties	Tie Count / Density	Tie Count/ Qualitative Data
	Vertical Ties	Tie Count / Density	Tie Count / Qualitative Data
	Diverse Ties	Homophily	**

\* Denotes attributes are unable to be examined in a partial or ego-centric network

\*\* Denotes attributes are unable to be examined due to limitations with the data

Source: Author, adapted from Granovetter (2005) and Flora and Flora (1993).

While this dissertation research initially sought to gather whole-network or sociocentric data from the convening events that are so central to the work of value chain coordinators, lower than anticipated response rates to the network surveys required modification of original research plans to use more widely known quantitative methods such as centrality, density, betweenness, cliques and isolates (Wichmann and Kaufmann 2016). The term partial network is used in this research to denote the gathering of ego-centric data (Perry, Pescosolido and Borgatti 2018), but for which data between each ego's alters were not gathered, but yet the ego-data overlap, thus yielding a partial understanding of the full network structure.

As partial network data are not comprehensive but rather illustrative of types of patterns around actors and clusters of interest, this research design draws heavily on qualitative data to provide content and context to the phenomena that emerged in the networks. The qualitative data gathered through direct and engaged observation before, during and after the events in these two regional case study communities, as well as through the interviews, helps to fill in gaps of understanding where the network data falls short. In Granovetter's (2005) four attributes of social structure that affect economic action, within the partial network datasets represented in this research, tie count is the only measure that can be compared as relative increase of ties before and after the convening events. The measures of density, betweenness and structural holes, while possible to calculate, would be inaccurate as the networks represented less than 30 percent of total attendees in both cases.

Because Granovetter's framework speaks primarily to impacts at the firm or inter-firm level, I also used a second framework to analyze network activity as it relates to *community* level implications. Flora and Flora describe the importance of quality social networks as a central component to developing what they suggest is a community's capacity to for entrepreneurial social infrastructure or ESI. They suggest three kinds of attributes of networks that contribute to entrepreneurial social infrastructure, which include "tie diversity" and the presence of "horizontal" and "vertical" ties. Diversity of ties was intentionally omitted because of the lack of information available about individual demographics of convening event attendees. I used the codes of "horizontal" and "vertical" to code each network relationship made before and after the event as a vertical or horizontal tie, in order to create tables that indicate the changes of ties made by individual

egos before and after the events. All egos were coded with attribute data by positions of primary affiliation in the value chain (i.e., supplier, producer, processor, consumer, lender, etc.), in which there were a total of nine value chain categories in the Southeastern case, and 13 in the Mid Atlantic case. Additionally, I created two parent codes for all value chain categories; all categories either fell under “direct value chain actors” or “support ecosystem actors”, borrowing from the language of Lyons and Lee (2018). The qualitative interview data of value chain actors in the nested cases in the Mid-Atlantic and Southeastern regions were coded under “Embedded Ties”, “Horizontal Ties” and “Vertical Ties.” Total tie counts and counts of “horizontal” and “vertical” ties were reported for each case across the relationships of business and advice ties, comparing counts between pre- and post-convening.

#### Qualitative Structural Analysis

Qualitative Structural Analysis (QSA) is an emerging framework for analyzing social networks visually and qualitatively. Herz et al. (2015) use this framework to give attention to the process of identifying “sensitizing concepts” to provide reference and guidance in approaching empirical data, suggesting directions over prescriptions to guide analysis (Blumer 1954). Theoretical sensitizing provides meaning, the capacity to understand and separate pertinent information (Strass and Corbin 1990), and allows a framework in which a social network’s structural dimensions can be examined qualitatively. I bring forth the notion of *value chain* as a sensitizing concept to guide the interpretation of network impacts taking place in the two case study networks. I selected the value chain as a sensitizing concept because it acknowledges both an underlying process which may be mediating network connectivity, while also acknowledging the organizing intent behind

activities and endeavors organized by VCCPs. The value chain has a linear direction to its movement, with actors within the chain linked by the process of product flow. Flora and Flora (1993) suggest that vertical information is characterized by a two-way flow of information, in which members within a community establish ties with private and public resources outside of the community. Examples of these ties include access to new information, materials, lending or credit and technical assistance resources. They explain that vertical ties link different system levels with connections to local, regional and national resource and stakeholders.

The presence of horizontal ties, or “horizontal lateral learning” (Flora and Flora 1993: 57), is an important part of ESI, as the Floras suggest that individuals and communities tend to learn best from those with comparable positions or affiliations. Horizontal ties allow a form of peer-to-peer learning, which can facilitate the generation and transfer of new technologies and innovations. Horizontal networks are characterized by the spirit of “if they can do it there, we can do it here” (Flora and Flora 1993: 57). To apply the concept of horizontal and vertical ties to the data from convening events, I draw from QSA to conceptualize and visualize horizontal and vertical ties in these emergent value chain networks. Products flow in a downstream direction or (left to right in the value chain images in Chapter 5) from suppliers to producers, to wholesale buyers and so on. Literature on agri-food supply chains and commodity chain analysis have different definitions for horizontal and vertical ties (Fine, 1995; Lockie and Kitto, 2000; Murdoch, 2000) in which the definitions are somewhat reversed, with products flowing downstream move vertically from top to bottom. I chose to prioritize Flora and Flora’s definition of

vertical and horizontal ties in the conceptualization and visualization of this data because it takes into account systems of hierarchy and authority that other definitions overlook.

Visualizations in this dissertation represent one method of synthesizing multiple data sets generated by the study, in particular network surveys and interview data of value chain actors in nested case studies. The visualizations presented in Chapter 5 were made using Net Draw from Analytic Technologies. Here, sociogram data has been de-identified, replacing each organization and business name with an ID number. The results represent businesses or organizations, not individuals, which were chosen as a more appropriate unit of analysis for the purposes of value chain assessment. Attribute data in general can be displayed in sociograms by shape, color or size of nodes. In this case color-coding is used to display the attribute of value chain category of organizations and businesses, based on a coding scheme I developed. Visualizations help to bridge the network data and qualitative data in each case, providing a social landscape for the stories within the cases, albeit a partial one. The method of treating value chain categories as egos is novel and so far unrepresented in the literature; however it is being piloted in other new and emerging European inter-organizational research (Bolivar et al. 2018).

The third approach to analyzing the visual network sociograms in this dissertation is derived from Herz et al.'s (2015) qualitative interpretation of social networks, also known as QSA or Qualitative Structural Analysis. Influenced by the grounded theory tradition (Strauss and Corbin, 1990), their approach suggests that the network structure gives rise to sensitizing concepts that guide attention in the analysis. Following this method, I bring in the concept of the *value chain flow* to orient the sociogram data in both networks. After coding each actor to their respective value chain category, I spatially

oriented the value chain actors according to the logic of the value chain flow for the ability to spatially and visually conceptualize understandings of “horizontal” and “vertical” ties.

Broadly speaking, analysis in this research draws from Rossman’s (1993) process of data synthesis which includes bounding the scope, inventorying cases, reading the studies, developing interpretation of each case, juxtaposing and synthesizing cases. This process helps to form a complex story from simpler events and reveals larger patterns of the phenomenon. As this research project has had secondary applied aims, notably the improvement of value chain coordination capacity, this project also draws from Patton (2002) bringing forth lessons learned from larger patterns identified in the data. While case studies cannot be generalized, this research builds upon assertorial logic, in which the lessons learned from these cases may be useful to another population or setting with similar circumstances (Rossman and Rallis 2003). The nested comparative case studies through VCC site level observation and social network analysis among direct and supporting value chain actors contribute understanding about impacts of the work, while also helping to reveal a deeper layered understanding of how and in what sequence value chain coordination roles are performed.

The goal of synthesizing and interpreting this multi-layered, mixed methods data is to examine the phenomenon of VCC from multiple perspectives and on multiple levels. By describing the experiences and perceptions across 22 VCCPs in 13 communities in the U.S., and by gathering data within two communities on approximately 200 unique actors across the value chain networks, this dissertation aims to generate knowledge about what is unique and common to these VCC experiences, and what kinds of conditions and strategies are conducive or prohibitive to the central relationship-building work. This research

contributes to knowledge about value chain coordination as a strategy for local and regional food system development centered on small and mid-scale producers. However, it is possible that some lessons learned could be applied to other sectors beyond agriculture and food systems.

### **Validity Considerations**

Cho and Trent (2006) challenge the binary of a transactional, empirical validity, on the one hand, and a post-structuralist, transformational validity, on the other hand, by bringing forth a 'middle ground,' holistic and process-oriented view of validity for qualitative research. My research aligns most closely with one of their five overarching purposes of research, in this case bringing forth 'thick description' of the phenomenon of value chain coordination work as it is described by the Food LINC initiative, the professionals who perform the work, and the actors within value chains who are, in effect, "coordinated." The purpose of this research is to highlight the multiple, varied ways that these groups of people interpret the phenomenon of coordination of value chains, or "locally constructed meanings" (Donmoyer 2001) including the agreements and contestations among these groups and individuals. Validity under this research purpose is achieved by presenting rich descriptions that allow readers to "see" for themselves, having prolonged engagement in the research, and by triangulating the data (Geertz 1973; Denzin 1978). This project draws upon multiple level, mixed methods as an approach to studying the multi-faceted phenomenon of VCC work.

This study triangulates multiple perspectives, multiple levels, and diverse actors who perform, support and are beneficiaries of the work. First, the individual and

organizational diversity of value chain coordinators within Food LINC bring forth how VCCPs from differing organizational types, regions, and work environments perceive their work. Whereas the interviews focus on VCCPs' perspectives on the roles of coordinating, the nested case studies bring forth value chain actors' (i.e., producers, processors and buyers) perceptions about the experience of being "coordinated". Network surveys provide a level of understanding of relationships changing as a result of specific VCC work (i.e., convening work), while follow-up interviews with the participants in those surveys served as a form of member checking, verifying that the survey network data was accurate, and provided richer descriptions and context about the qualities of those relationships reported. My two and a half year-long engagement with the Food LINC project allowed me to gather data from these multiple sources and reflect deliberately on the connections and contrasts across the data. This research presents both diversity and evolution of perspectives across actors and time from those who organized, performed and experienced value chain coordination.

### **Researcher Stance**

My research position for this dissertation could be described as a qualitative "active member researcher" (Adler and Adler, 1987) where I was involved with the central activities of Food LINC, including attending all meetings, phone calls, and reading emails in the community of practice over two years. I was more embedded than a peripheral researcher who does not participate in all core activities, but less embedded than a complete member, who is fully affiliated as a member within the group. While my



attendance at Food LINC activities was consistent, my role was more of an observer rather than an active or central contributor to discussions within the group.

More broadly my researcher stance accounts for feminist objectivity (Harding 1991) in which the agency of the knowledge producer and that of the object of study are both taken into account. Haraway (1988) challenges notions of being neutral, objective, and all-seeing, and expresses the importance of situated knowledge as a partial-knowledge in both senses-- that it has its own bias and also has limited sight. Partiality comes from being situated in a particular body, embedded in a particular context, which has been shaped by the culmination of our personal experiences. Positioning oneself within a body, within a particular vision, is key for feminist objectivity, and serves to ground knowledge. As Haraway (1988) suggests, the only way to find a larger vision is to be somewhere in particular and unexpected openings become possible with partial sight, when you are positioned somewhere as opposed to nowhere.

I can reflect that in my previous work before becoming a researcher, I had various experiences similar to many of the actors in the focal and nested cases for this dissertation research. Specifically, I've been a small-scale food producer, a wholesale buyer within a state institution, and a restaurant manager. As such, I have had experience working directly with various actors in the food system, such as processors, distributors, Extension educators, policy advocacy group and regional food planners, who were highly relevant to the networks in this study. I have never been a food value chain coordinator, per se, but my past experiences working in and across the food system in local contexts give me a first-hand perspective on the need for coordination in new food distribution networks and how coordination efforts have taken place informally prior to the Food LINC initiative.

Therefore, for this research, I am an insider in being very familiar with many of the activities and issues of small-scale farming and community-based food systems development. But I am an outsider to the specific geographic communities in which most of the Food LINC work has taken place. Within the Food LINC project, I may have gained some measure of insider status by virtue of my formal connection to Food LINC leadership, who first invited me to attend and observe in-person and phone meetings of the Food LINC cohort. For the first ten months my position was granted as a graduate researcher on a volunteer basis. However, after the first full year of my research, I was offered a consulting contract with Food LINC to help fund my research and with the expectation that I would work as part of the National Support Team in helping to reflect on and evaluate the program. This took the form of additional monthly calls with Food LINC leadership in which observations of the program would be shared. Further, two to three times a year, I and another project evaluator were asked for data and content to contribute towards press releases, conference presentations and website content about Food LINC. My role joining the National Support Team afforded me the crucial ability to travel to additional Food LINC group meetings, workshops and conferences with all VCCPs over the course of the next two years which were held in different locations around the country, but may also have added some ambiguity to my role in the eyes of some participants in this research.

Overall, however, insider status (Griffith, 1998), particularly including my committed and consistent presence at phone and in-person meetings, helped me to establish understanding and trust with VCCPs and producers, suppliers and buyers in the communities in which I worked. Crucially, I was never a direct decision maker about the direction of the programming, nor was I a part of the formal evaluation of the project,

which was carried out by a third-party evaluator. At times the line between an insider and outsider role became blurry to myself, VCCPs, Food LINC leaders and my committee advisor, particularly because the Food LINC program itself and thus the possibilities for my role within it, were evolving in real time during the course of the study.

To actively and reflexively address concerns as they arose, I engaged in regular conversations with my advisor clarifying and re-clarifying the primary dissertation questions as distinct from Food LINC's broader program evaluation questions. I also participated in several discussions with Food LINC leadership and the third-party evaluator about the kinds of data and insights I was able to contribute, such as aggregated themes emerging from the interviews and field observation, and also what I could not (such as individual identifiable information). My outsider status with the VCCPs additionally reminded me to check my assumptions and not bring my past insights as a former practitioner into the experiences of communities I engaged in this research, as all communities are unique in their own right. I engaged a practice of reflexivity through memo-writing (Singleton and Straits, 2012) throughout the phases of research design, data collection and analysis, being cognizant of my own history and examining my motivations and priorities along the way. My previous applied experience working in regional agri-food development as a practitioner was thus a catalyst for designing and conducting a dissertation with a pragmatic fieldwork approach (Huffman, 2013), in which the findings of this work could inform both theory and practice.

## CHAPTER FOUR

### FINDINGS: PERFORMANCE, CONTESTATION AND LEGITIMATION OF VALUE CHAIN

#### COORDINATORS AND COORDINATION

##### Introduction

In this chapter, I present results from empirical analysis of interviews conducted with the 22 Food LINC value chain coordinator professionals in order to answer the first research question: *How is the work of food value chain coordination performed, contested and legitimized?* I first present data on individual and organizational level characteristics of the interviewees, describing the geographic regions where they work and their VCCE type, specifically its being a “Hub,” a “Nub” or a hybrid of the two. I then present individual level attributes including VCCPs’ self-reported education and training, skills and competencies. I examine VCCPs’ perceptions and experiences regarding the various VCC roles identified by Food LINC, as well as other roles that emerged relevant to value chain coordination within the work they do.

In this chapter, I demonstrate how the new professional title “value chain coordinator,” as put forth by the Food LINC initiative, represents a socially innovative concept that at the same time has had a contradictory reception by VCCPs themselves. This mixed reception indicates some contestation regarding longer-term legitimation of the value chain coordinator concept. Challenges include uneven use of the term “value chain coordinator” as a professional title in the VCCPs’ actual work, and the co-performance of value chain coordination both internally within value chain coordination entities and externally with other organizations in respective VCCE regions.

Given evidence of challenges to the value chain coordinator concept, this chapter further examines a second prototype idea, one that was not formally put forward by Food LINC, but emerged through further analysis of the data. Here I consider the conceptual and practical importance of “value chain coordination” as a broader strategy, one not bound to a single individual or single entity, but rather being a set of roles co-performed by multiple actors within a region. I then compare evidence that supports legitimation or poses challenges and contestations concerning the use of “value chain coordination” as a strategy beyond the Food LINC community of practice. Using the framework of Johnson, Ridgway and Dowd’s (2006) four stage process of legitimation of novel social innovations, I compare the prototype concepts of “value chain coordinator” and “value chain coordination” side by side, suggesting that the latter, rather than the former holds more promise for as a potential model to be applied in the broader context of regional agri-food development in the U.S.

### **Descriptive characteristics of Food LINC VCCPs**

For this study, I interviewed people formally associated with the participating value chain coordination entities (VCCEs) in the Food LINC cohort. From 13 organizations, I conducted interviews with 22 individual value chain coordinator professionals (VCCPs) (each VCCE had between one and three VCCPs participating in the Food LINC cohort). Table 4.1 presents gender of the VCCPs, whether their VCCE was a “Hub,” a “Nub” or hybrid Hub-Nub, and what region they were located in. The terms “Hub” and “Nub” are *in vivo* terms. They were first used by the VCCPs in group discussion at one of the annual Food LINC-organized workshop retreats. The Hub-Nub terms distinguish between value chain

coordination entities which have a direct role in the value chain moving product (Hubs) versus those who do not move product (Nubs, i.e., *Not* a hub). All Nub entities in this study worked in the capacity of resource support organizations in non-government affiliated organizations, with the exception of one government affiliated position. The Hub entities represent one or more categories in the actual food value chain, with all Hubs participating in product aggregation, all but one participating in distribution and two entities additionally participating in retail. The length of time the businesses and organizations had been in operation ranged from under one year to 41 years, and interviewed VCCPs had performed their current roles as VCCPs from less than one year to 11 years. Seventeen of the 22 VCCPs were female.

**Table 4.1: Characteristics of Value Chain Coordinator Professionals Interviewed**

<b>VCCP ID</b>	<b>Gender</b>	<b>Entity Type</b>	<b>Business Category</b>	<b>Region (USDA)</b>
1	Female	Hub	Aggregation/Distribution	Southeast
2	Female	Hub	Aggregation/Distribution	Southeast
3	Male	Hub	Aggregation/Distribution/Retail	Southwest
4	Male	Hub	Aggregation/Distribution/Retail	Southwest
5	Male	Hub	Aggregation/Distribution	West
6	Female	Hub	Aggregation/Distribution	West
7	Male	Hub	Aggregation/Distribution	West
8	Female	Hub	Aggregation/Distribution	Southeast
9	Male	Nub	Resource Support Organization	West
10	Female	Nub	Resource Support Organization	Southeast
11	Female	Nub	Resource Support Organization	Southeast
12	Female	Nub	Resource Support Organization	Southeast
13	Female	Nub	Resource Support Organization	Midwest
14	Female	Nub	Resource Support Organization	South
15	Female	Nub	Resource Support Organization, Government Affiliated	Northeast
16	Female	Nub	Resource Support Organization	Southeast
17	Female	Nub	Resource Support Organization	Southeast
18	Male	Nub	Resource Support Organization	West
19	Male	Hybrid	Aggregation/Distribution and Resource Support	Southeast
20	Female	Hybrid	Aggregation/Retail and Resource Support	Northeast
21	Female	Hybrid	Aggregation/Retail and Resource Support	Northeast
22	Male	Hybrid	Aggregation/Distribution and Resource Support	Southeast

### *“Hubs” and “Nubs”*

The terms “Hubs” and “Nubs” were language originated and used by the VCCPs themselves to characterize and differentiate organizational contexts for their food value chain coordination work. At one gathering of the Food LINC community of practice approximately 12 months into the initiative, the VCCPs discussed distinctions between “Social Enterprises” and “Relational Entities”, and the group came up with these nicknames to distinguish these two categories. They offered the term “Hubs” for social enterprise businesses operating in physical spaces and doing aggregation, processing and retailing of food products. In contrast, “Nubs” referred to businesses or organizations that did not actually handle product in physical locations. “Nubs” are therefore not directly involved in the value chains that they coordinate; instead they provide planning and support services outside of the value chain, focusing their work more on relationship coordination. For their part, “Hubs” hold and exercise expertise in various logistical functions and activities. As one Hub-based VCCP explained,

*“I think we’re a little different [from Nubs], because we operate the food hub. So we’re not just making the connections, we’re conducting the transactions. I know there’s some [VCCPs] that do that and some that don’t.” (VCCP 1, Hub, Southeast)*

This research found that the Hub-Nub distinction was important for understanding patterns in perceptions and strategies of VCCPs in the Food LINC cohort across almost every topic explored in the findings below. However, there were two cases where the Hub-Nub categorization was challenged, adding complexity to a simple binary distinction. In the first case, the organization operated a farm market retail stand at a year-round indoor farmers market for direct consumer sales. They also organized annual convenings for wholesale markets with special hours during the convening event also open to the public



and end-consumer buyers. Finally, they performed one-to-one matchmaking functions, sometimes acting as the retailer and purchasing directly from vendors or selling from their market stand, but they did not operate any wholesale distribution or aggregation. Instead they facilitated matchmaking connections to farmers with local distributors or helped them connect directly to buyers, primarily urban restaurants. In the other case, a VCCP worked to establish a Hub organization serving direct subscription box customers, and also aggregated and sold to other local distributors, grocery stores and schools. This Hub operated under a broader parent non-profit organization which the founders had set up to perform more of the technical assistance functions of the work. Both of these cases suggest a more hybridized model of Hub-Nub entity, in which there are separate legal business entities that carry out and coordinate the different types of work. In each case, the interviewed VCCPs had oversight over the different arms, so that overall strategy among the entities was coordinated. While the distinction between Hubs and Nubs will be used throughout this chapter to organize the presentation, these two hybrid cases underscore the limits of a sharp distinction. They will be designated as 'Hub-Nub' when referenced in the findings.

### *Skills, Competencies and Personal Attributes of Value Chain Coordinator Professionals*

I asked interviewees about their background, including skills, training, competencies and orientations that they brought to VCC work. VCCPs' backgrounds ranged from working as farmers, food journalists, fundraisers, policy researchers, business consultants, food access non-profit staffers, software technology developers, architects, project managers, renewable energy consulting, agricultural laboratory researchers,

environmental conservation managers, non-profit directors, environmental organizers, or digital or print media and communications specialists. VCCPs predominantly held bachelor's degrees from majors including geography, ecology, political science, economics, fine arts, literature, architecture, anthropology, biology and earth sciences, environmental chemistry, marketing, dietetics and nutrition, public policy, international development, English, theatre and dance. Approximately one quarter of VCCPs in this study also held master's degrees, most commonly an MBA degree with focus on business planning, marketing and finance; one VCCP held a certificate from a newly accredited Food Hub Certification program, while several other VCCPs had graduate degrees in environmental science and forestry.

The list of VCCPs' educational and work experiences is eclectic and diverse. One Nub VCCP explained the trajectory of his path to becoming a value chain specialist in this way:

*“Well I think it has pretty old roots...I've been on this path for a while. I attended a Quaker college and we had a large community and were doing things democratically and through the consensus process. I learned a lot of skills by practicing in that community, also along the lines of conflict resolution...Then alongside of that there was rural economic development, just had a real interest in working in communities after some volunteer work I had done in South America...then the third piece was just my love for growing things and farming. Those things, even though it didn't become clear until later, those were the threads that led me [to my current role].” (VCCP Nub)*

The diversity of professional experience and formal education is striking, and perhaps not surprising given that there are no formal residential college programs obviously aligned with this profession, and prior to Food LINC, no dedicated trainings that teach skills and competencies for value chain coordination.

*“There certainly is field specific knowledge that you need, also about how the food system works. I will say that not having a rigorous academic background in it, I've been lucky to have opportunities to learn a lot of it on the job and had people that have*

*been patient enough and kind enough to share their insights and experience with me.” (VCCP Nub).*

With the exception of one VCCP who earned a professional certificate in Food Hub Management (the University of Vermont began offering this program in 2015), no other VCCPs referenced formal training for their work. One VCCP explained:

*“Where do you learn those skills? I don’t know because there isn’t necessarily a playbook. As we know, all the value chain coordinators involved in the USDA Food LINC program perform different functions, having different roles and different objectives. They’re overlapping and interconnected, but I don’t think there’s a playbook necessarily other than learning how to be comfortable with ambiguity. I think that’s something you have to get comfortable with, but if you are not the type of person that has a sense of that, it’s very hard.... I don’t know if you can teach it. Does that make sense?” (VCCP Hybrid)*

Another VCCP based in a Nub organization explained further, suggesting that the personal attribute of persistence is a critical component to success at the job:

*“Honestly, I think a lot of what you need for this job is just a willingness to talk to anybody, and not really having any apprehension about calling people up or trying to track them down. On multiple occasions I find that people in this space are incredibly busy, and it seems like getting busier all the time. I think that my persistence has been learned with experience.” (VCCP Nub)*

Communication competency appear to be just as important, if not more important than any formal training in hard skills, such as training in food production, processing, operations management or logistics, for value chain coordination. Some personal skills may be developed, while others may be more inherent to certain personality types, such as being comfortable with ambiguity in the day-to-day requirements of the work and being persistent in keeping at the work. Another Nub VCCP, giving a presentation on her role at a local food systems stakeholder convening event, referenced persistence too; she used the metaphor of the ‘Roomba’ robotic vacuum cleaner to describe how she needed to be:

*“I just head in one direction for a while and if I hit a wall, I back up and move another way” (VCCP Nub).*

This VCCP doesn't look to a clear playbook to guide her daily activities; rather her 'Roomba' approach keeps the work moving, allowing her to learn from challenges and failures and to change her efforts to increase the likelihood that she achieves her goals. However, it takes a certain reflexivity on the part of VCCPs to reflect on failures and constantly adapt to make mid-course corrections in the work. One VCCP described a case in which her colleague lacked these abilities:

*“We struggled a lot in our organization because of the value chain coordinator's personality and her own professional limitations. She's hard to work with. I know we're not naming names, but she's not suited for value chain coordination in my opinion. She's incredibly knowledgeable about food systems, and she had great relationships with producers, all important in my opinion for a value chain coordinator. But what was not good about her personality that is fundamental to the VCC work is comfort with ambiguity. She needed a very prescriptive role and objective goal and value chain coordination is so amorphous. There's no timeline, there's no steps to get things done. It's very ambiguous and we spent a lot of time banging our heads against the wall because she wanted more structure and there's no structure to VCC.” (VCCP Hybrid).*

Most VCCPs described their work as dynamic and amorphous; they stressed a general lack of standardization in the formal education or training for the work. However, one VCCP spoke of the engagement with Food LINC in positive terms, in part because it was the first time that such work had been recognized and named, the roles described, and colleagues brought together to talk about the work. Referring to his membership in the Food LINC cohort, this VCCP described:

*“It’s given me...maybe some supporting pieces, more national colleagues. One thing I can say is that over the years, it’s been very isolated work. Just haven’t had many peers, people to work with and talk with and specifically in the West, where we have particular challenges, just never had developed a community of practitioners.”  
(VCCP Nub)*

Another VCCP explained her experience of doing this work and also being chosen to participate in the Food LINC cohort:

*“Yeah and the coolest thing about being picked for Food LINC is that’s what we were doing anyway, like that’s the gap we identified that we need to fill, and then here comes Food LINC and it’s like oh, well that’s great because we want to talk to more people who are doing this same thing and focused in the same arena. You know from a variety of regional committees and things and everything else from Farm to School program to regional farmland preservation.” (VCC Nub).*

Other VCCPs echoed similar sentiments about being part of Food LINC. Several said the collegiality was valuable. In particular, VCCPs valued being able to share what they were learning with other colleagues in the community of practice who performed similar work, but in different settings. Such sharing seemed particularly valuable with Hubs and Nubs having dedicated time to speak amongst each other in their respective groups, as they could then compare their efforts and strategies across common contexts. Others described how with the articulation of value chain coordinator roles, Food LINC gave them a language to frame and think about organizing their work efforts. The following section describes in greater detail the roles of VCC as proposed by Food LINC and performed by the VCCPs in the cohort.

