

Cultural Embeddedness in Supply Networks

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Abstract

Recent studies on structural and relational embeddedness suggest that favorable position and connections in supply networks benefit a firm. While fruitful, this focus misses the motivations that prompt firms to take economic action in the first place. Understanding cultural embeddedness provides insight into why individuals and firms behave as they do and how their behavior can influence network structure. Contrary to the belief that firms act solely for profit and growth, we note that cultural contents such as values, social issues and political ideologies explain firms' motives and guide their economic activities. We explore the role of cultural embeddedness through a grounded study of Country Natural Beef, a sustainability-oriented agricultural cooperative in the western United States. This supply network demonstrates strongly competing cultural claims among its members as well as a unique institutionalized culture. Cultural interactions at the node and network levels explain the functioning of and changes to the network. Through interviews, analysis of archival information and direct observation of pivotal events over a period of five years, we unpack cultural embeddedness and take an incremental step toward a theory of cultural embeddedness in cooperative supply networks.

Key Words: cultural embeddedness, supply networks, agricultural cooperatives, decision making, sustainability, grounded research, Country Natural Beef

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1. Introduction

Institutional theory scholars have documented the emergence of social enterprises and the renaissance of agricultural cooperatives that pursue sustainability and community development (Mair, Martí and Ventresca, 2012; Schneiberg, King and Smith, 2008; Simons and Ingram, 1997). Although these entities must compete to exist in a capitalist economy, they operate with objectives beyond efficiency and profit. Given the growing interest in and importance of sustainability and economic development, we argue that existing supply network research that emphasizes relational and structural embeddedness may overlook how non-market strategies or *logics* can motivate economic behavior and shape the structure of the network.

DiMaggio (1990) proposes that individuals' orientation toward economic exchange is embedded not only in social structure but in culture, which is manifested as beliefs, norms, and at a deeper level of cognition as logics and preconscious habitus. Applying DiMaggio's proposition to supply networks, we argue that the study of relational and structural embeddedness looks at established networks to interpret how economic benefits accrue to firms based on their connections and positions in the network. They do not explain why firms do certain things in the first place, how firms get where they are, or how they initiate relational and structural changes in the network.

To address these questions, we need to look beyond network structures and relationships. We need to understand how firms are shaped by non-economic institutions (e.g., family, religion, government) and culture. This study takes an incremental step toward such an understanding. We set out to explore cultural embeddedness and its effect on firms and associated supply networks. We seek to answer the following research questions: How does the cultural embeddedness of supply network members influence their economic behavior and that of the network itself? More

specifically, how does cultural embeddedness affect the functioning and structure of a supply network?

To do so, we carried out grounded theory research in an agricultural cooperative. Agricultural cooperatives provide a fitting context for two reasons. First, following recent developments in supply chain and agricultural economics research, we consider an agricultural cooperative (co-op) as a unique form of supply network, comprising independent producers coordinated through network governance (Karantininis, 2007; Ménard, 2007; Pathak, Wu and Johnson, 2014). Second, culture, manifested as values, ideology and logic, plays a critical role in the formation and functioning of agricultural co-ops (Hogeland, 2004; Mazzarol, Reboud, Limnios and Clark, 2014).

In this paper, we will first review the literature of culture, cultural embeddedness and cooperative as a form of supply network. Second, we discuss our research setting, data collection and data analysis. Third, we present the key facts in our data, followed by analysis and emerged constructs. Following the analysis, we present a set of propositions, a conceptual model and conclude with a discussion.

2. Literature

2.1 Culture as value and belief systems

At the basic level, culture consists of cognitive phenomena—beliefs, attitudes, ceremonies and norms. At a deeper level of social cognition, culture is what sociologists call strategies or *logics* (DiMaggio, 1990, 113-115; Swider, 1986, 276). Logic consists of preconscious, behavioral or problem-solving routines. The notion of logic echoes the concept of institutional logic in neo-institutional theory (Thornton and Ocasio, 1999, 804). Studies of

institutional logics often take a top-down perspective; they examine how macro-institutional logics (e.g., profession, religion and market) prescribe different rationales of behavior and strategy (Friedland and Alford, 1991). For instance, institutional entrepreneurs rearrange and transpose elements of logics to invoke broad change in a profession or industry (Moreton, 2010; Thornton, Ocasio and Lounsbury, 2012). Such top-down approaches often do not assess cultural elements such as values and beliefs that are unique to actors in a social group or how such elements influence their economic activities (i.e., the bottom-up effect). As a result, institutional logics interpret institutional changes but say little about how the actions of individual agents enable such changes and determine the direction of those changes. In order to investigate how culture influences the behavior and strategy of social actors, we need to understand the concept of cultural embeddedness.

2.2 Cultural embeddedness and economic action

Embeddedness is “the degree to which economic activity is constrained by non-economic institutions” (Polanyi, 1944). It refutes the basic assumption of neo-classical economics: a rational, calculating *Homo economicus* freely making decisions with the single goal of optimizing economic gain (Granovetter, 1985). Socio-cultural obligations, norms and values play a significant role in people's livelihood strategies. Existing studies focus on the relational aspect of this concept to explain firms' position and corresponding social capital in a network (Kim, 2014; Moran, 2005). However, they do not explain why individuals and firms behave the ways they do or how their behavior can, in fact, induce structural and relational change in a given network.

Attention to culture and cultural embeddedness allows us to understand economic action of alternative forms of economic exchanges such as the “redistributive” and “reciprocal” systems articulated by Polanyi (1994). They play an important role in certain economic sectors or geographical regions of the modern society (Barber, 1995; Dequesh, 2003; Lie, 1997). In a “reciprocal” exchange, for instance, individuals have mutual obligations to one another by virtue of their particular status in any one of a variety of collectivities including family, tribe or community. Here, economic decision-making is not so much based on market logic, but rather on social relationships, cultural values, moral concerns and religion. We have limited understanding of the agents and networks of such exchange systems.

2.3 Supply networks

Supply networks are particularly influenced by the dynamics of cultural embeddedness. Members of the supply network—individuals and firms—are carriers of culture. Cultural imprints are manifested in their behavior and strategies within and impact on the network. Supply network studies conceive of supply networks as production systems with a single or multiple buyers or with no particular end buyer involved in the operations of the network at all (Choi and Hong, 2002; Harland et al., 2001; Pathak et al., 2014). In such a network setting, culture can be linked to place; geographic proximity is conducive to spreading culture among residents (Galaskiewicz, 2011). Existing studies largely consider cultural forces as exogenous and top-down effects of institutional logic at the field level on an entire network (Owens-Smith and Powell, 2004; Thornton et al., 2012, 151). What is missing is a systematic explication of critical cultural elements (e.g., values and ideologies) at the node level. Therefore, we know little of the underlying motives as individuals and firms formulate their strategies and go about their

business. We submit that an investigation of the culture and the culturally embedded entities in the network holds the promise to explain individual firms' motivations as well as supply network structure and function.

2.4. Cooperatives as value-driven supply networks

A cooperative is characterized by a hybrid form of governance blending market and hierarchy in terms of asset ownership and administration. Agricultural economists consider this hybrid to be a form of network governance (Karantininis, 2007; Ménard, 2007; Williamson, 1980). On one hand, members of a co-op maintain property rights and associated decision-making control over assets, which differentiates the co-op from an integrated firm. On the other hand, co-op members share strategic resources, which requires tight supply chain and production coordination that goes far beyond a price system of market arrangements. Because a co-op is the aggregation point of a network of independent producers, researchers have considered co-ops as coalitions of interests (Sexton, 1986; Zusman, 1992) or a nexus of contracts (Shaffer, 1987).