### **VCCP Perceptions about the Six Food LINC Roles**

During the interviews, I asked VCCPs directly about their perception of Food LINC’s six proposed roles of value chain coordinator activities. I also probed for the roles in the

interviews both directly with prompts as well as indirectly by asking VCCPs to describe what their typical work week entailed, strategies they employed in the work, and how they saw challenges and successes of their day-to-day work. The interviews confirmed that these six proposed roles were performed; however not all VCCPs performed all roles, and some roles appear to be performed differently and with varying frequency by those based in Hub or Nub entities. Finally, the data further revealed several additional roles that VCCPs perform regularly in their work. These roles are not currently recognized in Food LINC's framework of six value chain coordinator activities.

#### *Market Matchmaker*

The matchmaking role could be considered the most central of all VCC roles. It is the one role that every VCCP mentioned as part of their scope of work. Market matchmaking according to Food LINC is about identifying and connecting direct value chain actors, particularly for creating sales agreements in existing channels, or opening new market channels for buyers and sellers. A typical example of market matchmaking is a case where the Hub or Nub VCCP learns about a need in the market from a buyer; examples from the interviews included restaurateurs, food service directors and local food manufacturers. That buyer may convey product needs, including quantity, quality and perhaps packaging specifications and needed delivery date, to a VCCP. In the case of a VCCE Hub which aggregates product, they could be the party filling the product need for the end buyer. In the case of a VCCE Nub that does not actually move product, they may be sort through their personal database of farmer contacts to find an appropriate match.

This matchmaking, while appearing simple, is actually quite complex. When a VCCP makes a match between a buyer and a seller, many nuanced calculations need to take place. VCCPs are aware of many factors that need to be accounted for to facilitate a good match. Such considerations include food safety standards, packaging specifications, as well as the financials for producer and buyer. As one VCCP with a Hub broadly explained their work:

*“It’s about developing markets at the same time as helping producers make decisions about scale, and meeting those farmers where they are at, and where the market opportunity fits.” (VCC Hub)*

What is unique about the matchmaking role is perhaps not only the work entailed in making a good market match, but also the consideration that VCCPs take when deciding *not* to join certain producers and buyers. One VCCP with a Nub described being on the fence about connecting a certain farmer and an institutional buyer because she was concerned about the low price point that the buyer, a local school district, had to offer:

*“I just have to really think it through and see if this is a good fit for the grower based on their pricing and how they are willing to work with the grower.” (VCCP Nub)*

In another example of a match that was considered, but not made, the VCCP took detailed understanding of production, harvest logistics, as well as economics into account. A VCCP with a Nub described a decision she considered when determining how to make a match between buyer and seller:

*“We didn’t even put string beans on the list because the harvest cost is too high for the local farmers. 15 dollars an hour, 25 cents a minute. So string beans take a long time to harvest, broccoli heads you can go clump clump clump clump right down the row and get quite a few pounds in five minutes. String beans, maybe you can get a couple of pound in five minutes. And okra...it’s another story....” (VCCP Nub)*

The above quote reveals the extent to which the VCCP considered the economic welfare of the producer when considering whether to make a match for market sales. In this case, her knowledge of the time and costs for the producers of specific products factored into which kinds of products she listed for potential wholesale buyers and which she would omit, thereby allowing the producer to find other higher profit markets, such as selling direct, for those products.

### *Technical Assistance*

A technical assistance role is often but not always linked with a market matchmaking role. When linked with market matchmaking, it may take place once a potential market match has been found, but a few barriers remain before the match can be solidified. Technical assistance described by VCCPs was most often oriented towards producers, whose barriers included insufficient food safety procedures or certifications, insufficient quality of goods, seasonal yield deficiency, or a lack of standardized packaging. Some VCCPs addressed technical assistance before making potential matches, by offering courses and guidance for food safety certification such as GAP, mock audits, or personal farm visits with one-on-one consulting on post-harvest handling. VCCPs often performed the technical assistance themselves through consulting or trainings, or acted as a liaison to other suitable service providers. In this data, all VCCE Hubs provided one or more of these kinds of technical assistance services in-house. One VCCP with a Hub described the variety of technical assistance they offered to producers:



*“Whether its assistance on food safety, and helping them understand the expectations up front, versus talking about standards, quality, and what our pack size specs are. Or from marketing and branding and packaging, helping a vendor produce a nice clamshell box and have our marketing department make a nice label they can print out so that it helps us because this is a nice shelf-ready item with a bar code that we can scan and track accurately. And it helps the producer because they’re upping their game and selling more product as a result but did not have the capacity themselves.” (VCC Hub)*

VCCs that were Hubs appeared to be interested in technical assistance to producers because of their own stake in the value chain as aggregators and buyers of the product. They had a vested interest in product quality and procedural efficiencies that could be bolstered by technical assistance. VCCs that were Nubs, on the other hand, did not have the same direct personal business interest, but rather had a broader interest in enabling food value chain actors to meet the diversity of challenges they faced. These VCCs either provided or referred to services to support a range of actors in the food value chain such as producers, processors and aggregators (such as Hubs). Here a VCC with a Nub described a technical assistance request from a food hub aggregator in their region:

*“We’ve had requests for architectural services, so this will be more like a focus architect who’s familiar with USDA regulations. We’ve also had requests for designing GAP certified facilities.” (VCC Nub)*

VCCs also did not always rely on providing technical assistance in-house, and sometimes partnered with external partners. In this way they operated more like a technical assistance liaison rather than a direct provider. In one example, a VCC partnered with the local Natural Resource Conservation Services (NRCS) office to help minority farmers with the application process for local grants. In another instance this

same VCCP described a partnership with local greenhouse suppliers to provide technical assistance as well as supplies to beginning minority farmers:

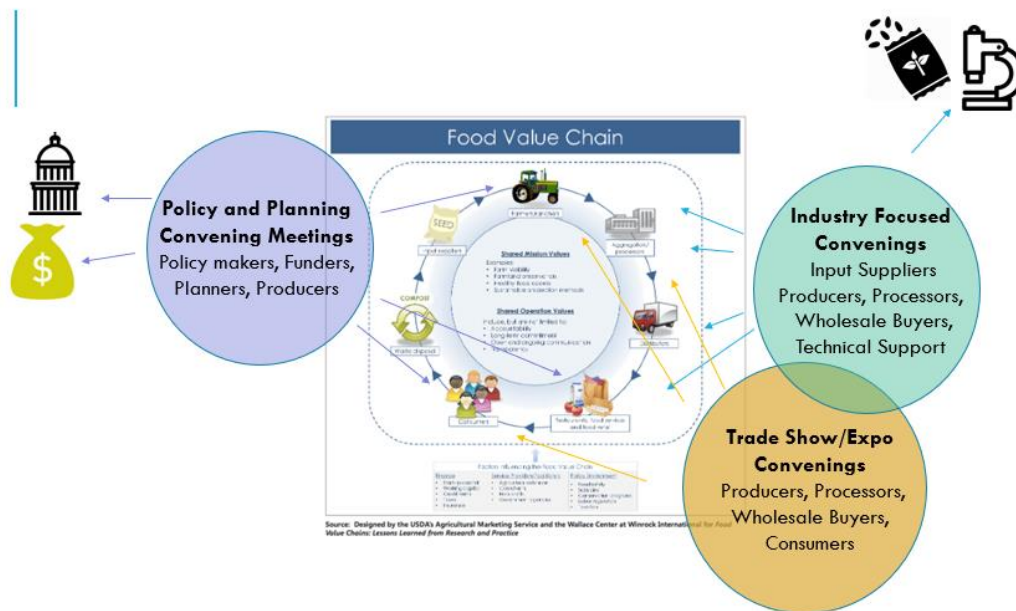
*“And it was the first time that these farmers had ever grown...I meant these farmers had literally never grown broccoli. Few of them had eaten broccoli. They’d never grown kale, and they hadn’t heard of kale. Which is crazy because they all knew collards, which is a close relative. So they grew that and that did pretty well for them. So next spring we tried to expand that program, and we did something where we experimented with doing transplants. We bought the seed and managed the transplant for the farmers, and I can say in theory, this was a really good idea. It worked out well for some of the farmers, but for other farmers it did not. And it didn’t work out well for us.” (VCCP Hybrid)*

Something that may set VCCPs apart from other kinds of technical assistance providers was their willingness to see challenges through on behalf of producers. Unlike other technical assistance providers who may give one-time resources or guidance on funding opportunities or on production planning, many VCCPs described their commitment to stay with the process of helping farmers until the challenge was overcome or the barrier to a market removed. Sometimes this commitment to the producers’ welfare even took place to the detriment of the VCCE, as in the above example where the VCCP extended production technical assistance to their farmer constituents, but incurred a financial burden as a result of taking on the risk and not being paid back with enough product from the growers to cover the cost of the technical assistance. This inclination on the part of some VCCPs to take on risk in order to provide assistance and services to producers was also seen in matchmaking as well as in convening roles.

*Convener/Relationship Builder*

Food LINC describes convening and relationship building as related concepts. The formal definition reads, “build the necessary relationships across the food value chain by engaging key actors and stakeholders, maintaining communication channels and fostering a trusting environment. Examples include convening stakeholder meetings, forming working groups and implementing other forms of longer-term engagement” (Wallace 2017). Interviews revealed that there are various types of convening events that VCCPs organize, with differences between food system stakeholder meetings and wholesale buyer-seller networking events, as well as patterns in which kinds of events were more likely to be organized by Hubs or by Nubs. Convening events can also be thought of in terms of which segments of the value chain they focus on convening. Figure 4.1 illustrates the USDA value chain image, with three examples of segments of convening meetings that took place in this research.

**Figure 4.1: Types of Convening Events by Value Chain Stakeholder**



Source: Author (Adapted from “Food Value Chain Model” Food LINC Public Facing Report, Wallace 2017)

The interviews revealed that Nubs rather than Hubs had more often put on public-facing, tradeshow, and expo-style events. Expos tend to be more consumer and food focused, with producers, food processors and some retailers having booths with information and samples of their products as well as goods for sale. They tend to be quite large in size, ranging from several hundred to several thousand attendees. In one style of event, wholesale buyers walk around and make connections with potential vendors. In one case there was a special “industry only” time for this at the beginning of the show, followed by doors opening to the public where end consumers could peruse and shop. These expos often involve cooking demonstrations and educational talks by producers and processors on growing techniques, cooking, food history and more. Some convenings are more agriculture or producer oriented, with primary goals of providing education and technical assistance to producers. While these kinds of convenings, often conferences, are open to the public, including the home gardener or grower, they are geared towards professionals. One event provides programing where many of the producer attendees share their own practices, while Extension and other agriculture experts and researchers may lead talks as well. In this event there is a dedicated expo space in which suppliers of inputs such as seeds, fertilizer and farm equipment, food processors who are potential buyers of local product, and technical resources such as Extension, funders and lenders have booths. In this style of event, the producer has the flexibility to walk around and look for relevant connections. In more recent years this particular event also launched a session within the conference called “meet the buyers” in which farmers sat in the audience and buyers took the stage in a scheduled manner, each with several minutes to share the kinds of products

they are looking for. Afterwards, there was open time for one-on-one conversations to take place.

One VCCP who coordinated yet another expo-style convening event (which they called a “festival”) emphasized the importance of their convening event as a place where the matchmaking role develops more quickly and effectively, because trust and rapport are more easily facilitated in person:

*“We knew the festival is a great way to kind of solidify relationships more quickly. Frankly, because when people are face to face, then it’s a great opportunity to introduce people to others and those relationships can happen directly versus a lot of phone calls and, you know, more...I would say more convincing. I mean, you have to ...it’s harder to establish rapport on the phone and sometimes it takes a lot longer for someone to kind of trust in what you’re saying versus when they’re there and they see this great stuff with all this education going on, there’s lot of excitement and buzz-it makes it a lot easier.” (VCCP Nub)*

Food LINC’s description of convening events suggests that convening and relationship building are linked and that relationships are built through the process of attending these convening events, which is supported by the quote above. However, relationships are not only outcomes of convening events. The previously quoted VCCP suggests that relationship building is a necessary component for making convening events possible in the first place. Another VCCP described a second type of convening event, an industry focused event centered on suppliers, producers and processors offering technical assistance and highlighting new products in the market place. When asked how the event came together, this VCCP replied:

*“Oh you know [our executive director] worked her magic and found partners with the university. She made that happen, that they would host the event. And I worked on developing relationships with sponsors, and then it took off!” (VCCP Hybrid)*

Here the VCCP referred to the social ties that the convening organizers then mobilized in order to attract co-organizer partners, in-kind donations and funding to make the event logistically possible. The relationship building (“magic”) enabled the executive director to attract more partners. This organization’s social capital, all of the existing breadth and quality of relationships they maintained among actors in their local food systems, served as an asset, a form of credibility for their organization, and enabled them to attract existing and new partners, by giving sponsors, producers, buyers and consumers the confidence to participate.

All of the interviewed VCCPs who hosted expo style events had more than a decade’s history of working in their local food systems as either individuals or within organizations. This suggests that time and experience fostering relationships may be a precursor to hosting successful large-scale convening events such as these. Arguably organizing and themselves attending convening events also allowed the VCCPs to re-charge their social capital by reinvigorating older connections and making new ones. Such findings are congruent with Food LINC’s assertion that the roles of convening and matchmaking are linked. Later in this chapter, I will discuss how relationship building is important for other roles as well, including direct matchmaking and technical assistance, and should potentially be considered a role on its own.

In contrast to large public shows with exhibitors and technical assistance offering, the third type of convening is smaller, private meetings, where attendees are individually invited to represent a business or organization that is seen as a relevant stakeholder in the food value chain. VCCPs with Hubs and Nubs organized these kinds of meetings about equally; the distinction is that those with Hubs more often hosted meetings in which only

direct actors in the value chain such as buyers and suppliers were in attendance. Typically, the focus of these meetings involved improving current supply and meeting demand. One model for this type of convening was described by a VCCP with a Hub:

*“So the idea is that we’re hoping this working group of buyers and farmers would meet once a month...and that the group is able to address the gaps in capabilities. That they could look at how producers could actually supply products the buyers want to buy, and the prices to satisfy both parties.” (VCCP Hub)*

VCCPs with Nubs also convened meetings with businesses such as producers and processors directly in the value chain, but they often used the meetings to help deliver technical assistance, including business planning and working strategically over time with the same group to help bring business ideas to fruition.

*“I spend a lot of time gathering a variety of sizes of groups together to facilitate their process of conceiving their idea, developing their vision, testing their vision, through feasibility study, through planning, operationalizing, and then building capacity to support it, whether it’s financial or training managers or directors.” (VCCP Nub)*

Engaging diverse stakeholders outside of the direct value chain actors appeared to be more common for VCCPs with Nubs than those with Hubs. For example, a VCCP with a Nub brought together stakeholders to address policy and planning matters, rather than to advance supply chain logistics:

*“We’ve brought together some folks from the agriculture working group, the food policy councils, we’ve invited some of the area Farm-to-School specialists to participate in a couple of meetings...then we had another meeting for strategic planning on agriculture...it was about 60 people, most of them were local government staff, some were counsel of government or commission members, a number from academia. That I would say was more of a policy and programming look at things.” (VCCP Nub)*

In these examples, the very process of organizing convening events helped to stimulate many of the other roles of VCC, including matchmaking among value chain actors, technical assistance to producer businesses, innovating new ideas for products or catalyzing new policies in governance planning meetings. Such organizing was supported by having existing relationships and also served to foster and strengthen new relationships. The very fact that VCCPs with Nubs appeared more likely to convene meetings with stakeholders outside of the value chain contributes to the difficulty of tracking the impacts of all facets of VCCP work. This challenge is explored later in this chapter in sections on success and metrics and is related to Chapter 5 which presents a novel approach for understanding relationships developing as social infrastructure fostered at these events.

#### *Catalyst/Innovator*

Food LINC leadership describes the catalyst/innovator roles as testing new business models to lower financial risk for actors in the value chain. The interviews revealed several examples of VCCPs fostering and performing such innovations. One business model innovation comes from a Hub VCCE which was developing a vertically integrated business operation which included a farm, a subscription box CSA service, a wholesale distribution business and a start-up production kitchen for value added processing all housed under one entity. A vertically integrated business operation with related enterprises was seen as being capable of creating efficiencies so that all the processes along the value chain from production, to processing, to distribution would be more profitable for all actors.



*“The model for our [VCC entity] is a vertically integrated corporation. We’ve got farming, and logistics, and processing, and multiple customer facing brands. But, building that up, and what’s the right time to activate those different businesses, and how to scale them up, is a very complicated matter that requires a good amount of capital. That’s the sort of paradigm we’re in.” (VCCP Hub)*

This VCCP articulated that innovations do not come without risk, and in particular that there is a need for capital investment to reduce the burden of financial risk on the VCC entity. The VCCP further described yet another innovation their entity was engaged with at the time of the interview-- preparing for a public offering for their business, which successfully launched about eight months following the interview. The innovation and catalyst role is also linked with an earlier described role of technical assistance support, as in the example of a Hub VCCE initiating producer growing contracts with local minority farmers, and implementing a program where their growers received plant starts and greenhouse supplies to remove early season start-up cost barriers for producers. However as in that previous example, not all innovative investments provide favorable returns. While spurring innovation and catalyzing new ideas are together an important role for VCCPs, these examples underscore that innovation can also introduce risk, and thus there is also a need for VCCPs to perform another role-- resource prospecting-- to bring in investments and capital to support the sharing of risk so that it does not lie with the VCCE alone.

#### *Resource Prospector*

The resource prospecting role involves time and effort to seek out and apply for funding either for the VCCP’s own operation or for their constituents. It often involves identifying funding opportunities and writing grants to support the operations of the VCCE

or a group of constituents whom the VCCE serves. Resource prospecting can overlap with technical assistance as in the following example where a VCCP assisted a group of minority farmers through the process of applying for grants from NRCS funding programs:

*“I had a proposal last year to do some demonstration farming to help our farmers within the NRCS [Natural Resources Conservation Service of USDA], basically to help our minority farmers get into the NRCS program. I think we were pretty successful on that, but man, it was an unbelievable process. Just the barriers were huge. In part because the county agents themselves were not used to working with small farms, but they don’t view these farms the same way as commodity farms...but we identified about 13 programs that would be great for small-scale farms, but we had to figure out what that would look like and how to apply for them.” (VCCP Hybrid)*

Resource prospecting may also be focused not only on single producers but on the entire food value chain. For example, this role may also include fundraising to host convening events with producers, processors and buyers. There were very few instances where VCCPs discussed the role of resource prospecting for themselves. However, all Food LINC affiliated VCCPS interviewed were reliant on some amount of grant funding for their operations, which suggests that the work of resource prospecting is a frequent and integral role that they perform to enable their work.

### ***Policy Thought Leader***

The role of policy thought leader encompasses the way in which VCCPs either directly join in conversations or facilitate meetings to foster dialogue around existing or new policies that would ensure the success of regional food value chains. Some VCCPs serve on national committees for policy planning, and others convene meetings in which ideas can be discussed among diverse actors who either influence or stand to be influenced by such policies. This study found no distinction between VCCPS with Hubs and Nubs in

performing this policy thought leader work, but the length of time VCCPs had worked in the field did appear associated with whether VCCPs emphasized performing policy activities within their work, with newer VCCPs performing less policy work compared to their more senior colleagues. In the following example a more experienced VCCP worked in tandem with a newer colleague to cooperate on policy-focused work, as described by a VCCP who had been with his organization for just over one year:

*“[My senior colleague] has been engaged with the organization for years, so I think he’s effective in ways that I’m not. When it comes to translating some of the action alerts to our two Senators and key representatives on the Appropriations Committee, I’ve primarily taken the lead on that, as well as for state level funding for fruit and vegetable procurement in schools. Again, it’s pretty split. [My colleague’s] longer history on the national scene has been invaluable, but then follow through on the specific initiatives is more my work.” (VCCP Hub)*

Here, the VCCP who had done the work longer, and whose primary roles centered more on strategic planning, relationship-building and matchmaking was more involved in policy conversations. Perhaps this example suggests that policy work is more nuanced, requiring a longer and broader view of actors and dynamics in the food system. Newer VCCPs may lack the experience and perspective to engage in such work when they are just starting out. More experienced VCCPs perhaps have the discernment about which strategies work for producers, processors, and buyers over time and thus are in a better position to make recommendations for policy changes that will reduce barriers and enhance possibilities for the development of value chains.

### **Additional VCC Roles**

The interviews with VCCPs revealed several additional roles important for value chain coordination in addition to the six roles formally proposed and promoted through

Food LINC. These other roles included assessor and researcher, relationship builder (as a distinct role from convener) and accountability keeper.

#### *Assessor/Researcher*

An additional role of assessor/researcher became evident in how VCCPs planned and directed their work. This role was integral to VCCE Hubs and Nubs alike. An assessor/researcher role appears to be useful for VCCPs who are starting work either with new stakeholders or working in a new area. Surveys of producers, processors and buyers were a common strategy used by several VCCPs to gain information about potential value chain constituents before planning a wholesale convening event.

*“So the buyers survey, we were focused on a couple of things. Certainly, one was to understand the requirements, whether it’s food safety requirements, insurance requirements, delivery, cold chain type of requirements. Another was what they’re buying, so whole lists of fruits and vegetables and other products to get percentages of that and trying to get at are they paying any premiums for organic and local, or what do they typically pay.” (VCCP Hub)*

This VCCP associated with a Hub surveyed wholesale buyers to understand market demand, so that they could effectively recruit and provide appropriate technical assistance to producers. In another example, a VCCP with a Nub described a price study that her organization was in the midst of developing with support from a local university partner.

*“We’re going to interview farmers and ask them their high and their low price for vegetables, 10 specific vegetables. And then we’re going to interview the wholesale buyers...what are they willing to pay for carrots? What are they willing to pay for broccoli? Lettuce in a bag? And just begin to get a sense out of these 10 or 12 vegetables, where are we close? Are we miles away on broccoli? Then we can begin to have a conversation about actually buying and looking at distribution logistics.” (VCCP Nub)*

Another VCCP associated with a different Nub described using GIS analysis to understand gaps in assets and services for the food system in her region, identifying communities' need and planning strategic interventions such as the best market channels to pursue and develop in certain regions.

*"We ran some analysis to, well we had a database of sort of the points along the cycle, the value chain cycle, so we had a producer, we have aggregators, and we had outlets. We had a geographic location for each of those, so one of the things we wanted to see is what communities were really lacking any type of outlet for healthy and fresh foods. And we found a few places where there really wasn't anything for like 25 miles. So really, really isolated, rural places you know, where there isn't any place to buy fresh food, but it's an entirely agricultural region. We know those communities need a lot of attention, and so for us you know, it's time to connect the producers to things like the school system, they are the key because given the distance people have to travel, schools are the key entry points for them to access healthy foods." (VCCP Nub)*

These examples show that research and evaluation was sometimes conducted by the VCCPs "in house" within their VCCEs especially if they had specialized skills in data collection or analysis. At other times, it was conducted with an external partner such as a university or a research consultant to design, collect and analyze relevant data that could inform VCCP work in convening, matchmaking, Hub operations, and overall strategic planning.

### *Relationship Builder*

While Food LINC's description of a convening role speaks about relationship building in tandem with convening, these interviews revealed that relationship building involves skills and activities that both stand on their own and are also the foundation for making other kinds of roles, such as matchmaking and technical assistance, effective. One VCCP explained the importance of trust and rapport when working with new vendors:

*“There are times when you meet vendors where they are at...through building trust and rapport and talk about successes at gaining market access. You use that as leverage for showing that better production practices is a variable to consider with their personal business growth. (VCCP Hub)*

As referenced in the convening events section, relationship building helps VCCPs to acquire and sustain the social capital needed to catalyze large convening events. In organizations where multiple VCCPs worked, newer or younger VCCPs would often refer to their more senior colleagues as the ones who “hold all the relationships” (VCCP Nub) or the ones who “work the magic” (VCCP Hybrid). In these examples, VCCPs suggested that their co-workers were the ones actively representing the organization in the broader regional or even national food systems arena, and their work building and maintaining relationships was also beneficial for finding new clients, and for keeping current with policy and funding opportunities.

Relationship building has been an underrecognized role in Food LINC, despite the prominent role of social capital in development strategies more broadly. Chapter 5 focuses more direct attention on how convening events are made possible by and foster relationships among regional agri-food actors in VCCP regions, drawing more on social capital and social infrastructure to frame impacts of relationship building for individual entities and regional value chains and communities more broadly.

#### *Accountability Keeper*

A VCCP from a Nub explained that following an expo style convening event, she followed up with buyer attendees to check in on the business exchange connections they had made with producers at the event. The VCCP described:

*“So really, it’s a lot of going back and assessing with the buyer and staying on the buyer. A huge part of this...it’s very important for me that we follow up with them [buyers] until the end, and until then I’d give them advice on what they should do.” (VCCP Nub)*

This quote suggests that convening events don’t stand alone in their purpose of connecting buyers and produces. This VCCP followed up with one-on-one phone calls to inquire about buyers’ impressions of meeting with producers and to find out what, if any barriers existed to formalizing a business deal. She worked to give advice to buyers to help sort out any logistical challenges in working with producers and continued giving advice until the deal was sealed between producer and buyer, which she refers to as “the end.” Not all buyers are easy to reach, and sometimes it can take a long time of following up with buyers who may verbally express interest in buying from a local producer before they actually commit to the purchase. A VCCP from a Hub described his experience of trying to keep in touch with wholesale buyers:

*“That’s a constant challenge, with our wholesale buyers. A lot of it is just pounding the pavement, going into a restaurant at the right time, continuing to check in.” (VCCP Hub)*

Another VCCP with a Nub referred to this role as being the “nag,” noting that buyers especially may not be receptive to the repeated phone calls and emails asking them to deliver on their promise of the intent to purchase.

### **“Value Chain Coordinator” as Prototype Concept**

The previous section has considered how value chain coordinators describe the activities of their work against Food LINC’s formal articulation of the six roles of value

chain coordinator activities. This account provides a sense then of expected vs. experienced performance of value chain coordination roles. In this section, I explore how the data reveals some contestation about the organization of the VCC roles and examine the importance of the several additional roles being performed by VCCPs that Food LINC has not formally articulated. The incongruencies between stated and performed roles suggests challenges to the notion that Food LINC's "Value Chain Coordinator" is an accurate model to describe of the work of VCCPs.

This next section frames additional challenges to the legitimation of the prototype idea of Value Chain Coordinator. First I describe challenges articulated with VCCPs' use of *value chain coordinator* as a title. Then I discuss problems with the lack of articulation of the types of roles performed by people at different kinds of VCCs, including whether performing all roles or one role legitimized an individual or entity as being a VCC and the issue of co-performing roles within an organization and externally with regional partners and sometimes competitors.

#### *Mixed Use of Value Chain Coordinator Title Among Professionals*

The interviews revealed that Food LINC VCCPs, despite receiving funding and committing to participate in the 2-3 year pilot project, mostly do not identify with the term Value Chain Coordinator as a professional title. Part of the reason they do not use it has to do with the fact that it is not widely understood by stakeholders such as buyers, suppliers and other support actors in the regional food system. One Hub VCCP described why she did not use the term value chain coordinator to describe her operations:

*"Heck, it took me years to start calling it a "food hub," I mean because the term didn't exist when we started [our distribution business], because we've been around since*



*2000. So we didn't...some of this terminology though, we are starting to adopt" (VCC Hub)*

This VCCP explained what it was like being in the forefront of the work and how it took a while to understand and identify with new constructs that were being created to explain this work.

The actual job titles of the Food LINC VCCPs are diverse and include: marketing development consultant, executive director, associate director of conservation, business development manager, managing director, food hub general manager, enterprise development manager, farm-to-table coordinator, healthy foods coordinator, environmental education assistant, and development director. Only three of the combined 13 Food LINC organizations and 22 professionals interviewed had the term 'value chain' in their office names or titles. One of the VCCE Hubs which received funding from Food LINC changed one employee's title from product manager to "value chain coordinator" during the course of the grant. Another VCCE Hub brought on a new staff member with the title of "value chain specialist". A third organization, a Nub, created a new position made possible by the Food LINC funding, which was "regional food systems value chain coordinator." One of the three VCCPs with "value chain coordinator" in their job title explained,

*"Since this is anonymous, I think I can tell you that this is the most ridiculous [job title]." (VCCP, Nub)*

Following up on her dismissal of the Value Chain Coordinator label, I asked what she thought might be a better title for describing her work.

*"Regional food systems planner, or something like that. Regional agricultural specialist, or something along those lines. I think, yeah, it just needs to be shorter." (VCCP Nub)*

However not all VCCPs found the term unappealing or problematic. This VCCP with a Hub typically referred to a different job title, one that he held before joining the Food LINC cohort, yet he talked about how he intermittently used the value chain coordinator title:

*“Interviewer: When you describe your work to other people, do you use your title, “cooperative specialist”?”*

*VCCP: “Yes, I do. I have used the term ‘value chain coordinator’ a little bit too. Both of those terms usually need additional explanation. That’s something I’ve been working on.” (VCCP Hub)*

Another VCCP, also with a Hub, explained his experience using the title to a group of stakeholders, where it received a challenging reception. This VCCP took the opportunity to further explain and educate the participants about what a value chain strategy implies:

*“We had a group of like 100 ranchers through a Farm Bureau visit to the warehouse last week. I introduced myself as a value chain specialist, and understandably, someone rolls their eyes. That was a great opportunity to highlight how hard it is to give an elevator pitch on this kind of thing. Then I made the argument that honestly that whole group was no stranger to value chain work, because there were alfalfa growers and ranchers and even markets, all present in that meeting. For that audience, I did kind of use the language of value chain specialist, but usually I don’t use the term. I just say I work with local vendors to find them markets, vendor development is the most frequent term I use.” (VCCP Hub)*

While VCCPs expressed concerns about the term’s awkwardness and lack of understanding of their titles as value chain coordinators, the last VCCP quote just above articulated how the concept of value chain was useful for conveying a strategy to help value chain actors recognize their linkages and think about engaging in work together. Still in most cases, it seemed that the title worked best when the VCCP had both time and audience attention to elaborate on the purpose of their work to partners with whom they worked.

### *Value Chain Coordinator Roles Are Co-Performed*

The concept of “value chain coordinator” promoted by Food LINC assumes that a single professional or single entity within a community performs the six articulated roles. One of the most unexpected and possibly important findings of this research is that both the Food LINC proposed roles and the additional emergent roles appear to be co-performed by multiple individuals, as opposed to by one VCCP or VCCE in each region. Evidence that the term “value chain coordinator” is problematic emerged when some participating business and organizations of the pilot Food LINC initiative had as many as two or three representatives at the trainings and meetings. At the initial convening meeting in January of 2016 at USDA headquarters in Washington DC, participating organizations and businesses sent executive directors, marketing specialists, food hub logistics managers, marketing specialists, development directors and food systems planners. Two years into the work of the pilot cohort, after dozens of monthly calls, webinars, trainings, in-person meetings, workshops and conferences, this diversity is still represented in participants of the cohort.

### Co-performing Roles Within A Value Chain Coordination Entity

Interviews revealed insights about how the roles of value chain coordination are sometimes shared among co-workers within an organization. There were several instances of how two, or sometimes three or four employees performed this VCC work in combination. One Hub had a VCCP who performed most matchmaking and technical assistance, while the other person in the organization focused on policy and resource prospecting. In a hybrid Hub/Nub organization, a development director performed

resource prospecting and convening, while another employee (with the title of value chain specialist) worked on matchmaking, and the executive director shared some resource prospecting and maintained matchmaking with certain long-term relationships (some established over a decade or more). Another Hub entity with three VCCPs split the roles where a director, Hub operations manager and market developer each performed unique roles such as the director's involvement with resource prospecting and the market developer's primary work matchmaking and innovating new market strategies. All three VCCPs performed facets of technical assistance but focused on different aspects. The market developer identified new potential vendors and delivered market-readiness training on topics such as food safety, the operations manager provided information on logistics and transportation, as well as back up marketing support, and the director looked for new external partners to fill in gaps where the internal staff lacked expertise.

In examples Nub VCCEs, one organization shared work where one VCCP performed matchmaking, convening and technical assistance, while the other held the "big picture" planning and strategy, including resource prospecting. Another Nub VCCE relied mainly on contractors to perform technical assistance, some matchmaking, and organize large convening events with public attendees, while a full-time director worked on resource prospecting, policy and matchmaking, or more accurately the precursor role, proposed in this dissertation, relationship cultivation. Yet another Nub VCCE had two VCCPs working in the same region on matchmaking, but they divided the work by market channel, where one focused on restaurant sales and the other on institutions such as hospitals and school districts. Yet the one VCCP who had been on the job longer and in the food systems space

for several decades was primarily responsible for additional relationship cultivation with technical assistance partners, potential funders, and policy leaders.

Although there are various ways that individuals divide the work across VCC roles, to some extent based on personality and individual skill sets, a pattern is evident that transcends the Hub and Nub distinction within VCCEs. Those VCCPs who have been in their positions longest relative to their co-workers tended to assume cultivating relationships, resource prospecting and working on policy. Individuals newer to VCC work tended to start by focusing on technical assistance, helping to organize convening events, and matchmaking between buyers and sellers. A VCCP with a Nub who primarily performed matchmaking shared information with her colleague who had been in leadership longer in the organization:

*“Because she has more experience in the value chain work and so we have conversations. We just had one earlier this morning where she gives updates on the value chain work and helps provide that guidance and gives that strategic vision on what would be the best way.” (VCCP Nub)*

In one of the Food LINC VCCEs, a business including a distribution hub and a retail cooperative, two individuals shared the work of value chain coordination. One had been engaged in this work for over ten years, and described his work performing market matchmaking and catalyst/innovator roles:

*“contacting, being able to assess the contact and also describing historical trends...and being able to come up with the decent initial hypothesis about what might work.” (VCCP Hub)*

His younger colleague who had only been on the job for a little over a year, said of his senior colleague:

*“Well, he’s ingrained in the network here, having started a farm and working food systems locally for nearly four decades. I think he can speak to the audience effectively*

*and has the skillsets that are very valuable.... They hired me because my skillsets are pretty complementary to his. I do a lot more backend work from an administrative and internal standpoint. In some ways he beats the bushes and kind of does the vendor outreach side of things, and I'm more market side, trying to find the right match for opportunities and doing a lot of business analysis of various opportunities. In that way, we're very complementary." (VCCP Hub)*

These examples show how VCC roles co-performed internally may be guided by factors such as complementary skillsets among co-workers based in personality, skills and experience. While no VCCP described this as an explicit process, it appears that getting the right mix of people within an organization is a strategy for VCCEs to cover all of the roles recognized and needed within their organization. In no case was there a description where one individual performed all of the six Food LINC roles, nor the additional emergent roles found in this research. This finding of shared coordination roles within a single VCCE upsets the notion of Food LINC's proposed single "value chain coordinator." The following section further complicates the notion of instituting a single value chain coordinator by describing the co-performance of these coordination roles outside of VCCEs and among external actors within, and sometimes even external to the VCCP's region.

#### Co-performing VCC Roles: External Partners and Other Food System Actors

Another pattern of co-performance of value chain coordination emerged from the interviews. Here the roles were often conducted in tandem or with support from external partners. Examples of external collaboration for Hub VCCEs included Extension agents for technical assistance and food safety, farmland preservation groups to provide land access opportunities for farmers, and working with Nub VCCEs to help with market matchmaking. As the Nub VCCEs are not located directly within the value chain organization, they may work in tandem to connect producers and sellers to food hubs or others who aggregate and

distribute agricultural and food products. VCCE Hubs likewise rely on Nub entities for help broadening their relationship networks and making connections to new suppliers and customers, as shown in the following example where a VCCP with a Hub attended a food expo convening event organized by a VCCP with a Nub, where producers and processors set up booths to showcase their food to buyers:

*“There’s a really good event. It’s a regional food show, and we’ve participated the last two years. We’ve been able to find some customers through that, because registration for buyers is free, and the organization really does a good job at getting a diversity of buyers that are both local and national.” (VCCP Hub)*

Another VCCP with a Hub explained how she relies not only on Nub-hosted convening events, but also makes use of Extension services and local online database platforms to expand her VCCE’s network of new producers to sell to their Hub:

*“We connect with farmers through word of mouth, and by going to farmer conferences, and then I reach out to Extension and farm consultants and see what producers they are working with...also Local Harvest, which is a great website.” (VCCP Hub)*

Another example of external partnership among Hub and Nub entities is in developing trainings and curriculum to enhance technical assistance offerings. One VCCP with a Nub explained her emerging partnership with another Nub-based VCCP within Food LINC.

*“So we went in with them on a USDA grant to provide some training and one is for wholesale readiness and the other is direct sales. Part of the rationale with that is that a lot of the small farmers we work with think they are ready to step up to wholesale and they really aren’t...so we hope that this training will kind of walk them through the steps.” (VCC Nub)*

Other examples of partnerships between VCCPs in Food LINC included partnering to expand services to neighboring Food LINC regions, writing grants together, and co-

facilitating or sharing technical assistance. These examples serve to highlight VCCPs sometimes co-performing value chain coordination roles within an organization and other times working with external partners if the skills or capacity to perform those roles are lacking within the VCCE. Many times the external partnerships take place within the VCCP's region, such as attending the local farmer's conferences, or using local food database platforms or Extension resources to make new connections to suppliers or buyers. Other times, external co-performance of roles may take place across regions, such as when VCCPs within the Food LINC cohort partnered together to develop technical assistance curriculum for producers on wholesale readiness strategies. If a VCCE is particularly well resourced, they may be able to perform all needed coordination roles themselves. However, external collaboration seems to be a way to enhance or increase capacity and the reach of these roles, for example in partnering with other organizations to expand business networks.

#### Co-performing VCC Roles: Cooperation or Competition?

In the above sections, I described how VCC work is often shared or co-performed within VCCEs, where different individuals perform roles that align best with their personality, skills and experience. Likewise, at the VCCE level, Hubs and Nubs often partner with external organizations to fill in existing gaps in VCC roles, where those skills or resources may be lacking. However co-performing VCC roles is not always deliberately planned among external partners. Sometimes redundancies occur, with other businesses or organizations duplicating efforts in a similar region or working on a similar challenge. One VCCP with a Nub described an example that was not only a regional problem, but even



a national problem related to how grants were awarded to support VCC work, yet sometimes created tensions among the few organizations going for the same pots of funding.

*“Nonprofits have this highly-developed level of fundraising and grant writing systems to support it. And then you have your service-based cooperative type business, or producer-based business, with very few of those skills. There’s sort of a competitive advantage that nonprofits have – it allows them to take risks and try things in the business space that can directly compete with and take away resources that might otherwise be available to the rural, farmer-based businesses...and USDA has no mechanism to evaluate these kinds of dynamics at a community level. It’s just too localized.” (VCCP Nub)*

Another VCCP also with a Nub described a tension that she had where she was working on a project for beef value chain work within her state, but encountered conflict when another non-profit called her to express their concern that she was encroaching on their territory as they had recently been awarded a federal grant to work on developing new markets for beef within the state. Despite the VCCP’s intention that they might collaborate and divide the work based on local region and possibly on market channels, the other non-profit instead cut her out of the work and also ended a nearly two-decade personal friendship.

VCCPs may sometimes encounter situations in which conflicts arise over territory such as region or scope of the work they are working on. This dynamic suggests the possibility of unforeseen challenges associated with legitimizing one VCCE over another and that funding opportunities for VCCEs may be creating conflict among potential partners because funding is currently targeted to single organizations rather than to collaborations among VCC businesses and organizations. Tensions among VCCEs appear exacerbated when one or some organizations receive grant funding, while others doing

similar work in the region do not. The perceived scarcity of funding to support all VCCs within a region that propose to work on these areas only further fuels the tensions.

In summary, evidence that value chain coordination roles are often co-performed by multiple collaborating actors undermines the notion of a single value chain coordinator as either reality or goal. Not only do VCCPs appear to mostly not resonate with the official role name, *value chain coordinator*, but additionally, a challenge emerges when legitimizing some individuals over others who may perform certain other critical roles within an organization. This may lead to legitimizing (and possibly favoring) certain businesses or organizations, despite evidence that VCC roles are in fact shared across these boundaries. This conclusion is consistent with other interview findings showing that no one single value chain coordinator performs all of the roles as defined by Food LINC. Because the skillsets needed to perform these roles are so complex and diverse and the knowledge of systems and logistics across so many facets of the value chain are too vast for any one person, it is not surprising that roles are co-performed. Therefore, VCCPs must play to their strengths and seek partners who can complement their skills and competencies, whether they are internal or external to their organization.

### **“Value Chain Coordination” as Prototype Concept**

#### *Resonance with Value Chain Coordination as a Framework*

The prototype idea of a singular “value chain coordinator” therefore faces several challenges including the general lack of acceptance, limited actual use of the title, and evidence that value chain coordination roles are often co-performed internally and even externally. This section examines how the VCCPs resonated with a different prototype

concept through their participation in Food LINC. While it was not made explicit in documents or trainings, when asked to describe their work, VCCPs often referred to many of the roles as well as goals or broader outcomes, sometimes using near verbatim language from Food LINC to describe their work. Interviewees were asked to describe their work in their own terms and then against the six proposed roles as described by Food LINC.

The VCCPs expressed the importance of having an elevator pitch to describe what they do, especially in light of the fact that the titles of “value chain coordinator” and “value chain specialist” are not widely understood by external partners and stakeholders. In describing their work, some VCCPs integrated some of the proposed Food LINC roles into their descriptions of work, as in this case:

Interviewer: *“And how do you describe your work?”*

VCCP: *“I’m responsible for, let’s see, providing technical assistance and education and training for groups of largely rural people that want to coalesce into some kind of business fund to take advantage of opportunities or resolve some kinds of [market] barriers. That implies doing it in a cooperative context, but not exclusively. It could involve nonprofit organizations as well.” (VCCP Nub)*

In addition to the six VCC roles it proposed, the Food LINC initiative also articulated goals or outcomes that it hoped to achieve. Posted on a USDA website, the initial press release for Food LINC read, “Food LINC will connect demand for local food in ten urban areas with supply from farmers and ranchers, strengthening each region's local food business sector and also increasing consumer access to healthy, local food” (USDA, 2016). In the following example, a VCCP’s language about their work closely mirrors the language circulated by Food LINC in describing the goals of the initiative:

*“Generally, I think that the distribution term is what I refer to as my elevator pitch. That’s the niche we fill, and we function similar to the food distributor. What makes us different is the nonprofit model and the fact that we function under a mission, to reduce food deserts in our region and get healthy food to people that need access.” (VCCP Nub)*

Strikingly, in her elevator pitch, another VCCP also describes her work in ways that closely match the Food LINC project goals:

*“I just tell people that we’re trying to grow the local food economy, and increase access to healthy food, while also increasing market opportunities for local farms. I don’t, unless it’s somebody that has a little more time, or who is already in the space, or is really interested in the space, do I talk a little more about some of the other environmental and social values.” (VCCP Nub)*

The alignment of this VCCP’s description of the purpose of her work to the Food LINC goals could relate to the fact that her position was newly created with Food LINC funds and thus the project goals served as initial goals to orient her work. Other VCCPs responding to my prompt asking them to consider the six roles explained how these roles did and did not resonate with their own daily work. One VCCP answered by describing his work done at his VCCE, a Hub:

*“We do a little bit of matchmaking, but most of what we try to do is have the sales flow through us. We try to connect farms with buyers directly to help share their stories, but most buyers that we experience don’t want to work with a whole bunch of farmers, and that’s kind of why they don’t, because it’s a lot of work. We’re not as much of a matchmaker in connecting the buyer to a farm, and we’ve done some convening when we’ve had the funding for it, but it’s not been our primary role. We’ve done a little bit of technical assistance, but again, only when we got the grant for it. But it’s not our primary day to day work.” (VCCP Hub)*

While VCCPs did not generally express strong enthusiasm for using “value chain coordinator” as their title, they indicated more acceptance of the notion that their work fell under an umbrella of *value chain coordination*. The set of six roles put forth by Food LINC

in particular resonated with most VCCPs as broadly speaking to many essential functions of their work. One VCCP with a Nub explained:

*“When we were approached to join the [Food LINC] value chain cohort, it’s just always very familiar territory. There was some sort of new language, but the essential roles that were identified by the leaders was work that we’d been doing for a long time.”*  
(VCC Nub)

Unlike an explicit and demarcated value chain coordinator concept, centered in a professional and occupational space, the broader concept of *value chain coordination* appeared to be a new, useful framing that helped VCCPs to think about the overall strategy of their work, especially as distinct from supply chain coordination. Several VCCPs referred to the importance of an emphasis on holistic, big picture and systems thinking.

*“Unlike the supply chains, I think of the value chain as the entire thing, where we are trying to think more holistically about from the very beginning, the soil all the way to that cycle that ends with waste, and so we work at all of those points on the cycle.”*  
(VCCP Nub)

Another VCCP saw the value chain concept as offering a holistic approach for addressing complex community challenges such as poverty. When asked how her organization interpreted and enacted the meaning of value chain, she responded:

*“I would say we do it by connecting what is being done to addressing the root causes of problems. To give an example, people say, ‘well there are poor people in our community.’ Well you can create job opportunities or small business opportunities in the food value chain so that those poor people can actually get jobs and start to feed themselves and not have to come for handouts for the rest of their lives.”* (VCCP Nub)

Another VCCP interpreted the value chain and its importance like this, while hinting at the need for coordination in general:

*“I think we define it by the crops and commodities that we work on. I see it as filling a gap and providing more support where there really isn’t a whole lot of support.”* (VCCP Nub)

Beyond helping VCCPs to think about the strategy of their work, value chain coordination as a concept helped VCCPs to frame and report on their work. Many VCCPs noted its utility for informing and organizing their writing of grant proposals. Additionally, VCCPs spoke about the camaraderie of being in a learning cohort with others who do similar work. The distinction between Hub and Nub VCCs became evident about a year in to the formation of the Food LINC learning cohort, when subsets of VCCPs began to meet in smaller Hub or Nub groups to share information that seemed more relevant for their broadly differing business models. While Food LINC participants did not so commonly invoke the *value chain coordinator* concept, the examples above show how they did more readily adopt some language about the roles as well as expected outcomes of *value chain coordination* work. However, the next section shows that while the concept of value chain coordination as a broader framework may have resonated better with VCCPs, additional ambiguities and disagreements about this concept still remained.

#### *Ambiguity between Values Based- and Value Chain Coordination*

Here I explore how VCCPs articulated different descriptions about the nature of their work as it related to articulating values or goals with value chain partners. Food LINC's public report indicates more of a *values-based supply chain* orientation (Stevenson and Pirog 2008) in which there is greater transparency of information and shared missions among value chain actors (Figure 4.2).

**Figure 4.2. Food LINC’s Articulation of Values-Based Supply Chain Orientation**

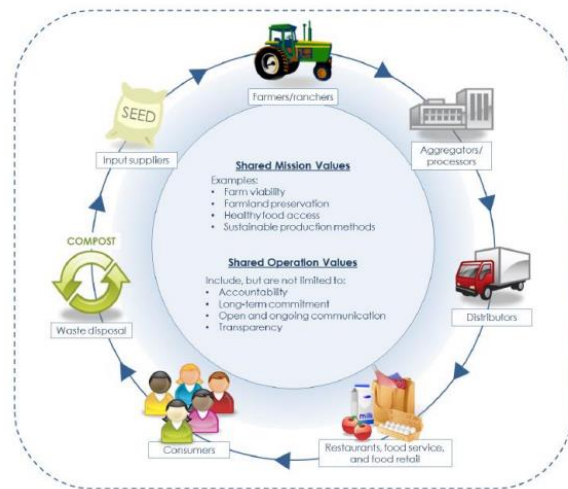


## What is a Value Chain?

The food value chain may look a lot like a traditional supply chain on the surface, but in *value chains* . . .

- Businesses intentionally structure their core operations to **produce both financial success and social benefit**
- **Shared mission and operational values** support decisions and processes
- Investments go into **human capital** before hard infrastructure:

**Value Chain Coordinators!**



WALLACE CENTER  
at WINROCK INTERNATIONAL

Source: Food LINC Public Facing Report (Wallace 2017)

To understand how the framework of values-based supply chains resonated with VCCPs, I asked them intentionally open-ended questions about the values that guided the work that they do. VCCPs were asked to discuss their understanding of values relative to the processes that governed their work, and what participating in a “value chain” meant to them. The very diversity of responses VCCPs offered about values and understandings of value chains was a major finding. Responses are organized by values attributed to products and practices, and values that guide the strategy of the work.

### Value Chain Coordinator Professionals’ Values of Products

VCCPs used different strategies to acquire information about producers and their products so that they could promote specific value attributes to end buyers. Some VCCE Hubs have explicit protocols such as producer intake forms that ascertain quality-relevant

practices (e.g., soil health management, crop production and handling procedures). Other VCCE Hubs make site visits to producers. The product values that VCCPs most often described as important to their business and customer interests were “local,” “healthy,” “GAP-certified” and “organic.”

*“Yeah, right now we’re not looking at per se organic as the main factor. The main factor is healthy and is it locally grown...but as you know, locally grown can mean different things to different people.” (VCCP Nub)*

Several VCCPs articulated a similar view to this particular VCCP, who considered the product attribute values of interest to be flexible in order to respond to changing demands from the diverse current actors in the value chain. While organic was an oft-cited value attribute, it was secondary to local in terms of how often it was mentioned by VCCPs. VCCPs sought information about production in order to identify value-based qualities of the products that they believed would meet consumer or buyer demand. As one VCCP explained:

*I think that the value part is demonstrating the value of a good product, and why it deserves to be paid for more, and why that money needs to get to these local farmers. I think that’s where we play a key role in demonstrating that value.” (VCCP Hub)*

This particular VCCP went on to explain some of the value attributes that created demand in the region where he worked:

*“We’re providing a business that source-identifies, that provides diversity of organic products and local products. We’re filling a niche that nobody else has tapped in our area.” (VCCP Hub)*



## Values that Guide Value Chain Coordination Practices

Value chain coordinator professionals additionally talked about values in the context of practices which guide and orient the manner in which they conduct their coordination efforts and relate to their overall business. These included transparency, equitable distribution of profits, conservation of environmental resources, promoting cooperatives, empowering disadvantaged producers, increased healthy food to low access communities and reducing racial disparity. Other VCCPs described how values may or may not be shared with their respective vendors and customers.

*VCCP: "Our business is developed around a set of core principles that include things like transparency, and equitable distribution of profits, and wealth creation across the value chain." (VCCP Nub)*

*Interviewer: "So when you talk about those values, transparency and things like that, does that influence how you select which farmers and which buyers and food processors to work with?"*

*VCCP: "In theory, yes. In practice, mostly. I can say, like any growing business, we're happy to have any customer who walks through our door and is ready to pay for our product. On the supply side, we have a set of guidelines for procurement and as with any other businesses that we've encountered who are trying to do similar things, there are always trade-offs. Is it better to have local products that are not organic, versus organic products that are coming from farther away or that come from a large industrial business?" (VCCP Nub)*

This VCCP explicitly noted the difference between the "theory" and the actual "practice" of applying values in their work, pointing to a possible tension in the everyday work. The theme of VCCPs working with vendors and customers who may not share common values will be further articulated in the following section. First, I will discuss another finding of this research: that among the diversity of values expressed by VCCPs, only one mission value appeared consistently among in accounts from all of the interviewees.

Of the diverse values articulated by VCCPs in this study, this research found only a single value that all Food LINC VCCPs related to the process guiding their work and also shared in common: *the value of supporting producers*. Given the comprehensive connotation in *value chain coordination*, one might expect all the VCCPs to describe themselves as working for the benefit of all constituents equally. While some VCCPs did articulate outcomes such as satisfying wholesale buyers with quality products and home consumers with healthy food, more overwhelmingly VCCPs talked about supporting and even prioritizing producers.

*“There are multiple objectives to this [VCC work]...to make sure that we’re, first of all, addressing the needs of these farmers. Obviously, you know from the buyers’ side there’s been increases, I mean, we’re obviously trending, it’s going to continue to trend, there’s more demand for organic. There’s more demand for responsibly raised products. But if we’re not providing farmers with the resources to convert lands or to engage in the right activities, then what are they gonna gain in the long run, right?” (VCCP Nub)*

Another VCCP offered insight as to why supporting farmer viability may be the most common shared goal among Food LINC VCCPs. She said:

*“One of the things we constantly stress is that our job is to look at this through the farmer lens, the farmer lens, farmer lens, farmer lens. Because if it doesn’t work through the farmer lens, it may be able to be subsidized and work for a while, but it’s not going to have economic durability for anybody if it doesn’t work financially for the farmer.” (VCCP Nub)*

There are many reasons why the Food LINC VCCPs may have commonly articulated this value of supporting farmers above other actors in the value chain. For one, it is consistent with program goals of Food LINC spearheaded by the USDA, an agency with an overarching mission to support producers. However, Food LINC’s initial press release

(USDA 2016) also stressed creating new jobs across the value chain and increasing healthy access for consumers as two other important objectives of this work. Yet those other two objectives were mentioned much less often than farmer viability by VCCPs. One VCCP mused about this common emphasis on farmers, suggesting that it is conceptually easier to understand why one must support the farmer:

*"I think the farmer equity piece is probably the easiest, right? Trying to capture a bigger part of the food dollar for the farmer. I think everybody can understand that."*  
(VCCP Nub)

Her mention of equity and increasing the food dollar referenced how value chain coordination is a strategy to shift the dynamics of traditional supply chains in which more profits have tended recently to go towards processing, distribution and retail, rather than to the farmer. Of the VCCPs interviewed, most, if not all articulated concerted prioritization on supporting and enabling farmers. Yet another VCCP explained how value chain actors who do business together can often have very different values. She went on to explain why she doesn't even use the term "value chain" in talking with buyers for her food hub operation.