The effectiveness of agricultural cooperatives as supply networks is especially impacted by cultural embeddedness. The last three decades have seen a revival of agricultural co-ops in the U.S. at the confluence of the food movement and the growing issue of sustainability. These agricultural production co-ops, with sustainability-oriented value propositions and roots in social justice and mutualism, are at both the front of the food movement and the center of cultural clashes (Allen, 2004; Ashforth and Reingen, 2014; Weber, Heinze and DeCoucey, 2008). Unlike traditional co-ops that produce and market commodity products such as grain and milk, co-ops such as Organic Valley and Country Natural Beef produce value-added goods. They advocate sustainable agricultural practices and compete against Big Agriculture by producing and

marketing value-added farm products (agofthemiddle.org). Because culture plays a salient role in the functioning and economic actions of such value-added cooperatives, an in-depth investigation of a sustainability-oriented cooperative hold promise to answer our research questions concerning cultural embeddedness and supply network. We will further discuss the role of culture in cooperatives in the sampling section (see 3.1).

3. Method

We find inductive research appropriate to answer our research questions. It is consistent with both our research goals and the predominant methodology and assumptions used in similar studies (e.g., Ashforth and Reingen, 2014; Sutton, 1987).

3.1. Sampling

We use DiMaggio's definition of culture (i.e., value, ideology and logic) as the criterion to identify a supply network that has strong theoretical purpose and relevance (Glaser and Strauss, 1967, 48). Our field research focuses on one agricultural cooperative, Country Natural Beef (CNB). Value and ideology play a critical in CNB's decision-making. The co-op advocates agricultural practices and the economic well-being of rural communities and family farms, a position that contradicts the dominant industrial food system (Hinrichs and Lyson, 2009). Its members, coming from the ranching community in the western U.S., are characterized by libertarian ideology and "cowboy ethics," which tend to be aligned with political conservatism (Haidt and Graham, 2007). At the same time, its members interact directly with urban consumers and collaborate with politically liberal groups on a variety of issues, including sustainable agriculture and humane animal handling standards. Furthermore, while ranchers are extremely

independent, they chose to form this co-op and collaborate, following the traditional co-operative principles. In a sense, CNB represents a paradox of competing values and ideologies that originate from diverse cultural heritages and traditions (Meyers and Garrett, 1993). The intersection of these diverse and competing values can create dilemmas and clashes that accentuate the two research questions that we set out to explore (Poole and Van de Ven, 1989).

3.2. Data Collection

We collected field data through systematic interviews and direct observation of key co-op events over a five-year period of time. During the first phase of data collection (2007-2009), we reviewed large numbers of internal documents covering the co-op's 22-year history. We conducted interviews with 20 ranchers. These interviews took place on the ranches or in nearby rural towns. Together with the co-op leaders, we identified ranchers (1) with different production scales and (2) who had at least ten years of experience as active participants in co-op operations. Using a structured interview protocol (See Appendix 1), we collected information on their ranch operations, involvement in CNB and perception of the functioning of the co-op. We probed interviewees to identify contentious issues and describe the decision process. All interviews were taped and transcribed. The interviews provided us with a basic understanding of cattle ranching operations and co-op functions, which prepared us for the second phase—direct observation of the network as events unfolded.

The second phase of data collection involved observation of co-op decision-making between 2009 and 2012. We participated in seven of the co-op's face-to-face meetings. We regularly listened in on the twice-weekly conference calls (both general membership and team leader), especially when key issues were debated. Conference calls lasted about one hour. The

co-op recorded and transcribed all semi-annual meetings and weekly teleconferences. We were given access to these transcripts.

We also attended marketing events and ranch tours organized by the co-op for its members and customers. Interviews during the second phase were less structured yet more focused. Often they took place when an informal social interaction turned into an in-depth conversation. The researchers also had extended interactions with six CNB ranch families from 2008 to the present day. Unexpected insights often arose during our visits as they shared anecdotes regarding the co-op. Such interactions allowed us to delve deeper into the relational dynamics of the co-op and offered a contextual explanation of members' motives and thinking at the meetings. Field notes were taken whenever possible and copious memos were written after each engagement.

In mid-2010 we conducted a postal survey, requesting demographic information and information regarding the members' values. Based on an analysis of the early interviews and our on-going interactions with the co-op, we concluded that environmental and libertarian values would offer important insights on their culture. Existing scales of these two values were adapted from Dunlap and colleagues (2000) and pretested. Members of the ranch families who were actively involved with CNB were asked to fill out the survey. We sent out 81 surveys to all incumbent co-op members at the time. Six ranchers did not respond yielding a 92.59% response rate. Another eight were incomplete or redundant (same family managing multiple properties), thus the analysis of member values is based on 67 valid survey responses. Information from the surveys offered additional evidence used to triangulate the interview data and explain our direct observations (Rossman and Wilson, 1984).

During our fieldwork, four critical events took place. We consider the strategic decision-making as the economic action of the supply network. The decision processes and outcomes of these events marked important changes for the co-op. The first two events represented how CNB historically arrived at difficult decisions through consensus; the latter two describe crises that drastically changed the co-op in terms of member dynamics, governance and supply network structure. We use these four key events and contextual insights to understand cultural embeddedness and build a theory of cultural embeddedness in supply networks. Key event analysis has been successfully deployed in both ethnographic and organizational studies (Geertz, 1973; Griffin, 1993; Heise, 1991). In process theories, the unit of analysis is the event. We leverage these four events to understand and explain how cultural embeddedness operates as a mechanism that induces change in the network (Poole, Van de Ven, Dooley and Holmes, 2000; Van de Ven and Sminia, 2012).

When we directly participated in meetings and events, we made a conscientious effort to remain neutral. This is critical given that decision conflict is the focus of our research questions. Instead, we took the perspective that co-op members have varied social backgrounds and political ideologies; we always tried to understand members' rationale and actions from their positions.

3.3. Data analysis

We follow the grounded research procedure in data analysis and theory development (Emerson, 2001; Glaser and Strauss, 1967; Miles and Huberman, 1994; Strauss and Corbin, 1990; Suddaby, 2006). We adopt a constant comparative method of qualitative analysis (Glaser and Strauss, 1967, Chapter 2). With this method, data collection, coding and analysis take place

at the same time as explicit coding and analytic procedures to generate a systematic theory. We compare decision-making across the four major events to come up with a plausible understanding of culture and cultural embeddedness at the node and network levels and generate propositions of cultural embeddedness in supply networks.

Each researcher coded interview transcripts and meeting minutes individually. Reading the meeting minutes after direct observation often offered insights and different interpretations of what took place at the meetings. In the coding process, we saw that discourse (and rhetoric) deployed in decision-making debates shed light on culture and cultural embeddedness at both the node and network level.

First-order coding describes “what-is-going-on” in each event. Primary cultural elements were derived inductively from the interview transcripts and the co-op's archival documents. Table 1 delineates the coding categories that emerged from the data analysis. Throughout the coding process, any discrepancy in our interpretations of the data and codes were discussed until we reached agreement. When we used different information from the transcript in coding, we not only recoded the data, but also determined how to handle any additional information to reach a consensus before creating a construct. For instance, early in our independent coding, results suggested we coded "value," "ideology" and "logic" differently. We consulted formal definitions of these constructs and discussed the patterns of discrepancy to find a practical solution. This forced us to clarify the operational definition of these constructs (Wacker, 2004). We came to agree that *value* refers to judgments or evaluative statements concerning ethics/morality and the norms/adequacy of behaviors and strategic actions of the co-op and its members (in issues of autonomy, integrity, change or adaptation, for example). *Ideology* refers to beliefs concerning social causes, politics or matters of public policy (e.g., co-op principles of democracy,

libertarianism). *Logic* consists of preconscious and taken-for-granted habits or routines (e.g., community logic of mutualism, market logic of competition). The values are articulated in the debates and dialogue concerning specific issues facing the co-op, whereas ideologies and logics are implied by the articulated value statement. The second columns in Tables 4 through 7 provide examples of our coding of these basic elements of culture.