VCCP: *"I wouldn't use that term with a business. Ever."* (VCCP Hub)

Interviewer: *"Why is that? What would you use instead?"*

VCCP: *"We just don't need to use it. I mean, you're in transaction mode. You're like, 'How do we help you?' You're looking for ways to make their businesses better, and our businesses better, and at a certain level, you don't need to talk about it, because it's assumed. I absolutely know that the people who are Southern buyers are value chain members. The ones who are our Northern buyers are supply chain partners."* (VCCP Hub)

Interviewer: *"What does that mean?"*

VCCP: *“Well, a value chain is a supply chain that has common values infused in it. Our Northern buyers don’t give a rat’s whatever about our values. We’re just a supplier. And so you just have to recognize that...And no matter if I said “value chain” a hundred million times to them, it would not matter. It just wouldn’t. So you have those kinds of conversations with the people it’s intelligent to have it with, and we might have a conversation like that with restaurant buyers and others in our more immediate footprint. But for [our Food Hub operations] that ship has kinda sailed. You just wouldn’t talk about it like that.” (VCCP Hub)*

This VCCP, working with a Hub, articulated that her business’s distribution operations served buyers in different regions. Those buyers also had different types of values motivating their business agreements. Here she seemed to acknowledge that their work involved both value chain and supply chain coordination, depending on which buyers they were working with. When I asked this same VCCP whether her VCCE Hub had actual conversations about values with the more “value chain oriented” buyers, she explained:

*“I mean, we don’t sit down with them and have a chat about ‘what are our values?’ I mean, but we understand that the reason they’re, say Whole Foods, the reason they’re dealing with us is because they do value what we do. They value our access to small-scale farmers. And they put their money where their mouth is and will pay as much as they possibly can.” (VCCP Hub)*

Not being explicit with buyers who appear to be more on board philosophically to purchasing food with buyers seems to be a choice of not ruffling feathers or digging too deeply into why buyers chose to patronize the food hub. Food LINC public documents were also somewhat implicit about what value chain equity for farmers actually implied for other actors in the value chain. In the interviews, for example, no VCCP talked about having a direct conversation with buyers about how more profits should be directed to farmers. While the lack of direct discussion about the value of supporting producers doesn’t appear to be a major hurdle that currently prevents VCCEs, whether Nubs or Hubs or Hybrids, from working effectively, how VCCPs could facilitate more transparency in communication

of goals across diverse stakeholders is an area that could be considered in the future. The lack of common or consistent values articulated by VCCPs in these interviews may perhaps be a strategy itself, where some ambiguity allows room for and draws in diverse stakeholders under the large, but welcoming, tent of value chain coordination. This strategy however rests on values not always being fully or clearly specified among all actors in the chain.

### *Mixed Support for Food LINC Metrics Frameworks*

I now discuss a third area in which VCCPs articulated some adoption of Food LINC language around the value chain coordination concept in their work through the use of suggested metrics to frame the work. The following data reveals mixed adoption of Food LINC's offered terminology and frameworks for evaluation, suggesting mixed support more broadly for the prototype idea of Value Chain Coordination. In the interviews, VCCPs were asked to describe how they track and measure success of their work. Success and metrics seem to be defined distinctly by VCCPs, with success being defined from the more individual perspective of the VCCP or their organization, whereas metrics seem to be associated with external funder expectations. In the descriptions of success articulated by VCCPs, what becomes apparent is the breadth and complexity of outcomes that VCCPs consider as successes in their work. One VCCP with a Nub whose organization works concertedly for racial equity explains:

*"There's not just one or two measures of success when the young people figured out how to get people to come to the church parking lot to pick up their food. That was a whole other measure of success because not everybody had cell phones, not all the elders understood how to use text. There's so many things we do that our folks are learning and improving on, and it's stuff that other people take for granted." (VCCP Nub)*

This VCCP explained how success in their organization means helping those who are marginalized. She went on to explain the nature of equity efforts, working with minority African American farmers and low access consumers:

*“I think if our folks, if they were on a track team and they were supposed to do a 100 yard dash and the affluent white neighborhoods are lining up and they’re at the start, they’ve got their feet at the starting line, and our folks aren’t even at the stadium. They’re at, like, the next county back, because they have all these barriers and this lack of capacity.” (VCCP Nub)*

This VCCP expressed one kind of challenge where building capacity can be largely invisible work as all of the work only helps to get their constituents to the “starting line. With racial equity as a core value in their organization’s work, it becomes difficult to compare metrics with other VCCEs in more affluent communities which may all have a “head start” in the game. Another VCCP described such challenges:

*“The first benchmark is just the sustainable, the sustainability, the survivability, the longevity, the mere existence of these businesses that get started. Okay? Just the fact that they’re around, even if they’re struggling. Their existence is an important metric, because it reflects a lot of...you know, a certain level of business success and commitment from the players. That’s a pretty gross tool of measurement, but I think an important one.” (VCCP Nub)*

These personal and organizational descriptions of success are quite different from the answers the VCCPs gave when describing the metrics that they captured.

Unsurprisingly, how VCCPs responded to the question of metrics seemed linked to funder expectations or capabilities of their current management software platforms that tracked other kinds of data for their businesses.

The Hub and Nub distinction regarding VCCEs featured prominently in the area of metrics, mainly due to the fundamental difference in business models between these two

broad types. Hubs move product through aggregation, distribution and sales. Hubs have systems in place to track purchases from vendors and sales to buyers which make reporting of certain economic metrics more streamlined. Nubs, on the other hand, deal primarily in the currency of relationships often through matchmaking, technical assistance and convening. Some have systems they use to keep track of relationships which range from Excel spreadsheets to customer service management systems. However, most VCCPs with Nubs did not have software systems in place to help track their needs, although several were cooperating with companies and actively looking for more robust systems to help them keep track of relationships between and among their clients. One VCCP's organization had just purchased a license for a client management platform which the organization then helped to customize for their needs. At the time of the interview, the platform was still being built out to custom specs for the organization, but the VCCP shared what she hoped it would do to help with matchmaking between wholesale buyer requests and producers with whom the VCCP worked:

*"So they could be a vegetable farmer. Then there's categories of what kind of vegetables they could be [growing], and then there's acreage, then there would be organic versus traditional versus local. Data can also be pulled by address, so you see, for example, a buyer says, "I only want X from Wisconsin." (VCCP Nub)*

This VCCP explained the awkwardness and redundancy she had experienced in trying to perform matchmaking with buyers and sellers without having a more formalized data management system in place:

*"Yeah, I mean we've run into that, where you call somebody and you're like 'Hey I want you to meet so-and-so' like, 'Well, thanks but I've been talking to them for six months already' and your like, 'Okay!'" (VCCP Nub)*

In addition to noting the ability of this new system to track existing relationships between buyers and sellers, this VCCP said that she required the software developers to customize a function where personal notes could be made and actions collected and tracked with each farmer or buyer in the system. For example,

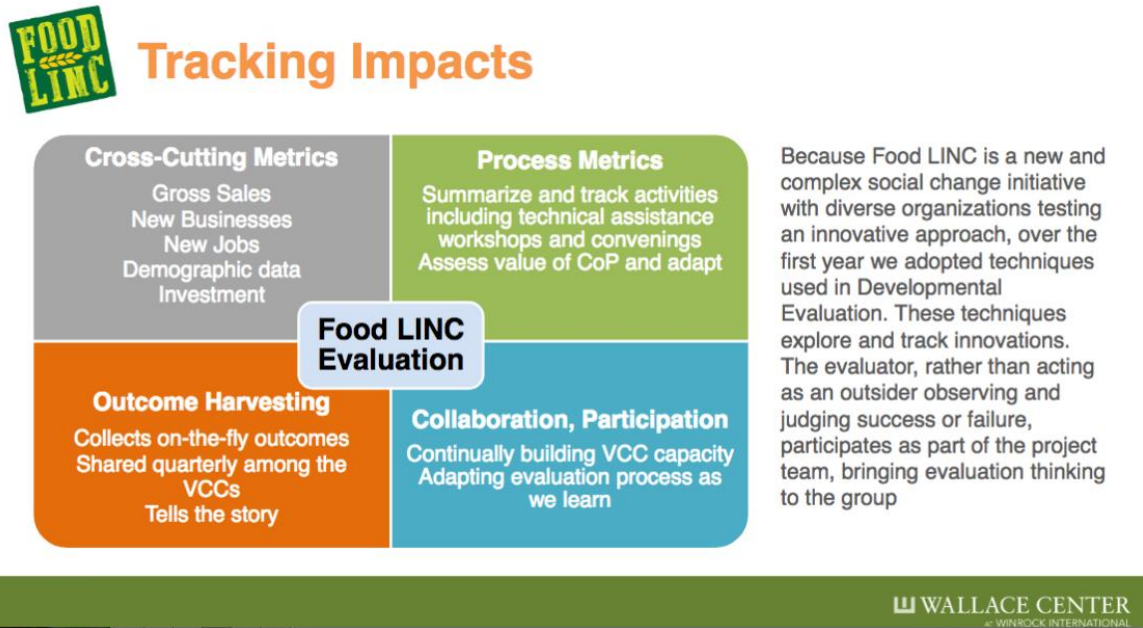
*“Yeah, you know, I talked to so-and-so farmer to find out that his banana crop is good and [the note would say] ‘His banana crops are doing great!’ or whatever it is. ...As far as all of the individualized data how much the farmer has or what they are selling or who they are selling to, that is broken out and that is all easily searchable. Really it’s a matter of administration.” (VCCP Nub)*

This VCCP seemed very enthusiastic about the potential capabilities of the platform to help create more personalized and efficient matchmaking for their organization and make reporting metrics more streamlined. However, not all VCCPs with Nubs were so positive about metrics.

The Food LINC metrics were a novel invention created by the third-party evaluator and based on observation of the diversity among participating VCCPs. The evaluator, who also helped to formalize the distinction between Food LINC “Social Enterprises” (Hubs) and “Relational VCCs” (Nubs), developed a novel approach blending cross-cutting metrics, outcome harvesting, process metrics and collaboration and participation metrics (Figure 4.3).



**Figure 4.3. Cross Cutting Metrics Proposed by Food LINC.**



Source: Food LINC Public Facing Report (Wallace 2017)

Still other VCCPs with Nubs expressed challenges regarding metrics and evaluation. Several spoke of feeling like their work was not “significant” enough or trackable, especially in comparison to that done by Hubs which have more concrete economic measures that can be collected and distributed. Another VCCCP with a Nub reflected on trying a strategy suggested by the Food LINC evaluator where she tracked matchmaking efforts as relationship touch points on a spreadsheet.

*“Sometimes I talk with [the Food LINC evaluator] on those testy outcomes and we’re not moving a lot of money. So what are our outcomes? That’s a struggle. So I am trying to keep a log of those though. (VCCP Nub)*

Yet another VCCP with a Nub had the opposite challenge; instead of feeling like she didn’t have enough to report, she explained that there was too much to report, and many of these issues were outside the scope of what the evaluation, guided by the goals of Food LINC, asked about.

*“I know we’ve driven the poor [Food LINC evaluator] crazy because she was saying, ‘here’s three things I want you to measure’ and I was like, ‘but that’s not all we’re doing.’ It takes many forms. It doesn’t include increased income to farmers. It includes increased income to the community organizations. It includes lower reduced household food costs to consumers. It includes in some of our cases where they’re actually tracking sales to [the local university]. It includes reduced dependence on medications because people are eating healthy instead of taking all the stuff, medications. One of our partners has a woman in her 70s who was on 27 different medications and she’s now down to six.” (VCCP Nub)*

This last VCCP’s comments raise several interesting points around how metrics are unique not only to the organization type, but also to the community context in which the VCCP works. They also illustrate the potential complexity in VCCPs trying to track the effects of all their work across individual and community level, and particularly benefits to different value chain stakeholders, including end-consumers. Most commonly such “metrics” end up taking shape in the form of illustrative case study stories or anecdotes. While some of the examples in the last quoted passage could be measured with quantitative counts, such as increased sales to community organizations or universities, tracking how the action or relationships built by VCCPs get to these outcomes still remained a gap. This gap helped to inspire the research design for this dissertation, where material reported in the next chapter comes from an effort to use network analysis to frame and track the relationship building of VCCPs (particularly those working within Nubs). This is important because their work is not readily captured by more traditional economic metrics.

However not all VCCPs were amenable to the idea of adopting metrics frameworks and methods from Food LINC. One VCCP mentioned his concern about prescribed metrics and the idea of Food LINC potentially certifying “value chain coordination” in the future:

*“Value chain coordination is best delivered by investment and focus on specific coordinator talents. And refers to kind of case study work, but it’s not to be prescribed. That’s where I get...when academics, and I’m not picking on you, or economists, but I’m talking about certification and stuff like that. That’s when I’m thinking, ‘OK, fine.’ But you may be putting a box around something that in a way is difficult to do and ultimately has just as much downside risk as upside potential.” (VCCP Hybrid)*

This same individual elaborated further on the downside of boxing in the work of value chain coordination:

*“Much of value chain coordination is creativity. It’s an art, not a science, as we often say. How do you certify an art? Artwork is defined by the fact that people want to look at it.” (VCCP Hybrid)*

This quote summarizes what VCCPs do as dynamic, adaptable and nuanced work. This VCCP argued that the success of VCC work should not be defined by prescribed metrics alone, but rather by those who see the day to day value of the work and choose to engage with it and support it. The Food LINC organizers, along with evaluators and researchers, may be helpful in offering frameworks and concepts for measuring and describing the impacts of the work, for facilitating training and networking opportunities for those performing work, and for spreading the message about the impacts of VCC work to policy makers, planners and funders. However, this research suggests that creating boxes that are too rigid, such as certifications or even formalizing a new professional title, may do more to impede rather than promote effective value chain coordination. Below, I consider these “mixed” opinions from VCCPs about their participation in Food LINC and the adoption or rejection of Food LINC-prescribed roles, strategies and metrics, and consider the two prototype ideas of “Value Chain Coordinator” and “Value Chain Coordination” side by side in Johnson et al.’s (2006) framework of the stages of legitimation for new social innovations.

## Discussion

This research first set out to examine the concept of the *value chain coordinator* profession as a prototype concept, applying Johnson, Dowd and Ridgway's (2006) process of legitimation to frame the emergence and potential trajectory of this new construct in regional agri-food development. Food LINC initiated the first stage of the process by naming the new emerging social innovation. My interviews with VCCPs identified some, albeit weak support for local validation of the concept within the Food LINC community of practice. However, analysis revealed an unexpected finding -- the emergence of a second, related, but ultimately distinct prototype concept of *value chain coordination*. This concept, while not explicitly stated by Food LINC, has been indirectly promoted through the Food LINC community of practice in such a significant way that it became a theme in the VCCP interviews. Johnson et al. (2006) describe the four stages of legitimation beginning with the articulation of a prototype idea as social innovation. Table 4.2 shows the two prototype ideas stemming from the Food LINC initiative, one officially promoted and the other discovered through this research.

**Table 4.2: Value Chain Coordinator and Value Chain Coordination as New Prototype Ideas in the Process of Legitimation**

<b>Johnson, Dowd and Ridgway's Four Stages of Legitimation</b>	<b>Prototype Concept 1: Value Chain Coordinator as Profession</b>	<b>Prototype Concept 2: Value Chain Coordination as a Market Strategy</b>
<b>Stage 1:</b> Social Innovation	Yes	Yes (informally)
<b>Stage 2:</b> Local Validation	Partial	Yes
<b>Stage 3:</b> Diffusion	Partial	Yes
<b>Stage 4:</b> General Validation/Acceptance	To be determined	To be determined

According to Johnson et al. (2006: 60), the articulation of a prototype idea happens “to address some need, purpose, goal, or desire at the local level of actors.” For value chain coordinator as a new profession, stage one of social innovation was achieved through the launch of the Food LINC initiative, press releases, funding and reports that promoted the novel use of the term “value chain coordinator.” Stage two involved validation of the concept at the local level, which in this research case, is defined as the community of practice or pilot cohort of VCCPs convened to take part in the Food LINC initiative. The concept of “value chain coordinator” barely passes the test of local validation, as the interviews revealed broadly that most VCCPs did not use the term value chain coordinator to describe their work, even after accepting funding from the Food LINC program for their operations. The three VCCPs who had some form of value chain coordinator or value chain specialist in their title admitted challenges with the concept being understood in the contexts in which they worked. Still, two years into the program, some interviewees maintained their titles, despite challenges, and discussed how using their title in meetings with participants unfamiliar with the term had provided opportunities for holding educating conversations at the very least. This indicates that the term is slowly making its way into broader diffusion outside of the local Food LINC cohort context. Other evidence of diffusion includes presentation at food systems planning conferences by Food LINC organizers and Food LINC VCCPs who co-presented on panels or roundtables such the “Value Chain Coordinator Networking Session” that took place at the 2018 National Food Hub Conference in Albuquerque, New Mexico, which was hosted by the same organizers of Food LINC. It could thus be questioned if this type of presentation was true diffusion or

just an extension of slightly broader but still local validation. Still, more challenges than support seem to exist for the concept of value chain coordinator as a profession, namely the lack of clarity on roles, including how many roles it takes for a professional to perform before they are considered a value chain coordinator-- one, some or all? Additional challenges have been brought forth in this dissertation including the co-performance of roles, internally within VCCs and among external food system actors in the broader regions, sometimes in a collaborative manner, other times a more competitive manner.

*Value chain coordination* as a prototype concept, on the other hand, has a different outlook when viewed in light of the stages of legitimation. While Food LINC has less formally stressed the concept of value chain coordination as a market strategy, the social innovation is inferred by VCCPs as a terminology learned through participation in the Food LINC community of practice. While innovation associated with the value chain concept began with Porter (1985) and continued later in the regional food systems development literature (Stevenson and Pirog, 2008), it is perhaps up for debate whether “value chain coordination” is a truly novel social innovation or a modification of an existing term. The evidence of stage one and two of innovation and local validation from the VCCP interviews may be inferred in that the concept was mostly new to VCCPs before joining Food LINC and is now used more regularly in their daily work. Some appear to understand value chain coordination as a combination or sum of the roles proposed by Food LINC, while others understand it as a more ‘holistic’ alternative to supply chain development, one giving greater consideration to the concerted engagement of chain actors.

Stage three of diffusion is evident in how VCCPs described educating food systems stakeholders at meetings about value chain strategies when describing their jobs, or

describing their involvement in Food LINC. Additionally, some VCCPs have written grants with local and federal funders using the language of value chain coordination as the broad umbrella under which their work falls. Likewise, the value chain coordination Community of Practice listserv (hosted by Food LINC organizers) remains a sporadic, but active online platform in which VCCPs can discuss challenges and strategies of performing the work of value chain coordination (understood mostly as the six Food LINC delineated roles). This listserv is distinct from other listservs such as the Food Hub manager or Farmers Market manager listservs which focus more on logistics and operations that are specific to those entities and market channels. The diffusion of value chain coordination, understood as a series of roles, seems to have more traction compared to the professional title of value chain coordinator. It allows VCCPs to integrate much of what they've learned through Food LINC, including using the roles and some of metrics developed by Food LINC to describe and frame their work, without being too prescriptive or rigid, as the value chain coordinator profession seems to be.

Still value chain coordination as a concept is not without its own set of challenges which became evident in the interviews. A primary issue is the diverse understandings of values and value chain among VCCPs, not always understood by stakeholders with whom the VCCPs work. In some cases, it seemed that certain VCCPs may have had values that guided their work, but were different than those of their clients, vendors or buyers. Additionally, some VCCPs were interested to conduct business in a manner that allowed them the greatest number of partners versus working only with those with the most congruent ideals. While the concept of value chain coordination seems to have much greater promise as a concept that could be diffused and receive general validation and

acceptance, its application in practice is still limited, as most of these VCCPs appear to be operating in more hybrid spaces somewhere between supply chain, value-added, and values-based supply chains conventions.

## **Conclusion**

This chapter has examined the prototype ideas of “value chain coordinator” and “value chain coordination” that were respectively explicitly and implicitly innovated and piloted within the Food LINC community of practice. Using Johnson, Ridgway and Dowd’s (2006) framework, this chapter suggests that of the two prototype ideas, there appears to be more local consensus among Food LINC VCCPs for the concept of value chain coordination as a strategy than for value chain coordinator as a professional title. This chapter suggests that value chain coordination may show more promise and potential as an emergent prototype idea as a framework for regional agri-food development in the future. Value chain coordination has appeared to pass a key test of innovation, local adoption, and is beginning to show signs of broader diffusion outside of the Food LINC cohort. However, challenges to legitimation and widespread acceptance of the concept lie in incongruent understandings of the meaning of ‘value’ and ‘value chain’ among VCCPs and the individuals and companies with whom they work, such as vendors, buyers and organizational partners. Additionally, even VCCPs who purport to conduct value chain work, admit that they do not always perform this kind of work with all partners, but instead cater to needs of their diverse business clients, even if that means acting in more traditional supply chain coordination roles with some buyers. Even though value chain coordination as a strategy may have a promising future in light of the stages of legitimation,



the experiences of VCCPs illuminate the hybrid nature of their work, which does not neatly fit in to either the ideal type of values-based supply chains or Porter's original definition of value chain but is perhaps somewhere in between. The distance between the ideas and the actions of VCCPs will likely have more to do with whether value chain coordination is to become a term that is widely used in the future. We turn now to Chapter 5 where I examine the nested case studies of value chain coordinator professionals to explore how their efforts in hosting convening events develop social infrastructure in the form of relationships between suppliers, producers, processors, buyers and support actors in their respective regions.

## CHAPTER FIVE

### FINDINGS: SOCIAL INFRASTRUCTURE DEVELOPMENT THROUGH VALUE CHAIN COORDINATION CONVENING EVENTS

#### Introduction

In this chapter, I present results of the empirical analysis to address the research question, *how do the convening efforts of value chain coordinators affect social infrastructure development in the regions in which they work?* I examine two regional-level nested case study sites where two Food LINC VCCPs perform their work, in Southeastern and the Mid-Atlantic regions of the United States respectively. In this chapter, I draw from Granovetter's (2005) social infrastructure impact on economic development and Flora and Flora's (1993) entrepreneurial social infrastructure to theoretically frame the results of network surveys.

Additionally, drawing from Herz et al.'s (2015) Qualitative Structural Analysis (QSA), I bring forth the sensitizing concept of the *value chain flow* for interpretation of sociogram data in both cases; this approach allows for both vertical and horizontal ties to be conceptually understood and visually represented. I conclude this chapter by discussing the ability of the value chain coordination convening role to develop denser networks of vertical, horizontal, and embedded ties that directly and indirectly support value chain development in the communities in which VCCPs work.

Finally, this chapter engages the themes of value chain co-performance, introduced in Chapter Four, to understand processes of coordinating convening events, as well the tension between cooperation and coordination among and between attendees and organizers. I conclude this chapter with a discussion of network governance and brokerage

orientation considerations for value chain coordination in light of tensions between developing individual and group level social capital.

In this chapter, network survey results represent not individuals, but rather businesses or organizations, which were chosen as a more appropriate unit of analysis for the purposes of value chain assessment. Attribute data in general can be displayed in sociograms by shape, color or size of nodes. In this case, color-coding is used to display attribute of organizations and businesses, based on a coding scheme developed by the researcher of primary affiliation in the food value chain. The following legend (Table 5.1) represents the value chain categories for the convening events in the two study regions.

**Table 5.1: Legend of Network Nodes According to Value Chain Category**

<b>Node Color</b>	<b>Southeastern Organic Mixed Products Event</b>	<b>Node Color</b>	<b>Mid Atlantic Small Grain and Malt Event</b>
<b>Brown</b>	Input Supplier	<b>Brown</b>	Input Supplier
<b>Green</b>	Producer	<b>Green</b>	Producer
<b>Blue</b>	Processor	<b>Cyan</b>	Maltster
<b>Orange</b>	Distributor	<b>Light Blue</b>	Miller
<b>Pink</b>	Retailer	<b>Dark Blue</b>	Brewer, Distiller, Baker
<b>Yellow</b>	Extension/Research	<b>Orange</b>	Brew Pub
<b>Purple</b>	Other Support: Lender/ Policy	<b>Pink</b>	Restaurant/Retail
<b>Red</b>	Coordinator	<b>White</b>	End Consumer
		<b>Yellow</b>	Education/Research
		<b>Purple</b>	Other Support Lending, Marketing, Consulting
		<b>Red</b>	Coordinator

Since the networks examined in this research consist of overlapping egos but lack a sufficient N to consider sociocentric or whole network measures, I focus on select attributes of interest from Granovetter (2005) and Flora and Flora (1993) that can be ascertained from partial or ego-centric networks (Table 5.2). In this chapter, I present and integrate tie count and qualitative data to address the changes in density, embedded relationship development, development of vertical and horizontal ties, comparing pre- and post-convening event ties among egos.

**Table 5.2. Social Infrastructure Network Attributes with Corresponding Metrics and Methods**

<b>Theoretical Foundation</b>	<b>Network Attribute</b>	<b>Whole Network Metrics</b>	<b>Partial /Ego-Network Metrics and Methods</b>
Social Infrastructure Impact on Economic Action (Granovetter 2005)	Density	Tie Count / Density	Tie Count
	Strength of Weak Ties	Density/ Clique Analysis	*
	Structural Holes	Structural Holes	*
	Embeddedness	Multiplex ties (economic and non-economic)	Qualitative Data
Entrepreneurial Social Infrastructure (Flora and Flora 1993)	Horizontal Ties	Tie Count / Density	Tie Count/ Qualitative Data
	Vertical Ties	Tie Count / Density	Tie Count / Qualitative Data
	Diverse Ties	Homophily	**

\* Denotes attributes that cannot be examined in a partial or ego-centric network

\*\* Denotes attributes that cannot be examined due to limitations with the data

## **Southeastern U.S. Case – Organic Mixed Products**

### *Case Description*

The Food LINC VCCP working in the Southeastern region at the time of fieldwork held the single position doing value chain coordination work, and was housed within a program, rather than within in a stand-alone VCCE. The particular program was developed and housed within the Governor’s office for the local city government. Its goal was to increase capacity of the local food system by working to augment distribution and sales of edible agricultural products and to meet consumer demand in the city for local foods. Funding for the VCCP position came from public dollars allocated by the state’s Agricultural Development Board. The VCCP in the Southeastern region had more than 25 years of experience living and working in the city. Before her hiring in 2009 as a local foods coordinator, she worked for many years as a food writer and editor with a local newspaper. The Southeastern VCCP operated in a Nub (or No Hub) capacity, being a “value chain coordinator” who did not move physical products nor play a direct role in the value chain. Her main coordination work was between wholesale buyers, in particular institutions such as K-12 school districts and local hospitals, and large-scale processors and manufacturers, producers and regional distributors. While some interactions were one-offs, she had long term dedicated relationships with local hospitals and school districts which were interested in regular purchasing, as well as a large-scale food manufacturing facility located within the city, that processed food such as frozen and canned goods, sauces and ready-to-use products to custom specifications for retail and institutions. This VCCP had developed close partnerships with a regionally-based produce distributor for moving product between the producers and buyers with whom she worked.