(Table 1 about here)

Based on the first-order coding, we carried out axial coding to create second-order constructs. The iterative process involved ongoing discussion among researchers and revisiting first-order coding and the original transcripts. For instance, juxtaposing the three codes (values, ideologies and logics), we see that multiple contentious assertions were made during each event, concerning values and ideologies. Such analysis led to the new construct *cultural multiplicity* and inquiries about the mechanisms and tensions inherent in values, ideology and logics. Our inquiries led to the emergence of such additional constructs as negotiation and settlement of cultural elements, culture maintenance and eventually a new understanding and formal definition of cultural embeddedness.

We assessed the trustworthiness of this qualitative research by applying two overlapping sets of criteria (Flint, Woodruff and Gardial, 2002). Following established procedure in business research, we focused on credibility, transferability, dependability, confirmability and integrity (Hirschman, 1986; Lincoln and Guba, 1985). We also considered the criteria of fit, understanding, generality and control common to grounded studies (Strauss and Corbin, 1990). Table 2 demonstrates that our data and analysis met these criteria.

(Table 2 about here)

3.4 CNB background

Country Natural Beef started in 1986 during the farm crisis in the U.S. Led by a charismatic couple, "Doc" and Connie Hatfield, fourteen ranch families from central and eastern Oregon saw an opportunity to market natural beef directly to health food stores and restaurants in Portland and Seattle. Natural beef is free of antibiotics, growth hormone or feed additives. The co-op went through two growth periods in 1992 and 2003 (see Table 3), eventually leading to slightly over 100 ranch families at its 2008 peak. The co-op extended across eight western states, the majority in the high desert regions of Oregon, Idaho and Washington. In aggregate, co-op members had approximately 100,000 mother cows on 500 million acres of rangeland with annual sales reaching \$55 million in 2011. At the same time, about two-thirds of CNB's sales went to a rapidly growing natural food supermarket (Grocer, henceforth), making CNB highly reliant on a single customer.

(Table 3 about here)

Each family is a production unit, with one vote in the co-op. We consider each as a member or node in the CNB supply network. A ranch family with less than 200 mother cows often hires part-time employees; larger ranches can have more than thirty full-time employees. CNB has four members with more than 3,000 mother cows. One of them also owns the feedlot that handles CNB cattle before they are sent to slaughter. The big ranch operators have tacit

influence beyond their votes because they are able to adjust their cattle delivery schedules to help the co-op better meet fluctuating retail demand. They also have strong experience in large ranch operations. Three of them are elected managers of the co-op and one served as its chairman.

CNB is a leading practitioner of holistic land management. Each member's operation must have Food Alliance certification, which covers soil, water, habitat conservation, biodiversity, labor practices and animal welfare. CNB's founding principle is "consumer-driven, producer-controlled." Its bylaws stipulate such core values as "respect, integrity, honor and trust." Women are actively involved in the co-op's operations and decision process, which is unusual within the male-dominated U.S. ranching culture.

Inter-personal relationships among members before joining CNB tended to be local. Typically CNB members are loosely affiliated with local Cattlemen's Associations; they are often considered outliers by their peers because of their collaboration with environmental groups and urban customers who clash with ranching communities on a variety of natural resource management issues. Our postal survey suggests CNB members have very strong libertarian values as well as above-average environmental values (see Table 3). In several internal memos, CNB members quipped that they are "libertarian conservative environmentalists."

CNB elects a chairman and three "internal partners" (managers henceforth) with production, marketing and finance responsibilities. Under its original charter, the co-op had two weekly teleconferences. Members made crucial decisions not by voting, but by discussing issues until they reached consensus. Typically such decisions were approved and adopted at the biannual face-to-face meetings. The meetings always opened and closed with a so-called "Full Circle"—an adaptation of the "council circle" practice of Native Americans. This was an important ritual where members took turns and openly expressed their opinions. Members with

exceptional service were “honored” during the meeting, when all members gave standing ovation. Each CNB member was required to do one “in-store demo” per year, during which ranchers, donning cowboy hats and boots, engaged meat managers and shoppers at the retail stores. This was often a cultural shock to new members who drove to the cities to interact with customers. As one of the founders joked, "CNB does not sell meat, we tell stories."

3.5 Value and ideology-based subgroups

Over the period of our fieldwork, we noted that members can be categorized into three archetypal subgroups based on their values, ideologies, ranch operations and positions on critical issues. We call the three groups the *agri-businessmen*, the *conscience of the co-op* and the *silent majority*. Admittedly, this broad-stroke classification does not capture the nuances of members' values and ideologies. And there are “boundary spanners” making the boundaries between subgroups porous. Nonetheless, this categorization is a practical way to delineate the camps of competing values and ideologies and visualize the interest groups observed across the events.

Represented by the managers, *agri-businessmen* typically have larger ranch operations with a strong motivation for growth. They claim strong libertarian values and are experienced ranch operators with business acumen. They are keen on operations efficiency and tend to have a top-down management style reminiscent of industrial cattle ranching operations. They consider the unique brand identity of CNB and its product attributes as competitive weapons to be leveraged in the marketplace.

The *conscience of the co-op* stands opposite to the *agri-businessmen*. It is made up of mostly small and some medium-sized ranches. Often they are perceived as inflexible or stubborn when it comes to interpretation of co-op bylaws. To them, CNB is a vehicle to attain cooperative

ideals; any deviation raises the question of integrity. They are very relationship-oriented and are vocal with their opinions on ethical issues and not shy about sharing emotions or opinions.

In between them is the last subgroup, the *silent majority*. They are not as vocal on issues as the other two subgroups. They relate to both the practical and idealistic sides. Their needs and experiences add perspective to the debates; they change the substance of the discussion as well as the dynamics of decision processes. The common trait of *silent majority* is that they typically do not initiate debate; they react to issues and demands.

3.6 Events Description

Decision processes constitute the economic action of interest in this study. Here, we try to keep the description succinct to convey digested interpretation of the cultural factors underlying each decision, which allows us to further abstract theoretical insights from comparison across the events. We provide "sound bites" from the decision deliberation and debates in Tables 4-7 to exemplify the role of culture in the decision deliberation process during these events.

3.6.1 Event 1: The union crisis (2007-2008)

In summer 2007, more than 50% the feedlot's workers signed authorization forms requesting representation by the United Farm Workers (UFW); this majority would require the employer to recognize the union. However, Oregon law did not cover this process. UFW staged protests at several of Grocer's retail locations when the feedlot resisted its demands. Without consulting CNB, Grocer made a hasty statement that it wanted CNB to stop using this feedlot.

Grocer's statement and UFW's boycott united CNB members. CNB told Grocer that it would not abandon the feedlot. After extensive discussion with the feedlot and Grocer, CNB

decided to step in and mediate (See Table 4). Internally CNB justified their support of the feedlot as they “respected the business partner’s choice” instead of being “shoved and pushed” by the UFW and Grocer. For the same reason, CNB was also concerned about the “workers as partners” who had “take[n] care of our cattle.” CNB proposed to sponsor a secret ballot vote, to be monitored by retired judges and pro-union organizations. Eventually, through mediation from various state agencies, the feedlot made concessions and unionization went forward.

(Table 4 about here)

3.6.2 Event 2: Out-of-program cattle crisis (2008-2009)

The “out-of-program” (OP) cattle crisis started in August. OP cattle are those animals that arrive at the feedlot and get sick. Subsequently, if they do not improve with natural remedies, they are treated with antibiotics and can no longer be labeled as a natural product. Several small ranchers with multiple OP cattle suffered serious financial losses. With no clear causes, two contentious issues emerged when the crisis abated in the fall: Who—the ranchers or the feedlot—was responsible for the illness and more importantly, whether the co-op should create an insurance policy and compensate the members with serious financial losses (see Table 5). A general sentiment emerged after several months of discussion before the yearly meeting: the feedlot probably should shoulder some of the cost and an insurance plan should be devised. At the meeting, a tentative proposal was presented. A few reluctant ranchers still considered the proposed compensation a “subsidy.” Informal negotiation lasted into the evening. When a revised compensation proposal was presented on the last day of the meeting, one rancher appealed to the “moral obligation of the co-op,” pointing out the strategic importance of keeping

members with significant OP losses in the co-op at a time of rapid growth. That was the turning point. The proposal was unanimously adopted by the 100-plus members.