In the context of the Southeastern VCCP's overall responsibilities, her work coordinating the annual convening of organic producers and buyers represented approximately one-quarter of her direct responsibilities. She partnered with a state-wide, farmer-initiated organic agriculture association in providing technical assistance knowledge and contacts to aid producers in market readiness, while also introducing and fostering new market matchmaking in person. The association was a non-profit, membership-based organization dedicated to improving health of the environment and the citizens across the state. The organization was founded in 2010 to support organic agriculture production in the state and received 501c3 status in 2015. It began hosting an annual conference to bring together commercial producers, home gardeners, and support resources such as Extension to facilitate peer-to-peer and learning exchange, which was organized on a volunteer basis largely by producer-members until 2014.

In 2015, the VCCP joined the non-profit board formally in an advising capacity, and took over the organizing of this event. The 2017 convening expo event marked the third year in which the Food LINC VCCP had been in the capacity of organizer of this event. Since taking over the event, she focused programming changes to include technical assistance tracks for specific products and market channels, such as a livestock track, soil health, produce production, hemp production, backyard gardening and business planning. Additionally, the VCCP added a new component to the event titled "Meet the Buyers" which featured a dedicated hour-long session where buyers from various industries would give "lightning talk" style presentations about their needs to producers in the audience. These lightening talks were followed by open networking time for business connections to be made. The "Meet the Buyers" session was piloted at the 2016 event and hosted again for

the second time in 2017 when the network analysis for this dissertation was performed. As the VCCP had already worked several years with the organization, this particular convening event does not represent a wholly novel intervention in coordinating this network.

However, the explicit invitation of wholesale buyers to the event is still a relatively new and evolving component of this event, with possible impacts for the overall network that merit investigation.

### *Southeastern Mixed Produce Network Survey Results*

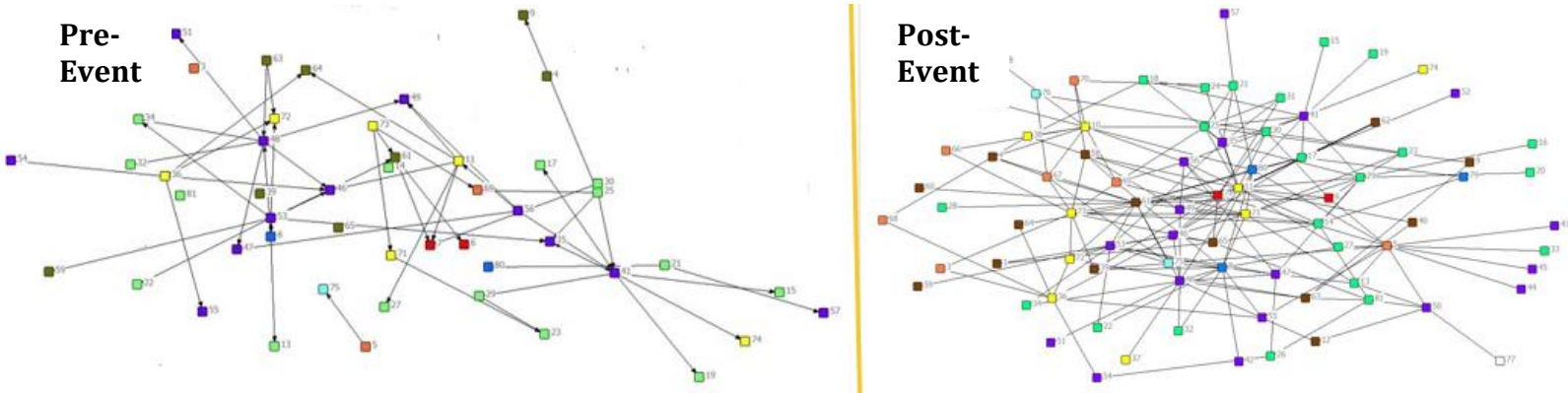
At the Southeastern convening event, there were a total 148 attendees, with 31 valid surveys completed, yielding a 21% response rate from all attendees of the conference. Survey participants also included many actors outside of the value chain proper, including home gardeners and public consumers. The 31 respondents identified 81 or 67% of the approximately 120 businesses and organizations that were present at the conference and yielded 230 network connections in total. Of the 31 survey respondents, 18 were willing to conduct a follow-up phone interview, in which they were asked a series of questions about their perception of the event, and to describe what took place with each of their connections that they had indicated on the surveys. Those 18 interviewees yielded data for 92 additional connections.

### *Business Exchange and Advice Ties in the Southeastern Network*

Figure 5.1 represents the change in business ties from before and after the conference among value chain actors. The connections in the left image are pre-conference exchange ties and the right represents pre-conference ties plus new ties formed at the event. There

were 55 preexisting business ties reported before the event, with 68 new ties formed, leading to 123 combined ties after the event.

**Figure 5.1. Business Exchange Ties - Southeastern Organic Mixed Products Network**



**Figure 5.2. Advice Ties – Southeastern Organic Mixed Products Network**

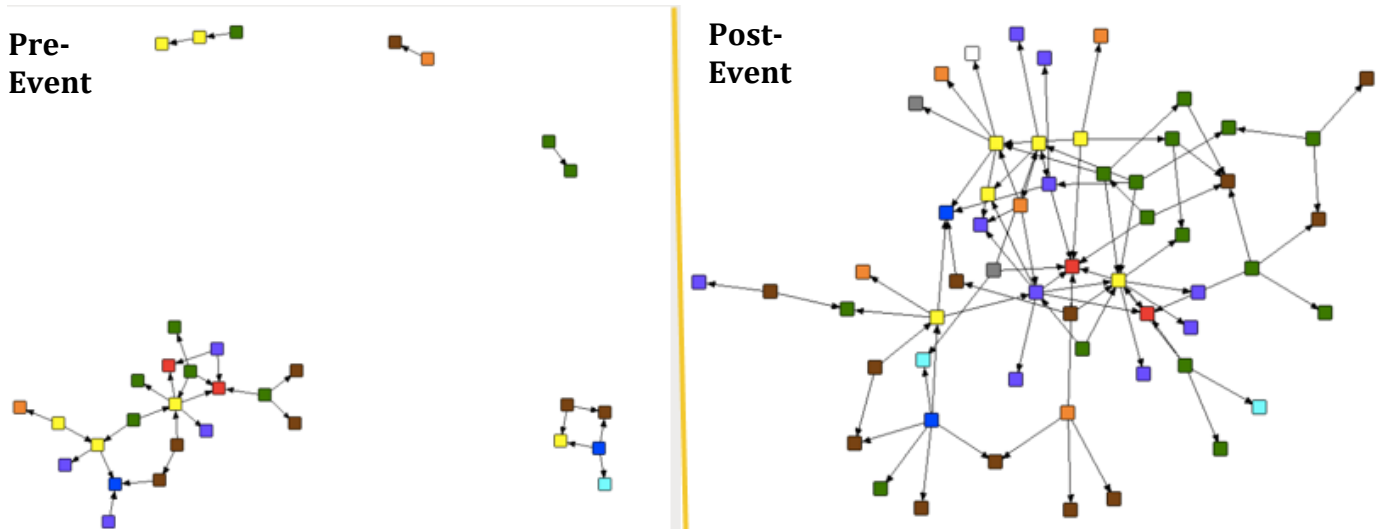




Figure 5.2 presents advice ties related to the event, showing there were 34 resource ties reported to have existed before the event, and 56 new resource ties reported formed at the event, for a total of 90 resource ties existing after the event.

Table 5.3 presents the presence of vertical ties for the case of the Southeastern Organic Mixed Products event. The first column represents each ego, designated by a network ID number. When the ego is a *support ecosystem actor*, such as a lender, researcher, Extension agent, policy advocate, coordinator, or consultant, a vertical tie means that they were extending a connection to a recipient of these support services within the value chain, and when the ego is a *value chain actor*, a vertical tie denotes a connection made to a provider of information, resources or services in the support ecosystem.

Following the column *Pre-Event Ties*, the column *New Ties Made* presents only the number of new ties made at the event, while the *Post-Event Ties* column presents the combined total of old and new ties. The column labeled *Increase* has either a Y for Yes to indicate that one or more additional ties was made at this event, or N for No, to denote that no new ties were formed. For the organic mixed products convening event in the Southeastern case, 22 of 31 Egos (71%) reported an increase in vertical ties.

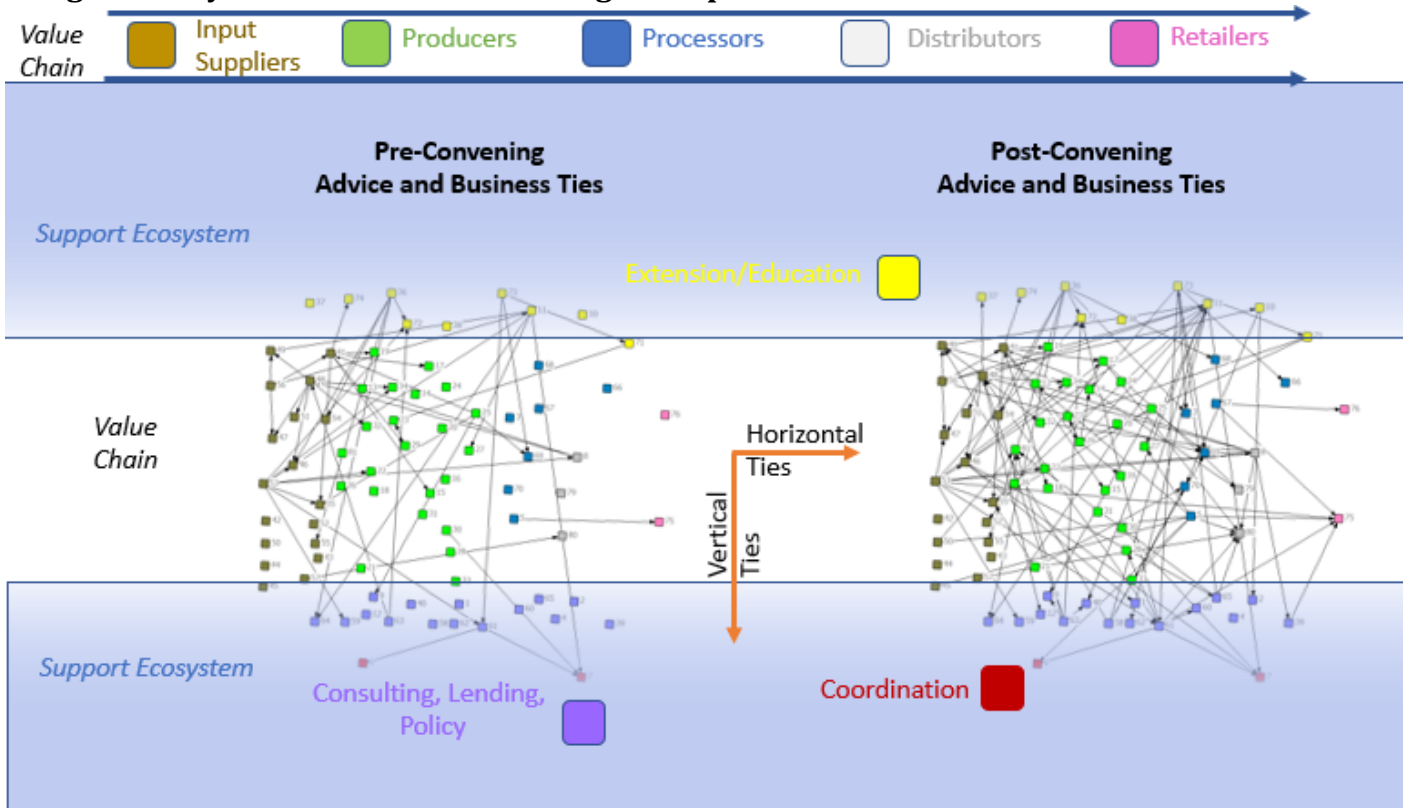
**Table 5.3. Ego Level Vertical Ties in Southeastern Organic Mixed Products Network**

<b>Southeastern, Organic Mixed Products, Vertical Ties</b>					
<b>ID</b>	<b>Value Chain / Ecosystem Support</b>	<b>Pre-Event Ties</b>	<b>New Ties Made</b>	<b>Post-Event Ties</b>	<b>Increase</b>
1	Ecosystem Support	3	0	3	No
2	Ecosystem Support	3	1	4	Yes
3	Value Chain	0	0	0	No
4	Value Chain	0	0	0	No
5	Ecosystem Support	0	2	2	Yes
6	Value Chain	0	3	3	Yes
7	Value Chain	1	1	2	Yes
8	Value Chain	3	3	6	Yes
9	Ecosystem Support	1	4	5	Yes
10	Value Chain	0	1	1	Yes
11	Value Chain	0	1	1	Yes
12	Value Chain	0	2	2	Yes
13	Value Chain	3	0	3	No
14	Value Chain	3	0	3	No
15	Value Chain	0	0	0	No
16	Ecosystem Support	0	1	1	Yes
17	Ecosystem Support	0	3	3	Yes
18	Ecosystem Support	1	1	2	Yes
19	Value Chain	0	2	2	Yes
20	Ecosystem Support	0	0	0	No
21	Value Chain	0	2	2	Yes
22	Ecosystem Support	0	1	1	Yes
23	Value Chain	1	0	1	No
24	Value Chain	0	3	3	Yes
25	Ecosystem Support	1	2	3	Yes
26	Value Chain	2	0	2	No
27	Value Chain	0	1	1	Yes
28	Ecosystem Support	1	5	6	Yes
29	Value Chain	1	2	3	Yes
30	Value Chain	0	3	3	Yes
31	Ecosystem Support	0	1	1	Yes

### *Value Chain as Sensitizing Concept*

The following image (Figure 5.3) represents a visualization of how I altered the default structure of the sociograms generated in NetDraw into segments of value chain actors according to the sensitizing concept of *value chain flow*. I suggest that *direct actors* are those who are engaged in the buying or selling of product, and thus are directly a part of the chain of product flow, while *support actors* are those who have a vested interest or professional role in supporting the flow. I apply the overarching concept of “support ecosystem” (Lyons and Lee 2018) to describe indirect actors outside of the value chain proper, such as organizations, agencies, institutions and support businesses which play a vital role in providing needed resources and support to the direct chain actors. Flora and Flora’s (1993) concept of *vertical orientation* speaks to how the support ecosystem actors provide linkages and draw down resources to individuals and businesses within local chains. This concept is echoed by Woolcock (1998) with “linking” vertical ties that facilitate the exchange of power and resources between communities and broader institutions.

**Figure 5.3: Southeastern Organic Mixed Products Network, Pre- and Post-Event, Organized by Value Chain as Sensitizing Concept**



### Examples of Vertical Ties

According to Flora and Flora (1993), important features of vertical relationships are those that link internal or local actors to regional and national resources and stakeholders outside of their community. In the Southeastern organics network, an example of a successful new vertical tie was made between Extension and a farming couple located within the state who also attended the event.

*“They were beginning farmers... they were just trying to get up and running on that land...and we got a small farm grant through the state, and they were just interested from the point of new and different and an opportunity to see what they could do with the land there. It was a little risky, so we helped them plant a hemp trial, and see what it would do on their land.” (Southeastern Ecosystem Support Actor)*

The above comment shows how a vertical tie between farmers and an Extension agent resulted in technical assistance and resources to pilot a crop trial on the farmers' land. The statement that "it was a little risky" points to the financial risk that the farmers would have had to assume to experiment with such a trial on their own. However, with support and resources from Extension, the farmers could conduct a crop pilot that would otherwise have been too costly for them to do. Extension-to-farmer ties were the most prevalent vertical ties in the Southeastern network, although an example provided by a different ecosystem support actor shows a different twist on the relationship, with information transfer going upwards from the farmer to the agent.

*"I met [an organic farmer] at the conference who is into small grain production, and now we keep up regularly by phone. He's invited me to his farm and to a few field days, and we're planning to visit some farms together in the future. I want organic grain production to be in my future of Extension work in the next 10 years." (Southeastern Ecosystem Support Actor)*

Unlike vertical ties, which often take the form of client-service provider type relationships, horizontal ties are a form of connection among actors who are in a similar position of authority. Table 5.4 shows the horizontal ties from the Southeastern organic mixed products event, in which all of the 33 survey respondent egos reported an increase in ties after the event from those they had before. The egos who had the most pre-existing ties before the event included agricultural input suppliers, irrigation and grower supply, and Extension. The highest number of new horizontal ties reported by egos at the event were by a mid-tier processor, a lender, an input supplier, followed by a national policy advocacy group.

**Table 5.4 Ego Level Horizontal Ties in Southeastern Organic Mixed Products Event**

<b>Southeastern, Organic Mixed Products Event, Horizontal Ties</b>					
<b>ID</b>	<b>Value Chain / Ecosystem Support</b>	<b>Pre-Event Ties</b>	<b>New Ties Made</b>	<b>Post-Event Ties</b>	<b>Increase</b>
1	Ecosystem Support	2	2	4	Yes
2	Ecosystem Support	6	4	10	Yes
3	Value Chain	2	3	5	Yes
4	Value Chain	0	3	3	Yes
5	Ecosystem Support	0	1	1	Yes
6	Value Chain	0	2	2	Yes
7	Value Chain	3	2	5	Yes
8	Value Chain	3	3	6	Yes
9	Ecosystem Support	0	1	1	Yes
10	Value Chain	6	3	9	Yes
11	Value Chain	0	2	2	Yes
12	Value Chain	1	1	2	Yes
13	Value Chain	1	1	2	Yes
14	Value Chain	3	1	4	Yes
15	Value Chain	2	4	6	Yes
16	Ecosystem Support	4	9	13	Yes
17	Ecosystem Support	0	2	2	Yes
18	Ecosystem Support	1	1	2	Yes
19	Value Chain	0	3	3	Yes
20	Ecosystem Support	0	4	4	Yes
21	Value Chain	2	8	10	Yes
22	Ecosystem Support	1	5	6	Yes
23	Value Chain	6	1	7	Yes
24	Value Chain	1	3	4	Yes
25	Ecosystem Support	1	1	2	Yes
26	Value Chain	6	2	8	Yes
27	Value Chain	0	3	3	Yes
28	Ecosystem Support	3	1	4	Yes
29	Value Chain	5	7	12	Yes
30	Value Chain	6	1	7	Yes
31	Ecosystem Support	1	2	3	Yes

### *Examples of Horizontal Ties*

Unlike vertical ties which are characterized by a difference in authority and relative power among actors, Flora et al. (2016: 179) suggest that horizontal ties occur between peers at a more similar level within a system of influence and authority. Horizontal or lateral learning facilitates the creation of new technologies and innovations among peer individuals, businesses and organizations that have similar status and sometimes interests. While the Floras are not specific about which attributes of an individual or organization denote a similarity, I find a subtle distinction in the horizontal ties fostered at value chain convening events. The first type of horizontal tie is between actors within the direct value chain. Such a horizontal tie could be competitive or cooperative; it would be any type of combination of tie among suppliers, producers, processors and buyers in these network cases. Examples of lateral learning may take place as producers connect with each other and share advice on production or handling practices or when new innovative products or technologies come to market, as a result of collaborative partnerships between value chain actors. Just below an input supplier described a horizontal tie to a dairy cooperative buyer whose farmers use the supplier's products.

*"And it being basically the two of us connecting because we've done a lot of work with Organic Valley dairy farmers, and they keep good records on which farms have highest butterfat and highest production, and low somatic cell counts. And pretty consistently they saw really nice response from farms that when they interviewed them found out they were working with our materials. and at that point they were inviting our consultants to speak at some of their meetings and have a closer relationship. So we were talking about that. I'm not sure about research follow up, but yeah, but they appreciate what we do, and use information that we freely provide as a resource to their growers." (Southeastern Value Chain Actor)*

Sometimes horizontal ties are important where a value chain actor connects with other professionals who perform the same role in the value chain. Here a producer explained horizontal connections he had made with producers in his region (and hoped to make more of) to help him with current challenges of finances and farm business planning.

*“If I could see about opening the books on another farmer’s spreadsheet or notebook on pricing crops and how to make money, that would be ideal. Those who are struggling the most right now are those who have trouble answering that question... I’ve been a sucker for online courses and consultants but the danger is it’s all good information if you are farming their farm, but a lot of information is passed and it’s not put into context of other people’s farms....So I try to talk to as many farmers around here as I can....A lot of them are really old school, and its penciled on the back of an envelope, but they can give me some good tips.” (Southeastern Value Chain Actor)*

A second type of horizontal tie formed in these convening events was ties among ecosystem support actors, who again may either collaborate or compete in implementing their programs and services. Examples of connections among ecosystem support actors in these networks include Extension connecting with policy advocates, researchers connecting with other researchers, and lenders connecting with business or legal consultants. Here an Extension agent described rekindling a horizontal connection to a lender at the conference studied for this research.

*“I knew him from my previous job. We were trying to find ways to work together before, as they finance sustainable farming start-ups, but we lost touch when I left my old job. I reconnected with him at the conference in my new position and now we’re talking about potential research with organic crop rotations, with various seed varieties that he has access to.” (Southeastern Ecosystem Support Actor)*

### *Embedded Tie Formation*

Granovetter (2005) suggests that this mixing of economic and non-economic activity can lead to individual-level gain, for example benefiting the business that is recruiting a new capable employee, by providing free or reduced transaction costs for



recruiting through social networks. An example of this situation took place within the Southeastern network, when a relatively new landowner/investor had recently purchased farmland and was attending the Southeastern convening event looking for contacts to help develop his new farm business venture. At the conference, he met an Extension professional who provides technical assistance to landowners wanting to transition to organic production. Through their initial relationship centered on technical assistance, they developed a relationship, and within six months after the conference, the landowner had recruited the Extension professional to come work for his farm, as the full-time farm manager.

*"I got busy right after the conference doing the organic transition trainer stuff...that was sort of the lead-in with [the farm]. I started as transition trainer with them...cause [the landowner] was like 'there's so much there to do' and I said 'yeah, it's a full-time job' and he agreed and that's sort of how that went from there." (Southeastern Ecosystem Support Actor)*

In this example, what started as a technical assistance advice sharing tie blossomed into a new job opportunity, where the [now former] Extension agent left one role and by six months after the conference had become the full-time manager of this newly developing organic farm. The transaction costs savings that Granovetter refers to were here enjoyed by the landowner, who paid nothing more than an entrance fee to the convening event and was able to draw on the collective social capital fostered by the convening event to find a well-suited employee. The Extension agent also benefited by seamlessly finding a new job through the social networks he cultivated through his former Extension position. These business level and individual benefits were made possible through this mixing of economic and non-economic activity referred to by Granovetter.

Turning to consider collective or community level impacts, Granovetter does posit that the business network as a whole may also enjoy improved efficiency and cost advantages through embeddedness. However, he is not explicit in how to predict when benefits go towards private goods such as individual or firm level benefits, or to a more public good, such as the ability for all actors in the network to receive equal cost advantage.

Another example of embedded tie formation from the Southeastern network is a Mennonite farmer who made a business connection with a produce distribution hub that was potentially interested in contracting with the farmer to grow and sell produce. The Mennonite farmer met the wholesale buyer from the hub, which focused solely on buying and distributing products from Amish and Mennonite farmers. These men met for the first-time face to face at the conference, which was an important opportunity for them since phone and email are very limited modes of communication as per their cultural practices. After speaking at the conference, the buyer from the hub made a trip to visit the farmer at his farm, a rural farm valley where various Horse and Buggy producer families live and work together. At the time of the conference, selling produce through a local Horse and Buggy run auction was the primary available market channel, although the Mennonite farmer here recognized that prices per pound were not very high through that channel. He convened several of his neighbors to attend the meeting when people from the hub visited his farm. The purpose was to talk about cooperatively producing the quantity needed to make it worth the hub's efforts to add them as a new production and pick-up region.

Through several months of discussion after the initial visit, the hub informed the Mennonite farmer and his community that their produce quality did not yet meet the hub's

standards. However, instead of closing the conversation, the hub offered to recommend a soil amendment strategy and consulting group that the Mennonite farmers might work with in order to improve the quality of their produce. Three of the farming families agreed to this idea, including the original Mennonite farmer in these interactions. At the time of the follow-up interview, one year following their initial business connection at the conference, no business deals had yet been made in terms of the hub formally committing to purchase produce from the group that had loosely organized out in the valley.

However, the Mennonite farmer who helped to launch this process expressed enthusiasm for the momentum as the farmers talked about new markets and worked to enhance overall quality through receiving new technical assistance advice on amendments. He also described communication lines between himself and those at the hub as “honest and fully open.” Additionally, the follow-up interview revealed that this farmer himself had actually become ineligible to produce for this Mennonite and Amish producer focused hub, because he was no longer practicing traditional Horse and Buggy production, having made a personal decision several years prior to begin using some motorized vehicles to aid in his own farm production practices. The Mennonite farmer described his motivations for pursuing the relationship with the hub and his reflections on how the business and the technical assistance could help his neighbors’ businesses, provide possible future job opportunities for him, while also adding benefits to their farm community overall through improved quality and potential new markets.

*“Let’s see, how do I say that? If someone wants to produce for them...they got their own system set up and people who invested heavily in it to help their own type of people, Horse and Buggy people. So whether they’re Amish or Mennonite, whatever it is, they...if you want to produce for [the hub], you have to have horse and buggy for transportation. So in my case, I’ve got a vehicle for transportation, but I was so*

*interested in seeing them come in here to benefit the Horse and Buggy people and the area all around, that I was seeing and learning about them, even if I couldn't grow directly for them. Of course, if that will work out, I would surely be involved one way or another. I could serve in any capacity and bring the produce in...in management and...how would you say? ...in communications and the connections with farmers and all those things. There's lots of work that anybody can get paid to do. If that would happen, we'd [this farmer's family] probably pull back on our own production in the produce line."*

*"If [the hub] comes here, it's going to give a lot more produce overall, and the produce is going to be better quality. Therefore, everybody's gonna benefit one way or another, because people are going to go more into produce. The produce auction will have their thing too, and even though they will get the seconds, they'll get better seconds, higher quality seconds. The auction does a lot of seconds produce, and they are somewhat making a living on it, and if more comes in it, it would be more." (Southeastern Value Chain Actor)*

This example of one Mennonite farmer interacting with the Horse and Buggy produce distribution hub illustrates the process of value chain development, and how buyers and sellers negotiate different needs through transparent communication. If the buyer had not offered advice regarding a soil amendment program, this tie could have been lost after the initial discussion around inferior product quality, but because of the multiplexity through adding the dimension of technical assistance, there now exists a possibility for a future business arrangement. The farmer here indicates that even if the business agreement does not in the end work out, he believes the education and motivation of a small group of farmers in his area to try new amendment protocols will at the very least improve the quality of produce moving through their existing auction market channel. Granovetter (2005) suggests that embedded ties contribute to more resilient networks, with one example being that if one type of tie fails, another type of tie may maintain the relationship. In this qualitative account of one farmer and a potential distributor, it is the

presence of an advice tie that involves technical assistance sharing which enables the possibility for a business tie in the future to manifest between these two actors.