(Table 5 about here)

3.6.3 Event 3: Animal welfare standards (2009)

In the winter meeting, Grocer asked CNB to consider adopting an animal welfare standard. Members agreed to study the criteria without making any formal commitment. However, a week after the meeting, Grocer announced that all suppliers would be required to meet entry-level criteria by the end of the year. This mandate made many members furious. It reminded them of how Grocer had coerced CNB during the union crisis. Some proposed that CNB should assess and repair its relationship with Grocer before discussing the standard. The *agri-businessmen* (especially the managers) were more receptive, arguing that the co-op should adapt to the needs of its largest customer (see Table 6). The managers worked to persuade a group of members to go through the standard's audit as a pilot project. While they all had passed the entry level requirement, about a quarter of the members had stopped placing cattle through CNB. Several members clearly refused to let Grocer tell them how to ranch. In an open letter of resignation, one rancher voiced his loss of trust in CNB's leadership because the co-op had deviated from the consensus-based decision process.

(Table 6 about here)

3.6.4 Event 4: Purchasing cattle and bylaw change (2011)

At the start of the year, Grocer wanted CNB to supply more meat as both the animal welfare mandate and a continuous drought in the western states had reduced beef supplies from its other producers. Meanwhile, CNB's production capacity had diminished due to member withdrawal. Incumbent members were reluctant to commit more cattle because they could make the same money by selling through the commodity beef market and avoid "natural" standards. The managers proposed that CNB purchase cattle from outside, cautioning that a supply shortage would force Grocer to bring in competing suppliers. Several members pointed out that purchasing cattle would mean a fundamental change to the co-op's business model and its claims of full cattle ownership. Purchasing cattle using external capital would also require a change in the co-op's by-law (See Table 7).

In the fall, the managers submitted another proposal to the co-op. They proposed a change to co-op governance wherein the managers would be accountable to an elected board but would be in charge of day-to-day decisions. They argued that this change was necessary to make timely decisions in a fast-changing marketplace. The proposal stirred up an emotional debate among members. Members argued that the proposed change was a violation of the co-op's founding principles, which effectively demote members as owner to suppliers if they no longer participated in decision-making. Nonetheless, the managers insisted on a vote; the eventual vote ended up with many *conscious of the co-op* casting dissenting votes. A facilitator was designated to mediate between the two sides. A new vote met the quorum requirement and the proposal passed after some technical adjustments. However more members left the co-op in the ensuing months.

Ultimately a joint venture among CNB, the feedlot and the slaughterhouse gave CNB access to capital to purchase natural beef cattle on the open market. By the end of our data collection, we observed that the remaining ranchers became less engaged during the teleconference calls. The last meeting that the researchers attended had a different atmosphere and format. The Full Circle was gone. Discussion and debate on values and mission were absent.

(Table 7 about here)

4. Results

The four events took place at the inflection point of CNB's evolution. The vicissitudes of these events, together with our direct observations, allowed us to look closer into the culture at a time of network transformation and its role in that transformation. We found three central themes: cultural multiplicity, cultural maintenance and cultural embeddedness. Together, they provide an integral and holistic understanding of culture in co-op supply network.

4.1 Cultural multiplicity

Our analysis supports the three salient cultural elements articulated by DiMaggio (1990): values, ideology and logics. We call them cultural multiplicity and provide a distilled illustration of this construct in Table 8. At the individual level, members hold competing values and ideologies. At the network level, by-laws mitigate the contradictions embodied in these cultural elements. The co-op members are able to combine and synthesize the competing values and logics to justify a strategy or negotiate a settlement. The competing cultural elements demonstrated duality of cultural multiplicity, which provides stability to the network. However,

the dynamic interplay of competing cultural elements unraveled in the last two events. To legitimize the new logic and mitigate opposition, agri-businessmen used the vocabulary that CNB members associated with existing community logic. For instance, "equity" was no longer construed as "fairness"; the managers argued that the co-op was only equitable if voting rights were proportional to one's cattle placement quantity—linking equity to ownership as in a shareholding company. The eventual metamorphosis of CNB raises theoretical questions as to whether market and community logics are mutually exclusive and the practical question of whether the eventual dominance of market logic was inevitable at CNB.

(Table 8 about here)

Our analysis suggests that conceptually community logic does not negate competition or efficiency. Why then, had these values and ideologies become incompatible, leading to the eventual defeat of community logic and consequent drastic change within half a year?

We find that the rivalry among values, ideologies and logics and resulting cultural shift are context-specific. For CNB, the dynamic interplay of competing cultural elements was nurtured and sustained by the ritual, ceremony and network routines. The constructive interactions among competing cultural elements collapsed because of changes in decision-making routines and the displacement of rituals and ceremony.

4.2 Culture maintenance: Ritual, ceremony and routines

Ceremonies, rituals and routines enact, produce and reproduce culture. At CNB, rituals, ceremonies and routines were an integral part of the governance mechanism to maintain the

culture of the supply network. The Full Circle at the bi-annual meetings was both ceremonious and symbolic. At the Full Circles, we observed clean and pressed cowboy attire, meticulous manners and the chivalry and pride associated with the idealized western rancher. We also heard emotional exchanges—members held nothing in reserve when questioning conflicts of interest or the motives of managers. With a preconceived notion of western ranchers as stoic and reticent, the emotions displayed at the meetings came as a surprise during our early fieldwork. Gradually we realized that the emotions reflected a strong sense of integrity and pride. When a contentious decision was approved at the closing Circle, one could sense a palpable catharsis. The obligatory in-store demonstrations reminded members of their unique identity; most ranchers would have never met or spoken to urban consumers otherwise. Lastly, the regularity and conversational format of the weekly teleconferences interrupt the “normal life” and work on the ranch. They sustained a sense of belonging among members who lived in remote rural areas.

These rituals, ceremonies and routines were essential to the consensus-based decision processes. It was difficult for an outsider to fathom how more than one hundred families could reach a unanimous agreement. Gradually we realized that the inefficient and emotionally draining meeting was the indispensable path to consensus. Reaching consensus was not straightforward financial bargaining. Through this “messy” process of talking about feelings, concessions by skeptical members were construed as personal sacrifice for the common good. Members propounded innovative solutions leveraging the cultural multiplicity of the network as a resource. In the final two events, to many members, the *agri-businessmen* violated cultural claims and behavioral codes once they displaced the consensus-based decision processes. Withdrawal from the co-op was the economic action of many members. Thus, the ceremonies, rituals and routines were both means and ends. Without them, there would have been no

consensus, nor to many, any meaning to being a co-op member. Cultural multiplicity and cultural maintenance provide us the essential vocabulary to understand and articulate the concept of cultural embeddedness in supply networks.

4.3 Cultural embeddedness

Cultural embeddedness concerns the influence of institutionalized culture on the economic actions of agents. Zukin and DiMaggio (1990, 15-17) consider such institutionalized culture as “shared understanding.” This notion of “shared understanding” is rather ambiguous. It implies a general agreement on the meaning of culture within a given social group. In light of cultural multiplicity and the rivalry among competing subgroups at CNB, we conclude that members often do not agree on the meaning of the culture of the network. “Shared understanding” therefore does not define the institutionalized culture of a network, nor does it explain how members relate to it. CNB provides us with the opportunity to systematically articulate this construct.

Understanding cultural embeddedness starts with arraying the cultural elements into multiple levels of analysis. At the individual (or node) and group levels of the CNB network, each member embodies competing values and implied ideologies and logics. Subgroups emerge among members with similar cultural dispositions, economic interests and actions. What we find is that, despite the individual-level cultural differences, members *identify* with the culture of the network. The culture of the network is articulated through their joint claims on the idealized values and ideologies of the network, which are manifested in its bylaws, missions and sustainability positioning in the marketplace. It incorporates both environmental and libertarian values, as well as cooperative and market ideologies.

However, identification with the culture of the network does not mean members agree on the exact meaning of that culture. As CNB members deliberate concrete business issues, they negotiate temporal settlement of their cultural interpretation and justify the collective decisions through the lens of the network's value claims. Throughout deliberations, members aggregate, synthesize, abstract and institutionalize cultural elements from individual members at the node level. Table 8 illustrates the negotiation and settlement of cultural elements in the first two events, and members' claims and identification with the institutionalized network culture as battled in the final two events.

Thus, simultaneous consideration of cultural identification at the network level and cultural settlement at the individual and subgroup levels provides conceptual clarity of cultural embeddedness in co-op networks. Figure 1 describes cultural embeddedness as the interactions of institutionalized culture at the network level and negotiated settlement of cultural elements at the member level. Such understanding also explains how cultural embeddedness constrains and enables the economic actions of members and the network at the same time. On the one hand, the specific contents of cultural elements regulate and inform the choices of economic action of members and the groups they form; on the other hand, the negotiation and synthesis of culture elements through the consensus-based decision process engender novel solutions that transcend the contradictions in those cultural elements.

(Figure 1 about here)

Building on the institutional-theory oriented concepts of embeddedness and cultural embeddedness (DiMaggio, 1990; Granovetter, 1985; Polanyi, 1944) and insights from this study, we are able to provide a conceptual definition of cultural embeddedness in co-op networks:

Cultural embeddedness is the extent to which the economic actions of network members and network itself are influenced by the culture that they claim and identify with. That culture arises from the combination, synthesis and abstraction of competing elements (values, ideologies and logics) of the network members through a negotiated decision-making process.

5. Theorizing cultural embeddedness and co-op networks

So far, we have delineated cultural elements, explained how culture sustains itself dynamically and defined cultural embeddedness. We concluded that members' identification with the institutionalized culture of the network indicates cultural embeddedness. This assertion corroborates DiMaggio's argument that cultural embeddedness explains how individuals go about their business, what they exchange and with whom. Attributes of food are culturally defined; not surprisingly, we find that cultural embeddedness explains how ranchers relate to their product and production methods. At CNB, beef embodies the members' values and ideologies. As a result, economic activities and exchange relationships carry cultural meaning. For these independent cattlemen, the proper approach to economic activities (with whom they exchange and what they exchange) are explained through the institutionalized culture of the network. At the network level, business strategies are the negotiated result of opinions and strategies of the culturally embedded members.

We now move on to address the two theoretical questions we raised in this study— how cultural embeddedness advances our understanding of the economic actions of members and the network, as well as implications for the network itself. To do so, we not only need to generalize the patterns observed from these four events but also assess the events and decisions in the broad context of the co-op's evolution and social-economic environment. We will provide a set of propositions that delineates a theory of cultural embeddedness in the co-op supply network.

Agricultural co-ops are a product of harsh economic conditions, which in turn put an imprint on the culture and organizing principles of co-ops. Historically, co-op values and ideology, based on Rochdale Principles, recognize the plight of small and medium-sized farmers and assert their economic interests (Dunn, 2002). CNB members fought a similar battle a century later trying to break free from the grip of the commodity market. Common threats and farm crises led to the formation of the co-op. The culture of the network emerged in the process of confronting economic adversity and establishing itself in the marketplace; it speaks to the common experience of economic hardship and the camaraderie of a disadvantaged social group. Circling the wagons, members of the network tend to act collectively when their common interests are threatened, as evidenced in the first two events.

The dynamic interaction of competing cultural elements characterizes the decision making process in CNB. As discussed earlier, these competing elements suggest the duality of network culture. Members make compromises and reach conditional settlement as opposing cultural elements are configured to provide a coherent rationale for critical decisions. Through each decision event, the culture of the network is instantiated and renewed. Further, while the decision-making is spontaneous, the outcome is by no means haphazard. That is, the decisions are a result of the interactions among members jockeying with competing arguments.

Nonetheless, one can anticipate that decisions are guided by the community-oriented logic upheld by culturally embedded members. Cultural embeddedness facilitates constructive clash and conflict resolution among cultural elements, which induces stability and resiliency in the network.

However, as the co-op attained economic success and went through leadership transitions, the binding power of the network culture characterized by community logic started to attenuate. As evidenced in the last two events, while members still resorted to the claims of the culture as strategic resource, increasingly diverse interests and diverging economic opportunities induced changes in the network culture. Members reinterpreted network culture and reconfigured the cultural elements of the network. As discussed earlier, the notion of “equity” was interpreted by the *agri-businessmen* to justify a growth-oriented strategy and bylaw change. Economic prosperity dissuaded members from compromising and reduced overall member identification with the institutionalized culture. When the more powerful *agri-businessmen* were able to implement critical changes in governance and operations practices, cultural shifts toward a market-oriented logic became inevitable.

Proposition 1a: Shared economic interests and adversity induce network members’ identification with a network culture characterized by community logic.

Proposition 1b: When network members have stronger cultural embeddedness, they are more willing to compromise and engage in collective action.

Proposition 2a: Strong economic position and diverse economic interests attenuate members' identification with a network culture characterized by community logic.

Proposition 2b: Differential power and influence of member groups in the network facilitate changes in network culture.

Corroborating the institutional theory understanding of the contingent nature of embeddedness, we show how cultural embeddedness influences network development in terms of size and growth potential. As discussed earlier, the institutionalized culture of the network arises from the negotiation and settlement of competing cultural elements brought forth by the members (See Figure 1). They often view the abstract values and ideological claims of the network as referring to specific events, production practices and relationships, which in turn contextualize the institutionalized culture of the network. For instance, at CNB, sustainability implies specific ranching and land management practices, the social and economic well-being of independent, small to medium-size family ranches and the corresponding relationships among members and customers.

More importantly, those operations, practices and relationships are invoked to assess new practices and prospective relationships. Any misalignment raises the question of deviation from the claims of existing culture. At CNB, the proposed new practices (i.e., purchasing cattle and animal welfare standards), new structure (governance change), and new external relationships (expansion through member recruitment) were assessed and interpreted through established "norms." In this sense, existing culture (understood through existing practices, network structure

and existing relationships) can delimit network development in terms of size, scale and geographical scope.

Proposition 3a: Existing operations practices and relationships in a supply network contextualize and validate the cultural claims of the network.

Proposition 3b: Culturally embedded members assess new practices and relationships based on their alignment with the existing ones.

Proposition 3c: When the aggregate cultural embeddedness of members is high in a supply network, existing operations practices and relationships will have a strong influence on the development trajectory of the network.

Cultural embeddedness is built upon mutual trust. Equal participation in the network's affairs suggests participant-governed network governance (Provan and Kenis, 2007). The consensus-based decision-making in CNB required the involvement and commitment of the full membership. Members were willing to engage in meaningful negotiation and make compromises and sacrifices because they believed that all members, especially the managers, worked in the best interest of the network.