## **Mid-Atlantic U.S. Case – Small Grains and Malt**

### *Case Description*

The Food LINC VCCE in the Mid-Atlantic, a 501c3 non-profit, was founded in 2000, with a mission of bringing locally grown food to the marketplace and promoting a humane, sustainable agriculture system for the region, focused primarily on the urban city center in which the organization is geographically located. The organization was initially created from the desire of a city-based entrepreneur who wanted to get more fresh produce for her own restaurant and help other restaurateurs in the area to do the same. They began as advocates and educators, helping to make market connections between chefs and local producers. By 2003, they began a small farmers market stand inside a larger indoor farmers market downtown where they began selling local meats, eggs, dairy, poultry, vegetables, fruits and value-added products, meeting end-consumer demand as well. At the time of the field work, this farm stand became a year-round fixture within the indoor market and had been running for 15 years.

The way in which value chain coordination roles are shared within this organization is dynamic and complex. As an organization, the staff is comprised of their founding executive director, a development and events coordinator, office administrator, several farm stand retail staff, and a value chain coordinator. This dedicated position for value chain coordinator was newly created in 2016 as a result of the dedicated funding from the Food LINC initiative. While a new staff person was hired with the title of “Value Chain

Coordinator”, the roles of value chain coordination were shared with the executive director participating in matchmaking, technical assistance, policy work; the development director spearheaded fundraising and handled the convening event organizing, while the value chain coordinator staff focused primarily on market matchmaking.

An unexpected loss of grant funding by spring of 2016 resulted in the loss of the value chain coordinator staff position within the organization, and it was not replaced. In the following six months, the work of value chain coordination was shared between the executive and development directors. Both individuals were involved in the initial planning for the convening event that was studied in this research, an inaugural symposium around current and potential small grains and malt producers, processors and buyers in the Mid-Atlantic region. In the process of seeking sponsorship and funding for this event the Food LINC VCCR developed partnerships with a local mid-tier processor, a maltster, to help with the promotion and organization of the event. Staffing changes took place in January 2017, when the Food LINC VCCE’s development director left the organization, at which time all value chain coordination roles of the VCCE transferred solely to the executive director. From this point on, the convening event became a collaborative organizing effort between the executive director, the maltster and the director of a brewing program at a nearby university, who offered to host the event on their campus. Collaboratively this team met over four months for the planning and logistics of the event, which took place in early March 2017. Although this case began with three individuals from one Food LINC VCCE co-performing value chain work, all references to the Food LINC VCCP in this case refer to the executive director, as she was the sole

individual from her organization performing value chain coordination work at the time of this convening event.

### *Mid Atlantic Grain and Malt Network Survey Results*

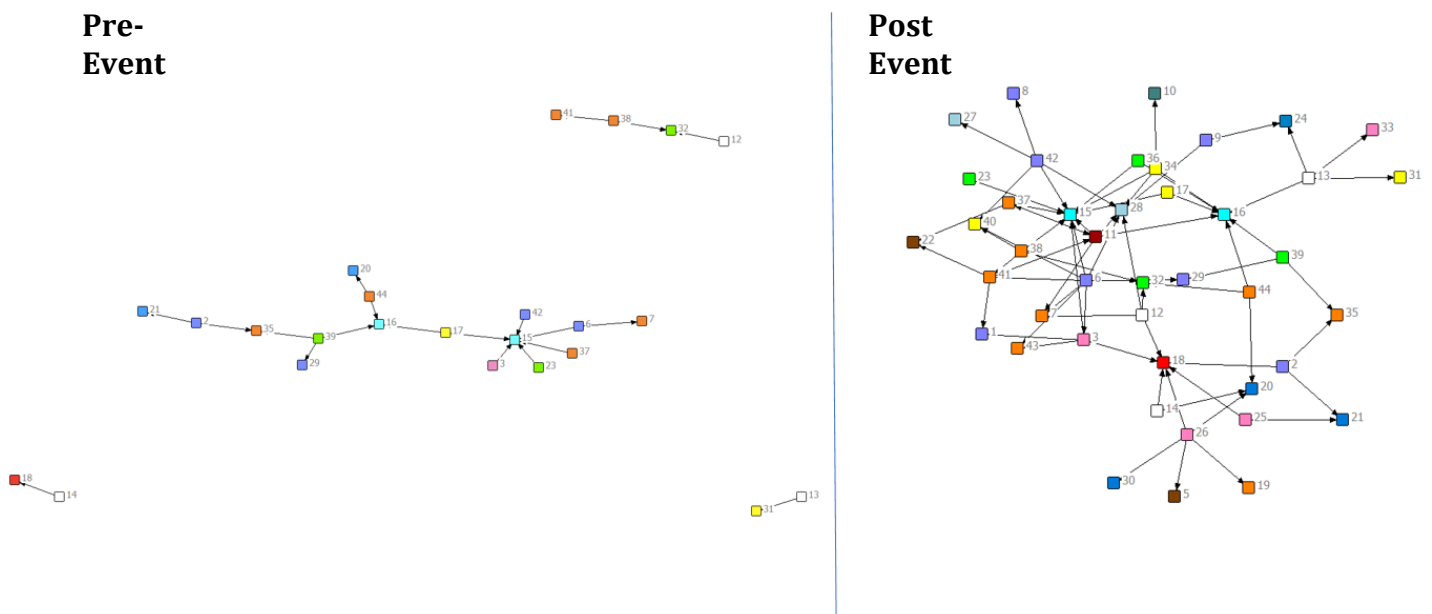
At the 2017 grain and malt convening event, there were a total of 80 individual attendees associated with 44 businesses. Twenty valid surveys from individual respondents representing 16 businesses (25% of individuals, 38% of all businesses) identified 39 alters, which represented (89%) of total businesses present and yielded 88 connection ties in total. Of the 20 individuals, eight were willing to participate in a follow up interview in which they were asked to verify their survey responses and describe outcomes of the ties made at the event approximately one year later; these interviews yielded 19 additional relationship data points.

### *Business Exchange and Advice Ties in the Mid-Atlantic Network*

Twenty business exchanges in the Mid-Atlantic network were reported among 24 business actors, which increased with the addition of 33 new business ties formed at the event and reported in the post-event survey. Figure 5.4 shows the comparison in the network between reported pre-event business ties and post-event ties where the new ties were combined with existing ties. Node attribute data was derived from the surveys, and responses were coded by the researcher into value chain categories. These categories include: input suppliers, producers, maltsters, second line processors (distillers, brewers, bakers), brewpubs, restaurant/retail and end consumers. This figure reveals overall a greater fragmentation in the pre-event business tie image than compared with the post-

event data. In particular, actors # 12, 13, and 14 represent the few end consumers who attended the event and also filled out surveys. End consumer connectivity prior to the event was linked to the Food LINC VCCP (14-18), a homebrew education club (13-31), and small grains farmer who was also beginning to experiment with processing small scale malt (12-32). While there was low density overall, clusters emerged in this network, represented by #15 and 16, who were mid-tier processors and were both maltsters. This network shows producers and customers are uniquely connected to Maltster 16 and Maltster 15, who were not connected to each other, except by the link of actor #17, an education resource.

**Figure 5.4: Business Exchange in the Mid-Atlantic Network, Pre- and Post-Event**

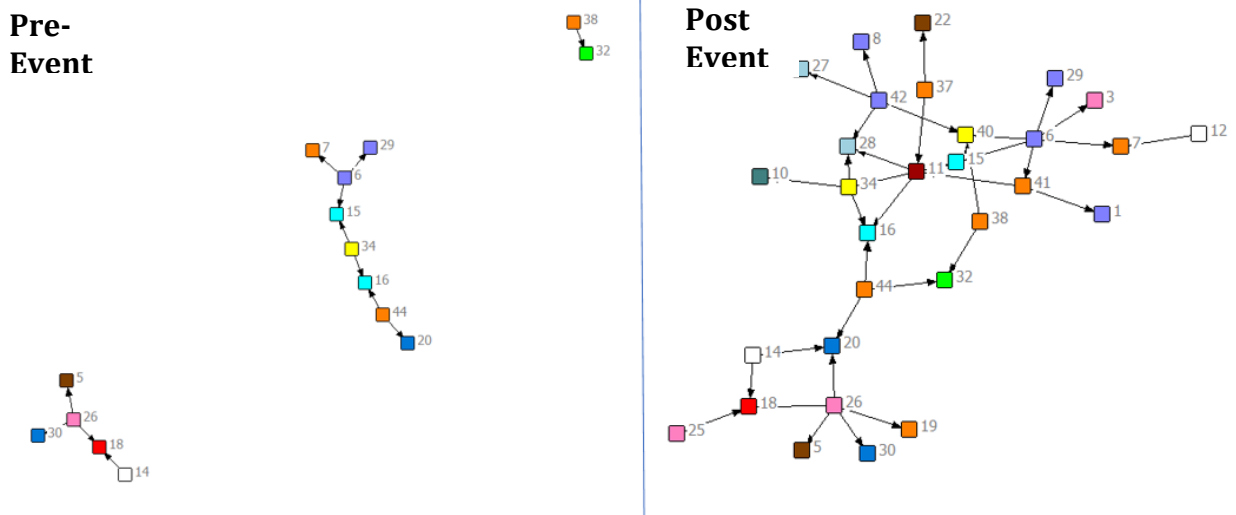


Twelve advice ties were reported among 24 business actors, which increased with the addition of 23 new advice ties formed at the event and reported in the post-event survey. Figure 5.5 shows the comparison of these images from the reported ties before the



event and combined pre- and post-event ties. The reported advice tie structure before the event was sparser compared with the network image of new advice ties made at the event. Advice ties were more fragmented before the event and appear to follow some similar patterns of business tie fragmentation. For example, the cluster between brewpub and a small grain farmer who is also beginning to make malt (38-32) is mirrored additionally in the pre-existing business tie. Qualitative data revealed that the farmer and brewpub (38-32) began a small experimental purchasing agreement in which the brewpub would brew special beer blends using this farmer's small batch grains and malt, which was experimental for the farmer at the time. The small cluster in the bottom left of Fig. 5.5 is focused around the VCCP (18) and a retail buyer (26) who have advice-sharing relationships with other value chain businesses including an input supplier and a bakery vendor. The largest cluster in the center also has similarities to the pre-business network in which the maltsters (15 and 16) have distinct ends of this almost linear cluster, linked only by a researcher (34), notably an actor outside of the value chain, who reported advice ties with both. Also noticeable in this image is the clustering of the VCCP (18) as one of the most central advice sources among end consumers, bakers, brewpubs and retailers.

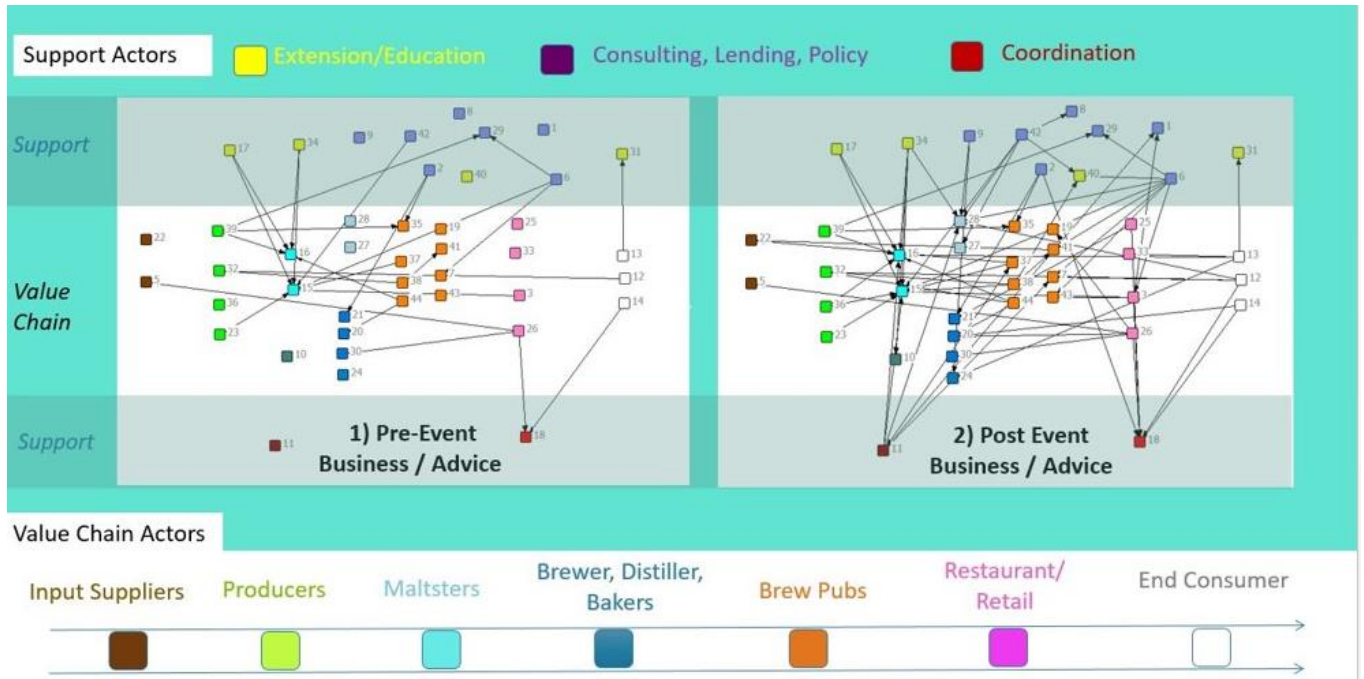
**Figure 5.5 Advice Exchange in the Mid-Atlantic Network, Pre- and Post-Event**



*Value Chain as Sensitizing Concept*

Figure 5.6 presents the total ties of combined business and advice from pre- and post-event, organized by the sensitizing framework of value chain flow, as well as the Floras' (1993) notion of vertical and horizontal ties. This particular convening event is unique because it brought together actors associated with three seemingly distinct end products: beer, distilled spirits and baked products. However, as shown in this image, actors from these different value chains interact with each other and use many of the same services and resources in the support ecosystem. I will elaborate with subsequent qualitative data showing examples of how horizontal ties formed at this event transcended working along narrow linear paths of single value chain products, but instead showed how new innovative products (e.g., oak barreled beers and baked goods which incorporate malt) resulted from cross-chain collaboration.

**Figure 5.6 Mid-Atlantic Grain and Malt Event, All Ties, Pre- and Post-Event, Organized by Value Chain as Sensitizing Concept**



### *Examples of Vertical Ties*

In the Mid-Atlantic (see Table 5.5), nine of 20 (45%) respondents reported an increase in vertical ties. Vertical ties, according to Flora and Flora, span a hierarchical difference between actors. In most cases in the relationships established at these convening events, hierarchy is established between actors and entities in the support ecosystem who are service providers, and individuals and businesses in the value chain who are the recipients of these services. The survey finding that 65% of respondents did not report making new vertical ties is also consistent with the qualitative interview data in which no significant examples of vertical ties were mentioned at this event. This could be in part due to the fact that this was the inaugural convening event and that overall there were fewer support actors invited to and attending this event relative to value chain actors, in contrast

to the Southeastern event. This mix of actors is also consistent with the organizers' goals of primarily fostering connections between value chain actors.

**Table 5.5: Ego Level Vertical Ties in Mid Atlantic Small Grains Network**

<b>Mid-Atlantic, Small Grains, Vertical Ties</b>					
<b>ID</b>	<b>Value Chain or Ecosystem Support</b>	<b>Pre-Event Ties</b>	<b>New Ties Made</b>	<b>Post-Event Ties</b>	<b>Increase</b>
1	Value Chain	0	2	2	Yes
2	Value Chain	1	0	1	No
3	Value Chain	0	0	0	No
4	Value Chain	1	0	1	No
5	Value Chain	0	0	0	No
6	Value Chain	0	1	1	Yes
7	Support Ecosystem	0	2	2	Yes
8	Value Chain	0	0	0	No
9	Value Chain	0	1	1	Yes
10	Value Chain	0	0	0	No
11	Support Ecosystem	2	0	2	No
12	Support Ecosystem	1	5	6	Yes
13	Support Ecosystem	2	0	2	No
14	Support Ecosystem	5	4	9	Yes
15	Value Chain	2	0	2	No
16	Support Ecosystem	2	2	4	Yes
17	Value Chain	0	1	1	Yes
18	Value Chain	1	0	1	No
19	Value Chain	0	0	0	No
20	Value Chain	0	1	1	Yes

*Examples of Horizontal Ties*

Table 5.6 shows the horizontal ties in the Mid-Atlantic small grains network, in which 15 of the 20 survey respondent egos reported an increase in ties from after the event as opposed to before. Six egos represented support ecosystem entities, while the remaining 14 egos

represented value chain entities, mirroring patterns of overall attendees at this event which emphasized direct value chain actors.

**Table 5.6. Ego Level Horizontal Ties in Mid Atlantic Small Grains Network**

<b>Mid-Atlantic, Small Grains, Horizontal Ties</b>					
<b>ID</b>	<b>Value Chain or Ecosystem Support</b>	<b>Pre-Event Ties</b>	<b>New Ties Made</b>	<b>Post-Event Ties</b>	<b>Increase</b>
1	Value Chain	1	1	2	Yes
2	Value Chain	0	3	3	Yes
3	Value Chain	4	2	6	Yes
4	Value Chain	2	2	4	Yes
5	Value Chain	0	7	7	Yes
6	Value Chain	0	3	3	Yes
7	Support Ecosystem	0	0	0	No
8	Value Chain	0	2	2	Yes
9	Value Chain	1	3	4	Yes
10	Value Chain	1	2	3	Yes
11	Support Ecosystem	0	0	0	No
12	Support Ecosystem	0	4	4	Yes
13	Support Ecosystem	0	2	2	Yes
14	Support Ecosystem	0	1	1	Yes
15	Value Chain	0	2	2	Yes
16	Support Ecosystem	0	0	0	No
17	Value Chain	0	1	1	Yes
18	Value Chain	2	0	2	No
19	Value Chain	1	0	1	No
20	Value Chain	3	1	4	Yes

Horizontal ties among “peer” businesses in a value chain might commonly be expected to be adjacent to each other in the value chain. What appears particularly

interesting in this case is the collaboration across different *types* of value chains as in the example quote below which demonstrates crossovers between values chains for beer and for distilled spirits. Here a brewer described a horizontal partnership formed following the event between himself, a maltster and distiller.

*"I just made a beer with the local malt from [Maltster 15]. It's a 10% Belgium Quad and we have it aging in barrels, the [local distillery] whiskey barrels actually. Yea, that was all [maltster 15]. He set me up with the distiller and the owner, and we had spoken at the event, and we are actually only a mile from each other. So I went over and got the barrels and we did an Imperial Stout, which came out wonderfully, and with the Belgium Quad, that's aging right now, so we'll see!" (Mid-Atlantic value chain actor)*

Flora and Flora (1993:57) describe how lateral learning through horizontal ties helps to bring about new technologies and innovations. In the above example this is seen in new types of brewed beers being innovated by sharing resources such as oak barrels for aging and imparting unique flavors into beers. What is noteworthy about this collaboration is the manner in which the innovation moves across *different* value chains of beer and spirits. Innovation may be stimulated by the very nature of crossing chains and making visible the juxtaposition of processes and ingredients that might be combined in new ways. If this event had been strictly focused on beer as opposed to beer and spirits, this particular innovation might not have come to fruition.

Horizontal ties may foster benefits for actors in the support ecosystem as well, in cases where support actors or service providers connect to each other. In another example of horizontal ties from the Mid-Atlantic case, a lender spoke about the value of making connections to others in the support ecosystem, a brewing scientist and consultant.

*"Basically, I see him as a tremendous source of information on the malting industry and if I were to get more involved in my investments [in several local value chain businesses whose representatives attended the event], I would definitely be talking*

*with him a whole lot more. He's the type of person that could direct our partner businesses in the right direction." (Mid Atlantic Support Ecosystem Actor)*

During his interview, the lender explained that he was motivated to invest in one of the value chain companies present at the convening event, but was at that time still developing plans for this potential investment. Through making connections at this event to other actors in the broader support ecosystem, he indicated he had gained more information and confidence that he could approach other resources, such as the brewing science consultant, and leverage their knowledge to support the business in which he might invest. In this way, horizontal ties appeared to mitigate potential perceptions of risk, and in this example increase potential investor confidence about possible future interactions.

### **Comparison of Average Ego Ties Between Cases**

For each of the two FoodLINC network cases, Table 5.7 presents averages of horizontal and vertical ties increased for survey respondents in their respective convening events, showing higher gains for horizontal ties than for vertical ties in both networks. The Southeastern organic mixed products network case also had more ties reported on average than the Mid-Atlantic small grains network case. The overall difference in size of the two networks' convening events and the fact that the Mid-Atlantic event was an inaugural gathering could explain the lower numbers overall in that case. Consistent with Flora and Flora (1993), I find that horizontal, lateral learning ties, regardless of whether they are among value chain direct actors or support ecosystem actors, appear to foster innovations for new products, operations, and new ideas for research and development.

**Table 5.7: Summary of Average Numbers of Horizontal and Vertical Ties Through Convening Events**

<b>Tie Type</b>	<b>Case</b>	<b>Pre-Event Ties</b>	<b>New Ties Made</b>	<b>Post-Event Ties</b>
Horizontal	Southeastern Organic Mixed Products Network	2.13	2.77	4.90
Horizontal	Mid Atlantic Small Grains Network	0.75	1.80	2.55
Vertical	Southeastern Organic Mixed Products Network	0.77	1.45	2.23
Vertical	Mid Atlantic Small Grains Network	0.85	0.95	1.80

This previous section examining both the Southeastern and Mid-Atlantic cases shows that both convening events produced increases of vertical and horizontal ties for value chain as well as support ecosystem actors, and in both events, attendees formed, on average, more horizontal ties than vertical ties. This would seem to suggest that these two events were more successful at fostering horizontal ties among value chain actors with each other, and among support ecosystem actors with each other. Additionally, the Southeastern network case showed through qualitative accounts how these events foster opportunities for creating embedded ties, in the example of co-formation of a business exchange tie with an advice sharing tie. The different types of connections (i.e., horizontal, vertical and embedded) are not currently explicit in Food LINC’s description of how to conduct matchmaking and convening roles. However, future matchmaking and convening strategies could involve VCCPs considering the types of ties most needed among their



stakeholders and designing events and meetings to facilitate particular connection types (i.e. cross-chain collaboration, resource support connections, etc.)

### **Cross Cutting Qualitative Themes Between Cases**

The research question which guides this empirical chapter is how convening efforts of value chain coordination professionals affect social infrastructure development in the regions where they work. The findings presented above show the way in which these events create the opportunity to foster horizontal, vertical and embedded ties among and between direct value chain and support ecosystem actors. However, two additional themes emerged from this chapter which add complexity and consideration about how the coordination of these events is performed (or co-performed) and implications of when the individuals and entities coordinating these events are either in the support ecosystem or directly embedded within the chains as direct actors. These additional themes also contribute insight to the first research question of this dissertation, about how value chain coordination is performed, contested and legitimized.

Themes of co-performance, cooperation and competition among value chain coordinator professionals coordinating these convening events mirror challenges to the legitimation of “value chain coordinator” as a social prototype found in Chapter 4. Finally, insights from this chapter on how Food LINC’s lack of explicit attention to brokerage orientation and governance contribute further to the challenges for the legitimation of “value chain coordination” as a prototype strategy.

*Co-performance of Convening Role: Coordination within the Value Chain vs. Coordination from the Support Ecosystem*

In the Southeastern network, there were two individuals who represented a coordinator role, while only one of them was funded by the Food LINC initiative. (The southeastern VCCP is actor #6 in this network.) However, in this network, a second coordinator was identified, as the partner organizer for this event; this individual held the title of executive director of the conference non-profit organization (actor #7). Qualitative data revealed that the division of labor between these two professionals could be described as the executive director managing the more logistical aspects of the event, including fundraising, physical logistics and volunteer management, whereas the Food LINC VCCP managed programming content, invited speakers and exhibitors, and promoted attendance. On the network survey, both individuals and their respective VCCEs were cited as business and advice connections, receiving near equal numbers of ties on the surveys completed, although relatively few ties compared with other actors in the survey, such as support ecosystem actors #2 and #16.

In the Mid Atlantic case, the small grain and malt conference was also co-organized by the Food LINC VCCP (Actor #18) and a maltster (Actor #15), along with the director of the university brewing program, who was not identified in the network surveys. When asked to reflect on the process of organizing the event, the brewing program faculty member replied:

*“Part of my passion and background is education, so organizing symposiums is something that I also have had some experience with. Putting together an agenda, writing a sponsorship letter, trying to secure some funding to support the event I think is what I brought to the table. Because [Maltster 15] is a little more connected to the grain industry than I was, he was a big part of securing the networking connections to get speakers and presenters on the science side. Then I think of [Food LINC VCCP 18]’s connection with her [VCCE] organization, she was able to get the word out to her customers, and also help to get volunteers for the tasting showcase. I guess overall I was the organizational lead, [VCCP 18] was the food connection and [Maltster 15] was the grain and malt connection.” (University Faculty, Event Co-Organizer, Mid Atlantic Case)*

The fact that both these convening events were not actually put on by any single individual further supports the notion that value chain coordination roles are often co-performed, in this case by a mix of internal and external actors within and across partner organizations. In the case of the Southeastern event, two individuals from support ecosystem non-profits were mainly responsible for the planning and hosting of the event, as well as managing a team of volunteers who supported the event on the actual day it was held. The Mid-Atlantic partnership is unique because the planning initially began with two individuals sharing planning responsibilities within the Food LINC VCCE, and due to staffing changes, only one individual carried forward that work, and initiated partnerships with other local actors, including an embedded, direct value chain actor, a mid-tier processor (Maltster 15), who ended up having a significant number of ties on the survey, and many more than the two other co-organizers combined. The fact that one of the organizers of the Mid Atlantic convening events was embedded in the chain as a maltster—a processor-- has implications on how other attendees perceived and participated in the event, as illustrated by another attendee who also worked as a maltster in the region:

*“I know the [convening event] is going to happen again next year, but I’m probably going to put on my own one-day seminar for our farmers and breweries, and bring in as many experts that I believe are really relevant to their and our interests. I don’t think that the current format actually covers what I think is important.” (Maltster, Mid- Atlantic Case)*

When asked to clarify further, this second maltster described differences in preferences for processing, product quality, an over-focus of the event held on education for brewers, and missing resources for financing, policy discussions around local labeling as well as ideas for how to plan growing multi-year growing contracts for malting barley. He went on to say later in the interview that some of his preferences and priorities could be the difference between his perspective and that of the other maltster who was a primary lead in coordinating the event. His comment about possibly putting on his own event indicated that he possibly saw this convening event put on by his competitor as catering more to the processing and quality preferences of the coordinating maltster’s operations. Therefore, he and his own set of suppliers and buyers, he suggested, could benefit more from their own event, one which catered to their particular niches in varieties and processing styles.