When trust is breached, members no longer compromise. The value and ideological claims become the rhetoric of power struggle rather than resources to seek out innovative solution. As shown in the last two events, cultural embeddedness decreases as trust dissipates. Consequently, members reconstruct the cultural elements to invoke cultural change. The

conscience of the co-op upheld the canon of the co-op principles whereas the *agri-businessmen* espoused market logic. Both sides cited their viewpoints as strategies to sustain competitiveness. The network size and structure went through precipitous change as members departed, which enabled the *agri-businessmen* to change network governance and production and operations practices. Ultimately, we witnessed the emergence of a hierarchical network structure as managers accumulated power, representing qualitative change of the co-op network, with future growth likely more constrained by access to capital than by the cultural embeddedness of its members. In fact, changes of governance and operations practices signified a metamorphosis of the network because they changed the fundamental principles governing the first 25 years of the co-op.

Proposition 4a: Strong cultural embeddedness of network members induces stability of the network.

Proposition 4b: Breach of trust can weaken members' cultural embeddedness, which leads to network structure change, cultural evolution, and qualitative change in the network's development trajectory.

6. Discussion

DiMaggio (1990) pointed out that culture provides normative scripts prescribing exchange: namely, what can be exchanged, with whom and how to go about it. This is what we discovered at CNB. Although sales, inventories, customers and markets are on the mind of ranchers as they are in any modern production supply network, the difference is that culture is

always front and center as the ranchers discuss, deliberate and decide. Culture permeates multiple levels of the co-op's economic life. We discovered that culture influences the economic rationale of individual ranchers, engenders collective action from member groups and the network, and incites changes in the network.

This study makes three theoretical contributions. First, we take an incremental step to develop a theory of cultural embeddedness in supply networks. Existing studies on structural and relational embeddedness explain how and why agents benefit from given positions and connections in a network. Our theory explains why agents choose to act the way they do and how their aggregate actions have group and network-level implications. We explicate the concept of cultural embeddedness and propose a mid-range theory that links agents' actions to structural and relational changes in the supply network.

Second, our study contributes to institutional theory by offering a middle ground in the debate of under- vs. over-socialized arguments of economic life (Granovetter, 1985). On the one hand, we see that agents in a network interpret their economic needs and pursue them according to specific cultural logics. On the other hand, the culture in which those agents operate is characterized by multiplicity and is not deterministic. Agents configure cultural elements to their advantage as evidenced by the rivalry within the co-op at times of crisis. We also delineate how agents, for reasons good or bad, can break free from the dominant culture and induce cultural changes. Hence culture provides practical resources for them to navigate economic life and experiment with new approaches.

Third, we bring attention to a unique yet important form of supply network. Cooperatives are active players in many sectors of the economy including agriculture, housing, healthcare, retail, banking, utility and manufacturing. There is a growing interest in cooperatives as business

researchers explore alternative models of governance and sustainable development (Boone and Özcan, 2014; Mazzarol, Reboud, Limnios and Clark, 2014). Our study underscores the fact that supply network research can offer a rich understanding of cooperatives by explaining the social and technical processes that take place within them. We hope our effort will stimulate additional research on cooperatives to build strong theories on cooperative supply networks.

This study has practical implications in agricultural cooperative management. Sustainable agriculture is built upon a premise of holistic natural resource management and the adaptation of farming/ranching practices to geography and local knowledge (Scott, 1998). When a downstream buyer, operating according to market logic, exerts stress on the social fabric and production capability of a cooperative supply network, the vitality and innovative capability of the supply network erodes. Specifically, Grocer in this study probably was not well informed about how its animal welfare initiatives could have such an adverse impact on CNB. Had Grocer better understood CNB's culture, the crises of Events 3 and 4 might have been averted; in addition to individual business and co-op management, buyer development and education are incumbent on co-ops and their members.

The relevance of cultural embeddedness goes beyond agricultural production. Researchers recognize the influence culture of firms exerts in modern supply networks. Culture is typically conceived of as an exogenous force, viewed as place-based or industry-specific. Our study suggests that managers also need to understand the culture of agents in a network and the cross-level interactions of cultural elements that in turn influence the economic actions of agents or firms.

This study has limitations. First, the cooperative is a unique form of supply network and CNB is idiosyncratic in terms of the institutional environment in which it resides. We caution

against over-generalization of cultural embeddedness in supply networks from this analysis of the co-op form of network. Further, the cultural elements and their contents are also specified from a single research setting and they are by no means comprehensive. One must look into the cultural setting of a given supply network to understand its functioning.

Second, while we strive for succinct depiction of important cultural elements that influence members' economic action, what is lost is the refined understanding of individual cultural differences among members. For instance, the *silent majority* is made up of members with diverse personalities and cultural backgrounds. Our explanation of their strategies and behavior is cursory. A more in-depth understanding of these members would enable us to better describe the group dynamics and resulting structure of the network.

This study highlights the many challenges facing sustainability-oriented agricultural cooperatives. At the same time these challenges raise important theoretical questions for future research. The first one is the growth dilemma of cooperatives. A co-op's success leads to struggles managing growth and the risk of diluting its principles. This is not unique to CNB. Studies suggest that some co-ops chose to demutualize (Standford and Hogeland, 2004), which led to the supposition that the cooperative is a transitional form of economic organization (Chaddad and Cook, 2007; Hansmann, 2000). We argue that the growth dilemma taps into the question of institutional stability and change. Supply network research offers a unique opportunity to understand the micro-process of institutional change because it looks at both the agents of change (nodes) and changes manifested in evolving relationships, processes and culture.

In addition, as DiMaggio (1990, 1997) pointed out, cultural embeddedness and cognitive embeddedness are closely linked. Future research should explore the theoretical connection

between them. Such understanding has practical implications as well. As we discussed earlier, existing practices and relationships in a network inform members' perceptions of the propriety and utility of new ones. With CNB, we posit that a strong sense of place and origin influences how members cognitively cope with the prospect of growth beyond the landscape that defines them and their product (Skilton and Wu, 2013; Tuan, 2001). In this sense, cultural embeddedness is invariably associated with cognitive and even ecological embeddedness (Bateson, 2002; Whiteman and Cooper, 2000). Theoretical clarity of such embeddedness is important to firms' strategies in natural resource oriented networks and with sustainability issues.

Lastly, from the standpoint of complex systems, the growth dilemma can be considered as a challenge of managing nested systems with different scales. A food system consists of nested subsystems including farms, co-ops, common pool resources in a region (e.g., water or range land) and the regional and national food distribution and retail infrastructure. Each of these subsystems potentially brings with it a unique culture and culturally embedded members. Understanding these cultures and managing how subsystems co-adapt and evolve will help us build a more sustainable food system (Newman and Dale, 2009; Peterson, 2000; Wilbanks and Kates, 1999). The dynamics inherent in nested systems point to the complex adaptive nature of supply networks (Choi, Dooley and Rungtusanatham, 2001). Culture can humanize such complex adaptive systems and render them more comprehensible by revealing the agents, actions and processes.

This study examines cultural embeddedness based on one unique cooperative. The contents of the cultural elements (e.g., environmental or libertarian values) are specific to this co-op supply network. Future research should include other theoretically meaningful supply network settings to identify other cultural elements (e.g., religion, professional logics) at the

node and field levels. By comparing multiple supply networks, we gain insights on the different mechanisms and processes through which cultural elements interact to construct a network culture. Such insights will also further enrich and validate our understanding of how cultural embeddedness affects the economic actions of firms and structuration of supply networks.

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Appendix: Interview Protocol¹

Overview of member experience in CNB (1st phase of data collection).

1. Ranch information, your role and involvement in CNB's operations.
2. Describe why you joined CNB, your interactions and relationships with other CNB members (use examples).
3. Explain how your ranch operations and practices (production, social-environmental sustainability) differ from those of non-CNB members in your community.
4. Describe the challenges that you have encountered in ranch operations, certification audits, interactions in CNB as CNB members (use examples).
5. Describe your in-store demo experience and your opinion of the customer (retailer and consumers).
6. In your opinion, the key strengths and challenges of CNB.

Questions regarding decision processes during the four critical events (2nd phase of data collection).

1. Describe your experience with any of the four event(s) – Union, Out-of-program, Animal welfare, Governance change.
2. Changes in CNB since you joined the co-op.
3. Describe your involvement in the decision-making process.

4. Your thoughts on the decision process and decision outcome.

Note:

1. Questions are customized to each interviewee based on the member's role in the co-op.

Table 1. Description of coding categories

Coding categories	Description
Cultural elements	<i>Instances where a co-op document, field note or interviewee's statements discuss, describe or interpret...</i>
• Value	Judgments and evaluative statements concerning ethics/morality and norms/adequacy of the behavior/strategy of members and the co-op.
• Ideology	Beliefs and doctrines concerning political and social causes, politics and public policy matters.
• Logic	Preconscious, taken-for-granted habits, routines that (a) underlie an economic action or, (b) shape the identity of the members and the co-op.
Rhetoric	Communication and persuasion strategy used in argument and debate.
Economic action	Decision-making process and consequent actions at node and network levels.
Relational characteristics	Relationship among members or between CNB and stakeholders in terms of trust, power, commitment or lack thereof.
Network characteristics	Structure of the network in terms of communication pattern described by network density, and subgroups/cliques, etc.
Culture maintenance	Regular activities including meetings, procedures, rituals and ceremonies.
Network governance	By-laws, rights of members, explicit and implicit control mechanism.

Table 2. Trustworthiness of the study and findings: Interpretative and grounded theory criteria

Trustworthiness criteria	Method of addressing trustworthiness in this study
<p>Credibility Extend to which the results appear to be acceptable representation of the data.</p>	<p>Prolonged engagement. A five-year longitudinal study with multiple data sources including interviews, survey, direct observation, archival data. Research findings were reported to multiple members of co-op and its external stakeholders. Results: Emergent models and propositions were revised and expanded.</p>
<p>Transferability Extent to which findings from one study in one context apply to other contexts.</p>	<p>Theoretical sampling, choice of a representative value-driven co-op network. Result: Conceptual model and theory represent perspectives from members of the co-op.</p>
<p>Dependability Extent to which the findings are unique to time and place; the stability or consistency of explanations.</p>	<p>Facts and interpretation of the events were triangulated by multiple members of the co-op and archival data. Participants reflected on the key events and changes taking place in the co-op. Result: Consistent interpretation of the events is found.</p>
<p>Confirmability Extent to which interpretations are the result of the participants and the phenomenon as opposed to researcher biases.</p>	<p>Authors of the study were involved in data collection, independent coding and data analysis. Audit trail. Data analysis procedures are described and kept in record. Result: Coding and interpretation are refined.</p>
<p>Integrity Extent to which interpretations are influenced by misinformation or evasions by participants.</p>	<p>Data triangulation through interviews of multiple participants of the key events and use of archival data. Interviews are conducted professionally. Interactions with the participants and the co-op are professional. Result: Never believed the interviewees were trying to mislead the researchers.</p>
<p>Fit Extent to which findings fit with substantive area under investigation.</p>	<p>Addressed through methods used to address credibility, dependability and confirmability. Result: Concepts were more richly described and extended. Theoretical integration captures the complexities of social dynamics in the network.</p>

Understanding

Extent to which participants buy into results as possible representation of their worlds.

Respondent validation. A research summary was distributed to a subgroup of co-op members to seek feedback on whether the results reflect their stories.

Peer-debriefing. A research summary was presented to researchers in operations management, organizational theory and agricultural economics and practitioners in cooperative management.

Result: Colleagues and researchers bought into the findings.

Generality

Extent to which findings discover multiple aspects of the phenomenon.

Addressed through methods used to address credibility.

Result: Multiple aspect and competing perspectives of the phenomenon were captured.

Control

Extent to which organizations can influence aspects of the theory.

Co-op network members have some degree of control of some variables within the proposed theory.

Result: Co-op members can influence relationships, decision processes and operations practices within the network.

Table 3. Descriptive Statistics of CNB members' environmental and libertarian values² (N=67)

Member tenure	Founding years starting in 1986, N=11	1st Wave of growth starting in 1997, N=19	2nd Wave of growth starting in 2003, N=37
Libertarian values			
• Economic freedom	6.061 ^{*3}	6.105	5.5*
• Individual liberty	5.273	4.974	5.162
Environmental values			
• Limits of resources	3.515*	4.061	4.635*
• Human-nature relation	4.303	3.737	3.689

Libertarian values—

I. Economic freedom.

- a. The government makes people nowadays less willing to look after themselves.
- b. The U.S. government has too much power to interfere in people's lives.
- c. Private enterprise is the best way to solve the U.S.'s economic problems.

II. Individual liberty.

- a. A good society is one where all kinds of different opinions and ways of life can flourish.
- b. People in the US should be more tolerant of those who lead unconventional lives.

Environmental values—

I. Limits of resources.

- a. The balance of nature is very delicate and easily upset by human activities.
- b. The earth has plenty of natural resources if we just learn how to develop them (R).
- c. The earth has limited space and resources.

II. Human-nature relationship.

- a. Plants and animals exist primarily to be used by humans. (R)
- b. Humans have the right to modify the natural environment to suit their needs. (R)
- c. Humans are destined to rule over the rest of nature. (R)

- 2. Construct validity testing is available upon request. Measurement scales are adapted from Dunlap et al., 2000.
Likert scale - 1: strongly disagree, 7: strongly agree. R: Reverse scaling.
- 3. *Paired t-test suggests statistical significance with $p < 0.05$.

Table 4. Union crisis debates

Quotes from decision deliberation and debates	Articulated value -- <i>Implied ideology & logic</i>
Disapproval of either the Union or Grocer's tactics (<i>agri-businessmen, conscience of the co-op, silent majority</i>) ⁴	
<ul style="list-style-type: none"> • CNB can never be bought or sold... and should not give in to the pressure from the union. When I think about Grocer I feel we have been pushed and shoved. I think it is important for us to have our own standards. 	Autonomy, integrity-- <i>Libertarianism, co-op principles</i>
<ul style="list-style-type: none"> • I would propose we put some thought into a strategy of how to develop a relationship [with Grocer].⁵ Maybe now is the time to press a little bit on how we have been treated. 	Partnership, fairness-- <i>Co-op principles</i>
Balancing the needs of various stakeholders and assisting Grocer (<i>agri-businessmen, conscience of the co-op, silent majority</i>)	
<ul style="list-style-type: none"> • We have some valuable loyal [retail] customers and they have stood behind us. Over emphasizing Grocer will hurt them. 	Fairness, partnership-- <i>Co-op principles</i>
<ul style="list-style-type: none"> • I would think the statement from CNB should be in line with our partner's (feedlot and Grocer) strategy. We want to support our [retail] customer where we can. 	Partnership, solidarity-- <i>Co-op principles</i>
<ul style="list-style-type: none"> • The feedlot and one IP of the co-op have interest in both companies. This conflict of interest creates a problem with trust from worker and public perspective. 	Integrity, transparency-- <i>Co-op principles</i>
Strategic positioning and actions (<i>agri-businessmen, conscience of the co-op, silent majority</i>)	
<ul style="list-style-type: none"> • If CNB doesn't in some way verify or validate the workers are begin treated fairly, it will be a vicious circle. We should verify social justice first. 	Fairness-- <i>Co-op principles</i>
<ul style="list-style-type: none"> • We have to be careful to be the judge between the feedlot and employees; that is out of our jurisdiction. 	Autonomy-- <i>Libertarianism</i>
<ul style="list-style-type: none"> • Our position is "the ranchers are concerned with workers because that they care for our cattle." 	Mutualism, solidarity, concern for community-- <i>Co-op principles</i>