By comparison, an input supplier from the Southeastern event offered these reflections about attending that convening event, revisiting his conversations with the Food LINC VCCP and the other co-organizer of the Southeastern convening event:

*“I guess one ‘aha’ moment was when I was talking to the [two conference organizers] and sort of seeing the breadth of the workshop topics being covered. It gave me a fuller appreciation for how they are looking at the bigger picture and taking the whole thing seriously from top to bottom, not just what you do for the soul but for the whole model of farming and food production and sales of that product. I hadn’t appreciated how they were taking that into account full circle.” (Growing Supply Actor, Southeastern Case)*

This convening event participant stressed the importance of the conveners' ability to see the "full circle" and develop a conference around the wide array of segments of the value chain present at this event. These remarks contrasted with the remarks from the dissatisfied maltster in the Mid-Atlantic region who had pointed to deficiencies he saw in the event he attended. Such different perspectives on satisfaction with the events suggest that it is important to consider how some actors may be better situated to perform the roles of convening than others, and what advantages or burdens might they experience from convening work. In particular, can (and should) coordination efforts to host convening events be performed by actors who are situated *within* the very food value chain they are helping to coordinate? On the one hand, being situated in the chain helps to ensure that programming content for the convening event is relevant and accurate, but on the other hand, their perspective and goals for the event may be too specific or narrow, thereby potentially excluding those with different values or preferences surrounding production and processing.

#### *Cooperation or Competition Among Value Chain Actors*

The same maltster who described wanting to host his own event, after having attended the convening event co-organized by his competitor described more broadly his relationship with multiple competitor maltsters in the region.

*Maltster: "There was another malthouse exhibiting at the event, so we got to talk to them. We've known each other a while, more than a year before the event. They're sort of a start-up. They're farmers to begin with, so they grow their own grain and they decided to start a malt house."*

*Interviewer: "Could you clarify, are you helping the new start-up maltster, as partners of some sort, or are you competitors?"*

Maltster: *“Oh no, no, no, no. That’s their business. We are competitors. Just like we are competitors with [Maltster 15]. We try to stay out of each other’s businesses but we’re collegial. We all get along with each other. It’s similar to the Brewers Guild, where all those brewers are basically competitors, but they are also part of a unifying guild, so they all have common purposes and goals.”*

Here the same maltster who talked about hosting his own convening event the following year for his own set of suppliers and buyers also explained that there is a certain sense of collegiality among competitor maltsters and that it can be beneficial to know what others are up to, although keeping a distance from each other’s businesses is part of how they maintain that very collegiality. In another example from the Southeastern event, a support ecosystem actor responded to the question about what he believes is needed for a robust future for organic product sales in his region. He replied:

*“Sunny skies, rainfall and tremendous markets. Since none of that is easily acquired, as long as the community can continue to persist, that’s the greatest asset moving forward. It’s not any one thing. It takes a village to rear a child and it takes the same kind of village to help everyone. If we can stand together, we can stand a chance for us all to benefit; if we are segregated, we all fail.” (Southeastern Support Ecosystem Actor)*

As a support ecosystem actor, this individual may have an inherently more cooperative perspective about convening events simply because he is not embedded in the same way as the direct value chain actors who attend these events. While competition between ecosystem support actors certainly may exist, including competition around grant funding or tensions around “scope creep” of the work, as articulated in examples given by VCCPs in chapter 4, ecosystem support actors generally have fewer overt competitors present at these events compared to those who are direct actors in the value chain.

## Discussion

Bourdieu suggests that “the profits that accrue from membership in a group are the basis for the solidarity which makes them possible” (1989:51). He explains that these profits may be material in nature, such as accruing assistance from certain relationships, or more symbolic, such as associating with the group in a form of prestige. Management scholars use a novel concept to describe the tensions and opportunities that businesses face when they balance their own self-interests with the need to work together to succeed. “Coopetition” (Bengtson and Kock 2000; Walley and Constance 2010) does not mean that all partners can work together all of the time; rather, they are selective about finding opportunities to share resources and ideas, while keeping other niche trade secrets independent. These authors explain that actors must manage different logics of interaction, including one in which some hostility may be present due to conflicting interests, and another where friendliness prevails due to common interests. Likewise, simultaneous cooperation and competition, or “coopetition,” is more likely to occur with activities that are a greater distance from end buyers in a value chain. For example, research and development activities may elicit cooperation, but developing a new product with a competitor is not as likely. The fact that firms have heterogeneous resources, such as knowledge, skills, types of machinery, etc. allows them the ability to be cooperators, as they have their own unique mix of resources that gives them their own competitive advantage. An example of heterogeneity of knowledge can be seen from the Mid-Atlantic case in the way the brewer and distiller came together to innovate a new barrel aged beer, where the distance of working in separate value chains (beer vs. spirits) also created the safe distance to cooperate.

Proximal geographic context can also be a driver for simultaneous competition and cooperation of small businesses (Porter 2000). Small businesses lack the ability to conduct their own research and development, as a large business might perform such functions in-house. Regional development scholars suggest that networks offer the ability to cooperate with actors to participate in these functions and ultimately have a chance at being more competitive with the broader global market. They explain that successful innovation requires the right combination of “innovation inputs” which include knowledge, technical expertise, design, finance, managerial and marketing experience, trained labor and capital equipment (Landabaso et al. 1999). Convening events appear to foster opportunities for small businesses in these regions to connect with each other, form ties of advice and business exchange, while also gaining access to resources from the support ecosystem. Many of these resources may also be shared, such as taking advice from the same consultants, using the same input suppliers, and perhaps even sharing equipment. Conceptually scholars have suggested that while connectivity is generally positive, there are also “downsides” to social capital (Portes and Landolt 1996). In expressing his desire to put on his own convening event next year, one of the maltsters in the mid-Atlantic network case indicated some sense of exclusion from the focus of the inaugural event hosted by his competitor maltster. In this way strong ties can sometimes lead to the exclusion of others, while the pressures of conformity in strong ties can sometimes restrict individual freedoms and even stifle innovative business ideas.



*Governance and Brokerage Orientation to Mitigate Darker Sides of Social Infrastructure Development*

Topics of governance and brokerage orientation are lacking within current descriptions of value chain coordination work from Food LINC, as well as in the discussions among VCCPs who are formally and informally performing this work. Flora et al. (2016:167) suggest, “it is critical that communities be linked to regional, state, and national resources and organizations; however, it is also critical that there be not just one gatekeeper that makes that linkage.” Gatekeepers (or value chain coordination professionals) may restrict the flow of information and resources and stifle a network’s ability to be flexible and adaptive or may limit an individual’s ability to receive the resources they need the most. Expo-style convening events appear to be a successful model for bringing diverse actors together and fostering an environment in which a multitude of connections among direct value chain and support actors can be made. However even well-intentioned coordinators may contribute to exclusion of some actors if they are not intentionally considering broader questions of their own orientation and governance goals for regional chains they are aiming to develop.

Bourdieu suggests that every group has its own form of delegation which enables the collective to have a voice, “a single agent, or a small group of agents who...represent the group, speak and act in its name” and “who shield the group as a whole from discredit by expelling or excommunicating the embarrassing individuals” (1986:53). He also suggests that there may be a struggle for power within groups to assume these “custodial” duties.

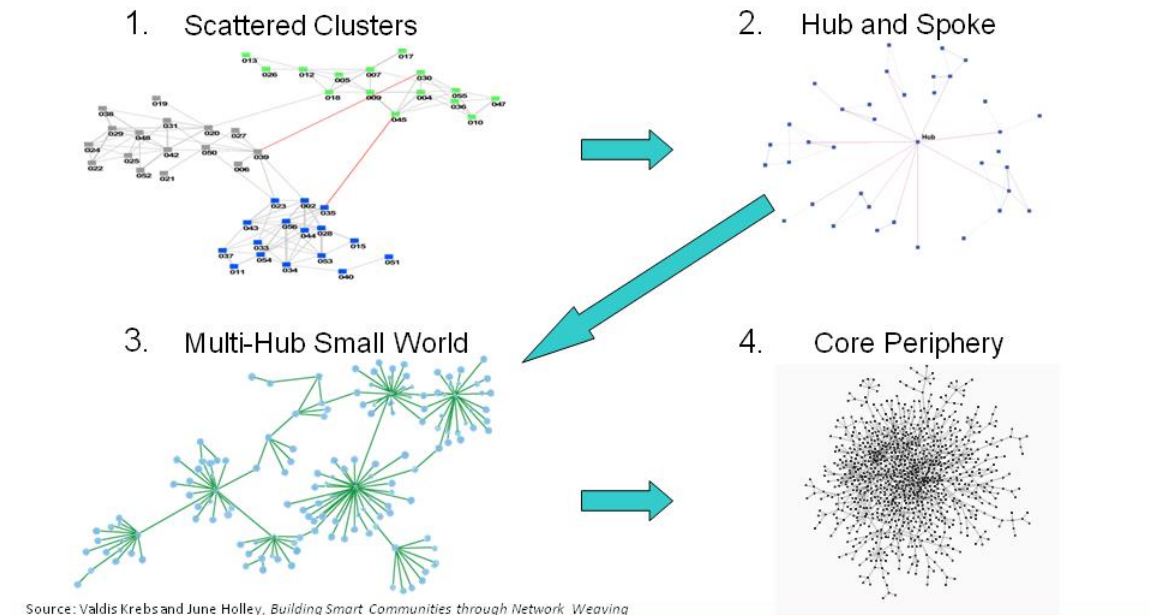
*“If the internal competition for the monopoly of legitimate representation of the group is not to threaten the conservation and accumulation of the capital which is the basis for the group, the members of the group must regulate the conditions of access to the right to declare oneself a member of the group and above all, to set oneself up as a representative of the whole group, thereby committing the social capital of the whole group” (Bourdieu, 1986:54).*

Value chain coordination professionals who host convening events reinforce their social capital by assuming coordinating or custodial roles for the regional actors. Balfour and Alter (2016) found in their research on regional innovation networks that an effective facilitator helps to expand social networks, increase trust, improve information flow, spark collaboration, help to establish and maintain relationships and overcome barriers to innovations. They suggested the importance of finding “trusted facilitators’ in a community to perform these roles (Balfour and Alter 2016: 432). While they do not define the attributes of a trusted facilitator, I suggest that network theories related to brokerage orientation and governance could guide how VCCPs as convening event hosts may work to foster social infrastructure in a way that aims for greater inclusivity and guard against the formation of exclusionary cliques.

No explicit strategy within Food LINC or within the VCCEs seems to guide value chain coordination regarding maintaining objectivity in their position of custodian or trusted facilitators of social capital in their respective regions. There also appears to be no explicit direction for how VCCPs should be strategically coordinating the formation of ties from these convening events or their broader matchmaking work. Network governance theory offers a model which could be useful for consideration as a strategy to guide VCCPs in developing effective networks of value chain and support actors. As shown in Fig. 5.7, Krebs and Holley (2006) suggest that in sustainable community development there are

four stages of network development that move from least resilient to most resilient network structures: 1) scattered clusters, 2) single hub and spoke, 3) multi-hub or small world, and 4) core/periphery network.

**Figure 5.7: Stages of Network Evolution**



Source: Krebs and Holley 2006

Value chain coordination as described by Food LINC appears to be funded and supported in a model that most closely aligns with Stage Two's single hub and spoke. As Krebs and Holley point out, while stronger than a fragmented network of clusters, the hub and spoke is still very fragile should anything happen to the individual broker in the middle. Then the entire network could be fragmented in one fell swoop. More resilient models include multi-hub and the core/periphery models. In the multi-hub model, individual brokers are more independent of each other, and in the core/periphery model, the brokers are connected to form a brokerage or coordination core. Organizing convening

events is aspect of value chain coordination that shows the co-performance of multiple actors, or brokers, working together to leverage their own network connections to promote the event and engage participants to attend.

In the two network cases examined in this research, the coordination structure of the organizing team behind the event appears to be at the multi-hub stage, where individuals from distinct sectors and segments of the value chain leverage their connections to get diverse participation from direct value chain and support actors at these events. However, despite the fact that the Mid-Atlantic Grain and Malt event was co-organized by three entities, some attendees harbored the perception that the event was associated with a single business, who might even be a competitor. A potential solution to such a situation could be a dedicated strategy of publicizing the collaborative multi-hub team nature of the convening structure, of rotating individuals into the team convening the event, or of formalizing the convening team into a core structure, through perhaps a formal consortium. Funding opportunities undoubtedly will play a role in influencing which governance models see uptake.

The second consideration to mitigate concerns around creating more exclusion from social capital concerns the orientation of the brokers themselves, or the individuals who co-hosted the convening events in each case. As noted previously, most of the individuals who co-hosted the convening events were in the support ecosystem, and one co-host, was a mid-tier processor who was a direct actor in the value chains that he was helping to coordinate through hosting the small grain and malt event. Obstfeld (2005) writes about the strategic orientation of network brokers, describing orientation as a means for

approaching a problem or situation. He explains that network brokers have the choice to either connect people in their social networks or intentionally keep them separate in order to maintain a personal advantage. Burt (1992), in contrast, piloted the concept of *tertius gaudens* (the third who keeps away), where brokers who actively keep their contacts from connecting reinforce their own social capital through maintain their structural position spanning structural holes. Obstfeld (2005) introduces a counter-concept, of *tertius iungens*, (the third who unites). A broker operating from the *tertius iungens* orientation prioritizes the facilitation of opportunities and resources to disconnected actors over their own personal gain. In some cases, the *tertius iungens* orientation may work themselves out of their own structural brokerage position by fostering connections among their contacts that no longer require the other actors to pass through the broker to communicate.

Balfour and Alter's (2016) concept of "trusted facilitators", Flora et al.'s (1997) reference to community organizations who maintain the community field, and Bourdieu's (1985) "custodians" of networks are all enhanced by considering brokerage orientation. Given the goals of value chain coordination, it would be natural that a *tertius iungens* orientation would likely be the best strategy for extending social infrastructure resources equitably and developing the social infrastructure towards Stages Three or Four of Krebs and Holley's (2006) model, in which there are multiple brokers (not just a single, most connected value chain coordinator professional). Whereas a *tertius gaudens* orientation works to maintain individual level social capital or egocentric social capital, such as the rapid achievement of individual success, *tertius iungens* orientation is compatible with more of whole network, or community, or sociocentric, social capital in which the

configuration of the group can lead to more efficiency, innovation and resilience (Adler and Kwon, 2002).

The concept of brokerage orientation is relevant for considering several of the value chain coordination roles that FoodLINC prioritizes, including matchmaking and technical assistance provision. Brokerage orientation injects consideration of interests and positions into the work of convening events, as demonstrated in this research regarding the organizers who hosted the two network convening events presented in this chapter. Convening events by their very nature appear to be more of a *tertius iungens* strategy, in that most events of this type have the goal of facilitating broad networking for all participants. However, the tensions expressed in the Mid-Atlantic case through the maltsters raise considerations about how convening events may also become more narrow or exclusionary (or perceived as such) in terms of the content that is included or the attendees who are invited or left out. VCCPs who are direct actors in the value chain versus those who are in support roles may have competing personal agendas that complicate their ability to negotiate working towards individual or group gains. While brokerage orientation is a concept that has not yet been made explicit in research and practice concerning value chain coordination strategies, it is worth considering in light of the challenges raised in this chapter.

## Conclusion

In returning to the research question, *how do convening efforts of food value chain coordination professionals affect social infrastructure development in regions in which they work?*, this chapter has shown how value chain coordinated expo convenings foster increases of horizontal, vertical and embedded ties in the two case study networks. These types of ties are associated with social infrastructure development linked to economic action and community development. This chapter illustrates that convening events are effective formats in which diverse social connections can be fostered reducing risks for direct value chain actors and support ecosystem actors, fosters innovation of new products, research and development ideas, and creates layered relationships that are more resilient over time when the presence of another relationship type fails. However, this chapter has also raised questions about who benefits from these influences on economic outcomes, showing instances of where individual businesses and actors sometimes benefit more than others in terms of the number of connections they acquire and their ability to be gatekeepers or brokers with their personal connections.

Tensions between competition and collaboration raise considerations about whether convening events could be organized in such a manner that social capital fostered at these events could be more intentionally and equitably distributed. This chapter suggests that greater attention from value chain coordinator professionals towards network governance and brokerage orientation may help to alleviate tensions around exclusionary social infrastructure development. Questions regarding value chain coordinator professionals' positions directly within, or external to the value chain, may

influence their motivation and orientation as gatekeepers or custodians of their regional networks. More explicit consideration about how VCCPs negotiate personal and collective goals and maintain the status of “trusted facilitator” may determine the future of value chain coordination as long-term development strategy.



## CHAPTER SIX

### DISCUSSION AND CONCLUSION

#### Introduction

In this chapter, I begin by discussing the findings of Chapters Four and Five, recapitulating and blending the findings from each chapter. I discuss how these two chapters support and problematize the legitimation of the value chain coordinator and value chain coordination concepts and illuminate impacts of one focused form of value chain coordination work, the convening event. I then offer reflections on the limitations of this study, applied considerations and ideas for future research.

#### **Performing, Contesting and Legitimizing the Work of Food Value Chain Coordination**

##### *“Value Chain Coordinator” Challenged as New Social Prototype Idea*

This dissertation examined the ways in which food value chain coordination professionals perceive and describe their work. Using a framework of social prototype innovation, I asked whether the concepts of “value chain coordinator” or “value chain coordination” showed promise moving forward following their piloting in the Food LINC community of practice inaugural cohort. This research showed that the primary challenge to the prototype idea of “value chain coordinator” was the co-performance of value chain coordination roles by actors within and beyond individual value chain coordination entities. Chapter 4 revealed Food LINC VCCPs’ accounts of co-performance of roles through descriptions of their work from observational and interview data. For example, many participating Food LINC businesses and organizations have multiple employees sharing

VCC roles within those VCCEs. The interviews also revealed how VCCEs work with a number of existing partners to perform value chain coordination work, for example where Food LINC Nubs partner with local distribution companies or food hubs, or where Food LINC Hubs partner with Extension for technical assistance offerings or with land link organizations to provide farmers more land for production.

### *“Value Chain Coordination” as a New Social Prototype*

I conclude that “Value Chain Coordination” as a strategy rather than as a professional title, is a second, emergent and important prototype idea identified by this research. The data in Chapter 4 affirmed that VCCPs described performing the roles of value chain coordination, as well as addressing some goals and metrics put forth by Food LINC. Additionally, VCCPs had positive feelings about participating in a community of practice with others who performed similar VCC roles in different parts of the country and sharing advice and strategies for supporting the work. However, not all VCCPs resonated fully with the framework of value chain coordination; in particular struggles with metrics and evaluation were especially difficult for Nub VCCEs, whose primary work was relationship building rather than moving food products. Additionally, there are still a series of conceptual challenges to the notion of “value chain coordination” including ambiguity in the terminology between “values-based” and “value” chains (from Chapter 4) and insights from Chapter 5 that challenge the notion of “chains” in value chain coordination, as convening events help to foster both horizontal ties among direct actors and vertical ties from direct actors to support ecosystem actors, and ties among ecosystem support actors themselves.

### *Challenges Still Ahead for Prototype Concepts*

Two distinct challenges emerged as a result of ambiguity between values-based and value chains in this research. The first is a matter of practices and the second is a matter of terminology. VCCPs articulated that in their work they sometimes operate in ways that are consistent with values-based definitions of coordination (e.g., Stevenson and Pirog 2008) in which risks and profits are shared, as well as commitment and transparency among chain actors are prioritized. However, descriptions of working with buyers who, according to some VCCPs, don't care about values, or don't feel comfortable having conversations about values, appear more like traditional supply chain relationships, or Porter's (1985) more traditional definition of value chain. This suggests that VCCP work may be more hybrid work than Food LINC has so far articulated, where VCCPs may be open to values-based orientations, but are also adapting to meeting buyers, suppliers and other partners where they are with their own current perceptions and interests. Perhaps like other sustainability transitions, VCCP work does not mirror the ideal types, but rather reflects the hybridity (Ibery and Maye 2005; Mount 2012) of being a strategy that oscillates between and borrows from both conventional supply chain and emergent alternative values-based models. Hybrid models that involve blending of conventional and alternative partners and infrastructure may offer progress in the short term, but questions still remain whether hybrid arrangements are best suited as transitional or long-term strategies (Bloom and Hinrichs 2011a).

The challenge of the ambiguity between referring to this work as either values-based or value chain coordination is echoed by concerns that the terminology of "values"

has been used in so many different national and international contexts that its meaning is almost useless (Stahlbrand 2017). However, given the above considerations of the hybridity of the work, perhaps the ambiguity in the semantics creates a “big tent” effect not unlike other terms such as “sustainable” and “local” in which multiple interpretations of value chain can co-exist.

In addition to the conundrums with the terminology around “values”, the concept of chains likewise has its own set of problems. The findings from Chapter 5 of horizontal and vertical ties in particular reveal that chains may also be too limiting a concept to describe the relationship building and social infrastructure development that VCCPs foster through convening events, and indeed through other roles described in Chapter 4 such as relationship building and providing technical assistance. These findings are consistent with earlier research which challenges the notion of chains in agri-food development (Block et al. 2008; Marsden 2010; Murdoch 2010; Meter 2011). Insights from Krebs and Holley (2006) point to network governance models that could be applied at the regional level, and which incorporate both direct and support actors that facilitate chain development. Applied agricultural economic scholars have very recently suggested the concept of “network coordinators” for regional food networks (Lyons and Lee 2018). “Regional network coordination” could be one possible reframing of “value chain coordination” in light of this networks approach to development.

### **The impacts of VCC convening efforts on social infrastructure development**

The second question addressed in this research was related to how convening events contribute to social infrastructure development in the regions in which VCCPs

perform their coordinating work. Findings revealed that embedded ties were created which in an economic framework (Granovetter 2005) are beneficial for individual firms in the manner in which they associated with longer term relationships and ultimately reduce transaction costs for firms (Uzzi 1996). Embedded relationships may be the basis for reimagining the food system and developing new models for the future of sustainability (Feenstra 1997; Gibson-Graham 2006).

Vertical and horizontal tie creation from a rural community development framework (Flora and Flora 1993) was also exhibited. The growth of such ties is an indicator of the “quality networks” that are an essential component of community level entrepreneurial social infrastructure. The broader questions about VCCP development of social infrastructure concern which schools of development this work best aligns with. Some suggest social infrastructure does not just facilitate economic growth, but social and cultural transformations as well (Seyfang and Smith 2007) such as contributing to a community’s capacity for collective action (Kirwan 2013).

#### *VCC: A Strategy for Community Development or Economic Development?*

Convening events appear to foster ties that are both beneficial for economic action as well as ties that improve a community’s capacity to enact its own endogenous economic development. Convening events also seem to straddle the roles (and goals) of providing relevant technical assistance, education and support through lectures, workshops and exhibit booths, as well as facilitating market matchmaking connections for direct actors in the value chain, and matchmaking direct actors in the chain with support ecosystem actors.

The question of whether convening events represent more of an economic or community development approach is informed by development scholarship through the interactional approach to understanding community (Kaufman 1959; Wilkinson 1970, 1991). The interactional perspective begins with the fundamental assumption that “the substance of community is social interaction” (1991:13). Wilkinson (1970:317) suggests that when interaction involves individuals and organizations working together for some particular purposes within a geographic community, this is considered a social field, or a “process of interaction through time, with direction toward some more or less distinctive outcome.”

The community field, on the other hand, is characterized by a broader interest for common good, instead of more narrow private interests, and may consist of overlapping social fields. According to these definitions, at first glance convening events appear to fall more under the designation of social field, as they have dedicated goals of fostering their regional agriculture and food sectors and are sometimes organized around specific agricultural products, through matchmaking and technical assistance provision. Wilkinson continues:

*“The community field has actors, associations and activities as any social field does; but the interest that guides this field is an interest in structure rather than in specific goals...the structural interest in the community field is expressed through linking, coordinating action, actions that identify and reinforce the commonality that permeate the differentiated special interest fields in a community (1991:90).*

However, guiding details of what denotes a single social field remain a bit vague. For example, VCC convening events could be interpreted as bringing together distinct sectors (social fields?) of agriculture and food manufacturing, distribution and retail. Another question might be raised here of convening events, that despite the coordinator’s intentions for the event, which may be more narrowly focused around agri-food

development, foster relationships that transcend industries and sectors and may also transcend various goals around health, food access, environmental stewardship and economic development. Flora et al. (2005:165) suggest that a single organization may be in the position to look out for the community field, but more often the community field may be identified as the “web” of associations, firms, and government entities that collaborate for a common purpose. In particular as convening events have been shown to promote not only horizontal lateral-learning ties, but also vertical, linking ties to broader institutions of power and resources, one might argue that while value chain coordination entities, and their partners who co-host convening events, may be articulating the focus of their work in more specific or social field terms, they are indirectly and possibly unintentionally creating webs of connectivity that can be leveraged to help the community have a greater capacity to act collectively.

### *Value Chain Coordination as Entrepreneurial Development*

This research fills a gap in the entrepreneurial literature in which authors have considered which type of organizational structure is best suited to “incubate”, or create and manage the supply or pipeline of entrepreneurs and new ventures within a community (Lichtenstein et al. 2004:20). I suggest that value chain coordination professionals appear to be performing these roles of incubation in a structure somewhere between “value chain coordinator” and “value chain coordination” co-performed within and outside of their organizational entities. Lichtenstein and Lyons (2001:11) suggest that a *strategic* operating system must be in place in order to create and manage social capital and community infrastructure necessary to develop entrepreneurs. The structure of the

Entrepreneurial Development System (EDS) consists of two interlocking systems which Lichtenstein and Lyons noted. The EDS includes organizing entrepreneurs in such a manner that they receive appropriate assistance and organizing providers into a “coherent and strategically deployed confederation” (Lichtenstein and Lyons 2004). The system doesn’t replace the individual providers, but instead integrates and “disciplines them” so that each provider concentrates on what it does best, each providing its own entrepreneurial need at the appropriate level.

Servon (1998) documents how providers often compete against each other for helping the same businesses. Instead a *confederation* can help to clarify niches, reduce redundancies, defuse competition and ensure that resources are going to fill the gaps/needs of services in the community (Lichtenstein and Lyons 2001:14). A well-functioning EDS system provides entrepreneurs, with 1) access to resources, 2) psychological support, and 3) opportunities to develop new skills. These in turn create benefits which reduce costs of innovation and starting new businesses for entrepreneurs, quicken the time it takes to get products to markets, reduce risk and costs by enabling firms to share resources, with more intensive use of resources allowing for greater return on investment for firms (Lichtenstein and Lyons 2001:15). The aggregate or community level benefit they suggest is “the framework that enables the diagnosis of complete enterprise development problems on a macro level and the identification of strategic solutions (Lichtenstein and Lyons 2001:16).

To address the macro level, Lichtenstein and Lyons (2001) suggest that a community or region must be willing to do the following to enable an EDS in their region. Political issues among individuals and organizations, such as the ones that arose between



VCCPs working in similar regions or going after the same pots of funding, must be resolved in order to create a working *confederation* of VCCP service providers who perform development roles, rather than a single individual or entity. Not only do single entities lack perspective about system-wide issues and have limited scope to engage all necessary actors, but as Chapter 5 articulated, the entity, especially when also embedded in the value chain, may not be perceived as acting neutrally for the good of the system, but instead catering activities to benefit their own businesses' interests. This can be off-putting and potentially may turn away others in the value chain from participating in value chain coordination (or EDS) activities if they perceive the coordination to be non-neutral or favoring their competitors. Broadly these findings show the importance of having a coordinated confederation of VCCEs at the community level to perform the roles of value chain coordination which support entrepreneurial development systems.

Lichtenstein and Lyons (2001) also suggest that implementing EDS affects the systems level, in other words, affirms that there are both individual level and community level benefits, as the synergistic interaction is what results in a sum that is greater than its parts. Those engaged with developing the entrepreneurial system who only work on very small or specific segments of the chain will lack the capacity for coordinating the system. "Piecemeal implementation of individual elements will not enable the community to achieve the large-scale, ongoing transformations" (Lichtenstein and Lyons 2001:16-17). This point speaks to tensions seen in the Mid Atlantic case in which tensions arose with participants' feelings of exclusion from an event that was organized by a competitor business (i.e. the Maltster who played a major role organizing the convening event). The EDS models seems to suggest that a confederation of organized service providers (VCCPs)

could be more effective at building a diverse and more inclusive entrepreneurial network, rather than a piecemeal approach led by only one or a few individuals which may leave some local actors feeling left out.

I suggest that Food LINC has perhaps unintentionally piloted the new institutional arrangement in regional entrepreneurial development that Lichtenstein and Lyons call for. Instead of taking place at the community level, Food LINC supported efforts loosely in regions based around metropolitan centers and sometimes entire states. Food LINC has also articulated many of the new enterprise development roles articulated by Lichtenstein and Lyons, with matchmaking, convening, relationship building, innovating, resource prospecting and providing technical assistance, as well as additional roles found in this research including research and assessment, accountability keeper, and fostering and maintaining relationships that mirror roles such as scouts, diagnosticians, mentors or performance coaches, success team managers, alliance brokers, and a general manager noted by Lichtenstein and Lyons (2001). This research uncovered several examples where competition among VCCEs was arising in the manner in which Lichtenstein and Lyons (2001) suggest, particularly around competing for funding or to provide services to the same scope of clients.

While Food LINC has not made formal efforts to plan or organize VCCEs in particular regions to work together, they have demonstrated a form of this coordinating work in creating the national community of practice. The workshops, trainings, webinars and meetings hosted by Food LINC served to put in place mechanisms allowing VCCEs to share resources and gain the skills needed to perform the activities that Lichtenstein and Lyons suggest are critical for developing entrepreneurs, such as diagnosing, facilitating and

organizing. While the Food LINC CoP has not yet intentionally fostered a coordination partnership among current Food LINC VCEEs, several collaborations have taken place, including sharing trainings with each other, consulting, sharing resources, co-writing grants, hosting talks at meetings, webinars and conferences together.

These activities are examples of VCCEs' collaboration across regions, an aspect that Lichtenstein and Lyons (2001, 2004) do not discuss, mostly because they perhaps could not have anticipated a national or federal initiative creating a new institutional arrangement that would facilitate community level EDS. The strategies and tools used by Wallace and USDA to create the national CoP could potentially be deployed for use in geographic communities, such as listservs, monthly webinars, trainings, and calls in which VCCEs assess gaps in their regional food system, develop proposals for intervention, apply for funding and strategically partner in the work based on each VCCEs particular niches and competencies. The partnerships described in the two nested case studies are examples of how VCCEs and other local non-profits, education institutions, and value chain actors, co-perform the convening role of value chain coordination.

In the example from the Mid-Atlantic case, having a more organized consortium or confederation of entities might have helped that convening event to be broader and more inclusive in its programmatic focus, and also could potentially have leveraged funding from other sources. A convening event sponsored by a local confederation of actors may draw a wider crowd of attendee as well, by expanding the reach of social capital of the organizers to help engaged participants, while potentially also alleviating participant concerns that the events are too narrow or exclusionary in their scope, or associated only with one particular segment of value chain actors in that region.

### *VCC Within Broader Networks Approach to Development*

Landabaso et al. (1999) explain that successful innovation requires the right combination of “innovation inputs.” These include knowledge, technical expertise, design, finance, managerial and marketing experience, trained labor and capital equipment. Small businesses lack the ability to conduct their own research and development, as a large business might perform such functions in house. They suggest that networks offer the ability to cooperate with actors to participate in these functions and ultimately have a chance at being more competitive with the broader global market. In the Southeastern case, small farmers might not have been able to afford the risk of piloting new crops on their land, but their vertical connections to Extension gave them the ability to perform a crop feasibility trial in their operations. European regional development scholarship found a network approach to development as an innovative model that broke down more traditional, binary strategies of endogenous and exogenous, and market versus state led interventions (Lowe et al. 1995). Murdoch (2000:416) stressed that the strength of a network strategy for development is its ability to hold the “inside” and “outside” together with one frame of reference. He further suggested that soft infrastructure could only be successfully established if “non-state partners are enrolled into the process so that local actors take responsibility for negotiating their linkages with external agencies” (Murdoch 2000: 416) In considering this, it seems that value chain coordination professionals can host events, make concerted efforts to invite local “inside” value chain actors and outside support ecosystem support actors, and attempt to facilitate matchmaking among these groups, but ultimately individuals must take responsibility for bringing the connections to fruition, as exemplified by the willingness of farmers to partner with Extension to conduct

crop trials on their land. Flora et al. (2016:167) echo a related concern: “it is critical that communities be linked to regional, state, and national resources and organizations; however, it is also critical that there be not just one gatekeeper that makes that linkage.” Having too few gatekeepers may intentionally or unintentionally restrict the flow of information and resources and stifle a network’s ability to be flexible, adaptive and for individuals to receive the resources they need most. A confederation of coordinators, or entrepreneurial developers in a region, however, who focus on enhancing the flow of resources and ideas between communities and external agencies and institutions of power falls into this broader model of a network approach to development, one currently led by European scholars and practitioners. By its very structure, a feature and strength of a networks approach to development breaks down the binaries of urban/rural, state/market and endogenous/exogenous development strategies. This rests on the ability to build social infrastructure that transcends these boundaries and keeps resources flowing within, to and from, and among regional communities.

## **Limitations of the Dissertation**

### *Focal Case Study Limitations*

This research focused on the emergence of the prototype concepts of the *value chain coordinator* and *value chain coordination* through the inaugural Food LINC project co-sponsored by a public-private partnership between the USDA and the Wallace Center. While the participants interviewed for this research represented all of the participating VCC entities engaged with Food LINC, including up to three individuals per entity, there were still other participants who were not available or willing to participate in

interviews. Additionally, staff turnover in the participating organizations and businesses brought additional new VCCPs to the cohort after the interview data collection phase was completed for this research, but during the time of writing and analysis. There were approximately eight other individuals who could have been interviewed for this research, but were not; their perceptions were not included in the analysis of collective perceptions of the Food LINC program and the VCC concepts. This study is limited to value chain coordination in the focal case study of the Food LINC initiative. However as emerged in interview themes as well as the network data from the nested case studies, value chain coordination roles are also being performed by various actors outside of this formal cohort. The perceptions shared in this research therefore rest heavily on VCCPs who were selected to participate in the Food LINC program by the USDA or Wallace Center, and interviews with value chain stakeholders were limited to communities

#### *Nested Case Study Limitations*

This study limited the nested site-level cases to two of the thirteen VCC entities participating in Food LINC. Time, resources, and maintaining a manageable research load for the dissertation were the reasons for this limitation. Organizing and hosting convening events represents only one of the six proposed roles of VCC, and one of nine roles found in this research. However, I chose to develop the methods of SNA around convening events because this role is one of the primary functions that VCCPs perform and is one of the most challenging to measure. The convening role also has the other roles of matchmaking, technical assistance and relationship building associated with it, and in this way is perhaps the most critical and versatile role that a VCCP performs in their efforts to build social

infrastructure. Still, a limitation of this research is that the other two relational focused roles, matchmaking and relationship building were not explicitly explored in this research. I thought that capturing such data could be too obtrusive to the VCCPs' daily work and the privacy of the clients and stakeholders with whom they worked. Additionally, the VCCE's lacked data management systems for their relationship matchmaking work among clients, making reviewing organizational records not possible. While creating a data collection plan around convening events proved to be an effective way of capturing aspects of several VCC roles (e.g., technical assistance, relationship building and matchmaking), this research does not comprehensively describe the kinds of relationship building of the one-on-one matchmaking role or the relationship building efforts that VCCPs perform day to day. Future research that engages with service management software programs could be useful for tracking matchmaking and relationship building, for example.

#### *Limitations in Network Data Collection and Analysis*

This research design had aspirations of performing more quantitative whole network measures in the nested cases studies of the convening event. The research design of conducting a network survey of value chain stakeholders at a convening event was a novel innovation of this research and some important insights emerged. The proprietary nature of the network relationships surveys, the overall large size of these events and the lack of insider status on the part of the researcher with attendees at these two convening events may have all contributed to lower than expected response rates of survey participants.

There was an attempt to be sensitive to the partner VCCPs who were coordinating these events, and while a roster approach could have facilitated a higher response rate, creating a roster to serve as an aid for the surveys before the event was not a possibility at either event. Another possibility would have been to utilize computer tablets at the event so that participants could more quickly or efficiently respond rather than the paper surveys, which in some cases people walked off with or simply did not turn in. Lack of resources and insufficient volunteers to assist with survey collection on the day of the events prohibited an approach such as tablets, however.

Due to response rate, data analysis had to be reframed to consider only measures that could be logically ascertained from partial network data, which mostly included pre and post comparisons. This experience of attempting whole network survey design in these convening events would not be attempted again, as the size of the convening events is typically too large. I would only recommend a whole network design for convening events or fewer than 50 attendees at most, for sake of complexity in the data collection and analysis.

#### *Embedded Researcher Limitations*

While my position as an embedded researcher afforded me many privileges and much access, including attending many in-person meetings, sitting in on phone calls, and listening to Food LINC organizers discuss planning and evaluation of the program, it also put me in a position where I was able to gather some kinds of data, but at the expense of other data. For example, I chose not to interview the organizers of Food LINC directly, as I felt that my collegueship with them and my contractual relationship with the Wallace



Center did not allow me to be sufficiently removed or neutral to interview them formally about their motivations, concerns and goals with the Food LINC program. If my stance had been more distanced, I might have been able to focus more directly on institutional and individual motivations around creating and emphasizing (or not) the prototype ideas of the value chain coordinator and value chain coordination in the first place. However, this would have been a less embedded connection and would perhaps have resulted in development of less trust and insider connections with the VCCPs, a critical population for this study. My affiliation with the Food LINC national support team afforded me ease of access to contact information as well as credibility, which helped VCCPs to be willing to participate in interviews with me.

### **Future Research Directions**

This research focused primarily on the single focal case study of the Food LINC initiative to examine how the phenomenon of value chain coordination was being performed, contested and legitimized as a new development strategy in regional agri-food development. Future studies could look beyond a single structured case such as Food LINC, seeking, for example, to identify more occurrences of value chain coordination work taking place outside of formally funded programs. One possibility would be to conduct more in-depth regional studies to understand how value chain coordination is co-performed in a particular region across all of the roles as opposed to focusing narrowly on convening and the relationship building which takes place within those events.

This work piloted the use of social network surveys for understanding ego-level patterns in connectivity developed through convening events. Ego-level analysis could be

used additionally to study the matchmaking and relationship building roles of VCC more broadly, and with a small enough study area, sociocentric data might also offer insights about broader patterns of connectivity among regional value chain actors, although whole network data collection will presumably remain a challenge.

This research is also a springboard for future interdisciplinary research, perhaps working more closely with economists, in which the social ties formed among and between value chain and support actors could be examined to see associations with short and longer term economic outcomes, including increases of gross sales, volume, sales of specific products, increase of hourly wages, and so on. As one value chain coordinator expressed, “Everything I touch takes three years to turn to gold” (VCCP Nub, Southeast). While this study examined the focal case over two and a half years, and utilized network data from the nested cases over a year and a half period, future studies on value chain coordination should consider longer term inquiries, such as two to five year length studies to more fully understand associations between relationship development and a variety of social, economic and other outcomes over time. Finally, future studies should continue to explore individual-, value chain- and regional/community level impacts of coordination, as well as the interconnectivity among these outcomes.

### **Implications for Applied Practice**

This research makes several contributions that should be considered by the Food LINC initiative and others interested in supporting soft, social infrastructure as a means for developing regional agri-food value chains and regional food networks more

broadly. From the focal case of Food LINC and interview data with the VCCPs, this research provides evaluative data for Food LINC on how the prototype concepts of *value chain coordinator* and *value chain coordination* are perceived by participants in this innovative regional agri-food development initiative. This research suggests that the value chain coordinator concept did not find strong legitimation in the Food LINC community of practice and thus that specific model may not show good promise as a funding priority in the future. Value chain coordination as a new prototype idea, however, does suggest promise, and this research contributes insights on how co-performance of acknowledged roles and additional roles could be better incorporated into strategies that comprise value chain coordination. Additionally, this research provides applied insights considering value chain coordination as strategy that develops entrepreneurial regional food networks.

Linking the phenomenon of value chain coordination to the Entrepreneurial Development System (Lichtenstein and Lyons 2001) and Regional Food Networks framework (Whatmore and Thorne 1997; Duncan et al. 2018; Liang 2018; Lyons and Lee 2018) could be applied as a model for future funding initiatives that build up “confederations” of coordination entities within regions to collectively receive funding and collaborate in the strategic provisioning of value chain coordination services and activities. In order for this to be facilitated, funders such as private foundations and government agencies would have to promote the notion of regional confederations in their requests for proposals, encouraging collaborative projects from multi-organizational projects.

## Conclusion

This research has contributed several theoretical and applied findings to the exploration of *value chain coordinator* and *value chain coordination* as two emergent prototype ideas in the regional agri-food development space. Although this research has focused on specific U.S. manifestations of value chain coordination, it could be useful to see how food value chain coordination occurs in other agricultural and policy contexts. This work suggests that value chain coordination in particular may have promise moving forward as a strategy beyond the Food LINC community of practice, whereas the concept of value chain coordinator has enough challenges and inconsistencies that its use in the broader development space might only further exacerbate confusion and tensions. Additionally, this research potentially suggests that value chain coordination efforts, especially the role of convening, contribute to the development of social infrastructure which has benefits for individual firms as well as, potentially, entire chains and networks of agri-food actors within a region. Specifically, this social infrastructure development reduces risks, costs, and barriers to innovation and can stimulate more entrepreneurial regional economies. Value chain coordination as a strategy may be successful in the future if it can refine and align its strategy with other network approaches to development, such as considering the way in which coordination could be strategically shared among many diverse actors within a particular region, similar to the confederation model described in entrepreneurial ecosystem development literature. Future investigation of the advantages and disadvantages of the hybridity of value chain coordination work remains important, and may help refine and clarify the meaning of “values” in this work.

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## **Appendix : Research Instruments**

### Interview Guide for Food LINC Value Chain Coordinators

#### **Questions:**

##### Job/Role

1. What is your formal job title and primary responsibilities?
  - a. Do you consider yourself a Value Chain Coordinator (VCC)?
  - b. Did joining Food LINC change your perception of your title or work roles? If so, how?
  - c. Does your job description capture what you do? In what ways yes, and what ways no?
  - d. If you could pick another title to describe your work, what would it be?

##### Self-Identified of Roles of VCC work

2. Walk me through what a typical work-day looks like. How do you spend your time?
  - a. Do you coordinate or are you involved in any special events projects that change your typical schedule? If so, how does your work change during those times?
  - b. If you could categorize what you do in your job, what would the main roles be?

##### VCC Perceptions of Food LINC proposed roles

3. How do the six roles proposed by the Food LINC Initiative [*Convener, Matchmaker, Technical Assistance Provider, Resource Prospector, Innovator/Catalyst, Policy Advocate*] – compare with what you do as a Value Chain Coordinator?
  - a. Which of these roles are most central to your work?
  - b. Are there any of these roles that you do not perform? Why?
  - c. For those you do not currently perform, could you see yourself performing these roles in the future?
  - d. Has your work /roles shifted since joining Food LINC? If so, how?

##### VCC Skills and Competencies

4. What are the primary skills that you utilize to be successful in your role as a Value Chain Coordinator?
  - c. How did you gain the experience and skills to prepare you for this work?
  - d. Where do you go for training and support in your job?
  - e. What skills and trainings are you most in need of to be more successful?

### How VCCs Measure Impact

5. How do you define success of your work?
  - a. Who are your constituents, clients, etc.? Do you engage them to be a part of measuring impact? If so, how?
  - b. Who else measures the impact of your work? What methods are used?
  - c. What is the biggest challenge in understanding the impact of your work?
  - d. What ideas do you have to make it better?

### Funding VCC work

6. What is the funding model used to support your work?
  - a. Is it successful?
  - b. What challenges have you experienced with this model?
  - c. What are your ideas for changing how VCC work (services?) might be supported in the long-term?

### Network Awareness

7. Who do you think of as your constituents for your VCC work?
  - a. How do you keep track of the relationship building work that you do with your constituents?
  - b. Do you know how they know each other or do you interface with them on a more individual basis?
  - c. What is the boundary (geographic, values based, etc.) that determines who you work with and who you don't?

### Goals that Guide VCC Work

8. Within your organization, what goals do you have for VCC work?
  - a. How are these goals shaped or influenced?
  - b. Are some goals a higher priority than others? Which ones?
  - c. Do you think there are shared goals among the constituents that you work with? i.e., with buyers, distributors, producers?
  - d. Do you share common goals with other VCCs in Food LINC? Which ones? Which are different?

### Values that Guide VCC Work

9. What values guide your work as a VCC?
  - a. Where would you say these values come from?
  - b. Have they changed over time at all? If so, how?
  - c. Do you ever have situations that challenge these values from being carried out in the work? If so, describe those challenges.

### Values in the Network (Shared / Not Shared)

10. Are there any common values that all of your constituents that you work with as VCC agree on?

- a. Which values do you hold that are not necessarily shared by the constituents that you work with?
- b. How has dissent of values impacted the work or the relationships between and among constituents that you work with?
- c. Which values do you believe are shared with other VCCs in the Food LINC cohort? Where is there dissent?



# CONVENING EVENT NETWORKING SURVEY



YOUR NAME: \_\_\_\_\_  
 BUSINESS: \_\_\_\_\_  
 BUSINESS ZIP: \_\_\_\_\_

Please check all that apply:

- |  |   |
|--|---|
| <input type="checkbox"/> Farmer          | <input type="checkbox"/> Educator / Extension |
| <input type="checkbox"/> Processor       | <input type="checkbox"/> Lender               |
| <input type="checkbox"/> Distributor     | <input type="checkbox"/> Consumer             |
| <input type="checkbox"/> Wholesale Buyer | <input type="checkbox"/> Other _____          |

Your response to this survey is voluntary and appreciated. This survey will be used in a university research study on local food system development and the evaluation of this event. All data will be kept confidential and anonymous. Please feel free to contact us with any questions and thank you for your response!

**1a. Which NEW contacts did you make at the \_\_\_ conference that you plan to do business with in the future?**

Please list top 6:  
 Who might you sell to / buy from in the future  
 (ex. John Jones, Sunnysdale Farm)

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_

**2a. Which NEW business resource contacts did you make at the \_\_\_ conference?**

Please list top 3:  
 New connections with Lenders, Extension, etc.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

We will be conducting a 6 month follow-up on connections made at this event.  
 May we contact you? Y / N  
 Phone:  
 Email:

**1b. Of the attendees at this event, who did you do business with BEFORE today?**

Please list top 6:  
 Who do you sell to / buy from currently

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_

**2b. Which business resources have you worked with BEFORE today?**

Please list top 3:  
 Former connections with: Lenders, Extension, etc.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

If you have any questions about this survey or research please contact:

Sarah Rocker  
 Penn State University  
 sjr260@psu.edu  
 303-895-8771

## Post-Network Survey Interview Guide

### *Introduction and Consent Script*

Hello, my name is Sarah Rucker. I am a graduate student at Penn State University in the Rural Sociology program, and working in tandem with [community group name] on research on [product specific, either Grain or Organic produce] farmers and buyers in the [geographic-- either Mid-Atlantic or Southeastern] region.

Several months ago you participated in the event and you completed a survey at the event about business connections made at this convening. On the survey you stated that you would be willing to answer some follow up questions. These questions are about your experience selling/buying local products in the [geographic region] community and the role of [value chain coordinator organization] in helping you in your business.

The information you share will be of great value in helping to enhance our understanding of these important role that coordinators such as [names of PA and KY value chain coordinators] play in facilitating local food supply chains in this region, as well as what is working and what is not.

This interview will take about 30 minutes of your time. There is no monetary compensation. Your participation is entirely voluntary.

There is no risk of a breach of confidentiality. Your name will not be linked to anything you say, either in the transcript of this interview/survey or in the text or publication of the research. There are no other expected risks to you for participating.

If you decide not to participate, there will be no penalty or loss of benefits to which you are otherwise entitled. You can decline to answer any question as well as to stop participating at any time.

If you have any additional questions concerning this research or your participation in it, please feel free to contact me, my dissertation supervisor or our university research office at any time.

*(The respondent will be given my email address and/or phone number if requested)*

I would like to record our discussion, so that I can have an accurate record of the information that you provide to me.

I will keep the all of the information you share with me confidential and securely in my possession.

Do you have any questions about this research? Do you agree to participate?  
[Interview: May I record this conversation?]

If so, let's begin....

### **Connections made at event**

1. Several months ago you attended the \_\_\_\_\_ (VCC hosted convening event).  
What made you interested in attending this event?  
Prompt: Former relationship with VCC organization?

### **Top Connections**

2. What were the most valuable kinds of connections made?  
Prompt: e.g., Sales connections? To resources? End customers?

### **Benefits following the event**

3. What are the greatest benefits at this point (approx. 2-3 months after) attending the event with these connections?
  - a. Did business contracts come to fruition? Did you make any new partnerships with resource agencies?

### **Quality of Business Relationships**

4. Thinking about your top connections, what makes them so valuable?
  - a. How do you plan for the future seasons? Do you have a formal contract in place?
  - b. What is the level of trust? Do you need a formal contract, or is a handshake agreement enough?

### **Prices Received / Prices Paid**

5. Do you feel that you are receiving is fair? Is it meeting your operational needs?
  - a. What are the best kinds of arrangements for you currently? Sales to distributors? Sales direct to processors? Sales direct to retail? Sales direct to consumer?

For buyers: flip the question to prices paid, for each of these categories.

### **For Farmers – Brand Identification**

6. When you sell to your buyers across different markets, do you know if your farm name / brand is being represented to the end consumer?
  - a. Of these four categories, which tends to represent your farm brand identity the best?
    - Sales to distributors?
    - Sales direct to processors?
    - Sales direct to retail?
    - Sales direct to consumer?

### **Relationship with VCC Organization**

7. How long have you worked with (VCC organization)?
- a. What are the greatest benefits of working with this organization? What services do they provide you as a (farmer/buyer/distributor)?  
[Note: listening for matching of VCC roles: Convener, networker, matchmaker, facilitator, etc.]

**Optional:**

8. Is there anything else you'd like to share about attending this event or working with (VCC Organization)?

Thank you very much for your time.

**VITA**  
**Sarah J. Rocker**

**EDUCATION**

- 2019 Doctor of Philosophy in Rural Sociology. The Pennsylvania State University.  
2013 Master of Public Administration (focus on Food Policy), The Evergreen State College.  
2007 Master of Arts in German Studies (focus on Intercultural Communication).  
University of Colorado- Boulder.  
2004 Bachelor of Arts in German Studies (minor in Philosophy). Messiah College.

**ACADEMIC EMPLOYMENT**

- 2017-present Research Assistant, Northeast Regional Center for Rural Development, The Pennsylvania State University (USDA-AMS Local Food Resource Mapping Project).  
2014-2017 Research Assistant, Dept. of Agricultural Economics, Sociology & Education, The Pennsylvania State University (USDA-NIFA Enhancing Food Security in the Northeast Project).  
2013-2014 Graduate Researcher, Research partnership between the Evergreen State College and Washington State University (Community Foundation of South Puget Sound funded project on local food policy, planning and administration).

**SELECTED GRANTS, HONORS & AWARDS**

- 2018 Francena L. Miller & Michael F. Nolan Graduate Scholarship in Agricultural Economics and Rural Sociology, The Pennsylvania State University.  
2015-2016 Graduate Student Competitive Grant, College of Agricultural Sciences, The Pennsylvania State University. ("Towards Resilience: The Value of Brokerage and Coordination in Local and Regional Food Value Chain Networks")  
2012-2013 Cargill Sustainability Fellowship, The Evergreen State College.  
2007 German Academic Exchange Service (DAAD) University Summer Grant.

**ACADEMIC PUBLICATIONS & REPORTS**

- Hayden, J., **Rocker, S.**, Phillips, H., Heins, B., Smith, A., & Delate, K. (2018). The Importance of Social Support and Communities of Practice: Farmer Perceptions of the Challenges and Opportunities of Integrated Crop-Livestock Systems on Organically Managed Farms in the Northern U.S. *Sustainability*. 10 (12): 4606.  
**Rocker, S.** and Goetz, S. (2018). Local Food Resource Mapping Project Update. *Journal of Food Distribution Research*, Vol XLIV (1): 4-5.  
Palmer, A., Santo, R., Berlin, L., Bonanno, A., Clancy, K., Giesecke, C., ... & **Rocker, S.** (2017). Between global and local: Exploring regional food systems from the perspectives of four communities in the US Northeast. *Journal of Agriculture, Food Systems, and Community Development*, 7(4): 187-205.  
Patzek, L., **Rocker, S.**, & Goldberger, J. (2015). *Produce Farm-to-Market Trends: A Case Study of South Puget Sound*. Washington State University Extension Publication [EMO94E].  
**Rocker, S. J.** (2013). *Local Farms to Local Markets: Small/Mid-Scale Fruit and Vegetable Production in Western Washington State*. MPA thesis, The Evergreen State College.

**SELECTED INVITED PRESENTATIONS**

2018. "Value Chain Coordination: Bringing People Together through Convening Events." National Good Food Network Webinar. August 30.  
2017. "Social network Analysis Tools for Value Chain Coordination." Food LINC Annual Meeting, Chicago, Illinois. November 2-3.  
2017. "Local Food Mapping and Data Visualization," USDA Local Food Impact Conference. George Washington University, Washington, D.C. April 3.  
2013. "Building A Sustainable Food System in the South Sound." 23<sup>rd</sup> Annual Rachel Carson Forum. The Evergreen State College, Olympia, Washington. May 10.