4. Subgroup(s) of members who support this debate argument.

5. Words in brackets are added by the authors for clarity.

Table 5. Out-of program cattle debates

Quotes from decision deliberation and debates	Articulated values -- <i>Implied ideology & logic</i>
<p>Out-of-program should be the responsibility of individual ranchers (<i>agri-businessmen, silent majority</i>)</p>	
<ul style="list-style-type: none"> • [Out-of-program] is the kind of issue that is between you and the feedlot. • If CNB is going to take responsibility, there needs to be some requirements on how you manage the cattle. I do not think you start subsidizing Out-of-program just because there are out-of-program cattle. 	<p>Personal-responsibility--<i>Libertarianism</i></p> <p>Accountability--<i>Libertarianism</i></p>
<p>The co-op should help ranchers with wrecks (<i>conscience of the co-op, silent majority</i>)</p>	
<ul style="list-style-type: none"> • On a macro level all of us have out-of-program cattle; we want to get the dollars to people that have the wrecks. I believe you belong to the co-op for the co-op to help out. • It doesn't matter if your cows are perfect if [rancher's name] don't make it. It is all of our problem. If it is any rancher it is affecting the dollars. I think it will help us if we think that way. I feel strongly the co-op can't exist if we don't address each other's issues. 	<p>Mutualism--<i>Co-op principles, community logic of mutualism</i></p> <p>Shared economic responsibility and risk--<i>Co-op principles, game-theoretic business logic, community logic of mutualism</i></p>
<p>Reaching agreement on a compensation plan (<i>agri-businessmen, conscience of the co-op, silent majority</i>)</p>	
<ul style="list-style-type: none"> • We propose payment on the number of heads of over X%.⁶ In our minds anything less than X% is the cost of doing business. The X% number can move. If you don't want any risk then maybe you should sell them as calves. • By compensating on a year average [not a particular lot] for a ranch, there will be no incentive to keep placing for the winter months with higher fallouts. [But] Peer pressure and embarrassment will happen if you do it on a [placement] lot basis. 	<p>Personal responsibility, fairness--<i>Libertarianism, co-op principles</i></p> <p>Shared economic responsibility, fairness--<i>Co-op principles</i></p>

6. Real numbers are concealed for confidentiality.

Table 6. Animal welfare standard debates

Quotes from decision deliberation and debates	Articulated values -- <i>Implied ideology & logic</i>
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Resisting Grocer dictating the Standard on CNB (*conscience of the co-op, silent majority*)

- Our [advocacy] group didn't think we should allow Grocer to dictate our standards. They would like to see if we could build some trust between us and Grocer in how we handle cattle. We would develop standards we can live with.
- My integrity is not for sale. I won't lie to pass this. I would rather be broke than a liar. I think in this room we read the standard very literally. One of the reasons we are struggling is we don't want to give up being honest. [Name] is saying there is a lot of gray [in the Standard]. I read, "No means No."

Autonomy, relationship--*Libertarianism, co-op principles*

Autonomy, integrity--*Co-op principles, libertarianism*

Distrust of co-op leadership (*conscience of the co-op, silent majority*)

- I was going to suggest there is obviously some disgust with leadership. We believe that the discussion should make clear that we're not against the Standard, but that we need to reduce our [risk] exposure and maintain our authenticity.
- In my mind we don't have consensus that the Standard is mandatory at this point. How do we handle that process? I don't think we follow our usual procedure of consensus. I don't think it would be fair to the membership to say there was consensus to proceed.

Integrity, trust, risk management--*Co-op principles, libertarianism, prudence*

Democratic member control--*Co-op principles*

Supporting and working with Grocer on the Standard (*agri-businessmen*)

- How willing are we to embrace change? This is one part of our business that probably needs to change. If we want to stay in a strong position, we are going to have to look at change. We are going to have to reinvent our story to diversify from where we are today.
- What can we do for the Grocer? We need to have a real good discussion on what we can do together. We need to have markets.
- We can resist and make this difficult and tell our number one company we aren't going to cooperate. If you want to be a production driven group, I can probably sell it at commodity value. If we want to be consumer driven, we can push back pretty hard if we are the only [Standard] certified and we can probably get another dime or nickel out of Grocer.
- The river is moving pretty fast and changing. What it is going to boil down to is in some way through meetings and phone calls. We are going to have to make decisions to move forward. Right now the mandate is going to be the Standard and if you want to play you need to get on board.

Innovation, change, adaptation to market--*Business logic of competition*

Partnership, growth--*Business logic of competition, rational decision making*

Competition, competitive position in the market--*Business logic of competition*

Change, adaptation, efficiency--*Business logic of competition, rational decision making.*

Table 7. Purchasing cattle and bylaw change debates

Quotes from decision deliberation and debates	Articulated values -- <i>Implied ideology & logic</i>
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Questioning purchasing cattle strategy (*conscience of the co-op, silent majority*)

- We have gone away from our core values. We are not running our business but being mandated by one customer. CNB was born out of a desire to manifest one's own destiny by eliminating the middleman and making decisions as a cohesive cooperative. "Grassroots, local, rancher owned and operated, birth to boxes" still the most powerful part of our market difference. The professionals with deep pockets still cannot produce the ranch story.
- Have we had a candidate discussion about our commitment to grow with Grocer at a rate that reflects the growth, integrity, and sustainability of our own company? Is there the opportunity to grow store by store and continue to increase market share at a pace that is reasonable, profitable, and sustainable?

Autonomy, authenticity, co-op identity--*Co-op principles, business logic of differentiation*

Integrity, adherence to principles--*Co-op principles, refutation of growth-oriented market logic*

Questioning leadership & bylaw change (*conscience of the co-op, silent majority*)

- If we change the co-op structure, it fundamentally changes who we are. There would be absolutely no reason for a rancher to choose CNB unless he is going to receive a lot of money.
- The real issue is honor. It comes across as manipulation of ranchers. The whole point of the co-op model, honoring each member, is precisely what will be corrupted by a three-tier management structure. We feel that CNB lost members because their voice wasn't heard or members felt it was heard and ignored... People at the meeting were afraid to speak up because people did not feel safe.

Co-op identity, authenticity--*Co-op principles*

Co-op integrity, democracy, democratic member control--*Co-op principles*

Supporting purchasing cattle (*agri-businessmen*)

- I do not like where we are going, but to honor our contracts we need to do it.
- We have bought cattle before. This is not new territory but a tool that we use in the short term. We have heard from retailers that traceability is the issue, not [cattle] owned from birth. Purchasing cattle is a misnomer because it implies a cattle buyer. As long as they are bought by a CNB member that takes responsibility for that calf, it doesn't make a difference.

Partnership--*Business logic of competition*

Practicality, adaptability--*Rational business decision logics*

Supporting bylaw change (*agri-businessmen*)

- A small percentage of members is holding the co-op hostage. We need to get away from trying to guilt trip people into staying and get down to people that really want to be here. Rapid decision-making is required, marketing and production were required to make [it] happen at a break neck pace.
- It's important CNB maintains a rancher owned company but based on equity in a meat company by way of market price, premiums and shares or patronage. There are rumblings about maintaining the profit but if your money is not at risk, you are not acting as an owner.

Competition, change, adaptation--*Business logic of competition*

Ownership defined as ownership proportional to delivery rights--*Market-oriented logic, alteration of co-op principles*

Table 8. Illustrations of cultural multiplicity, culture identification, negotiation and settlement

Constructs	Quotes from the interviews
Cultural multiplicity	
Node-level cultural elements	
<ul style="list-style-type: none"> • Libertarianism • Cowboy ethics • Community logic • Business logic of risk-sharing 	<p>I do not think you start subsidizing Out-of-program just because there are out-of-program cattle. (Out-of-program)</p> <p>My integrity is not for sale. I won't lie to pass this. I would rather be broke than a liar. (Animal welfare)</p> <p>I believe you belong to the co-op for the co-op to help out. (Out-of program)</p> <p>It doesn't matter if your cows are perfect if [rancher's name] don't make it. If it is any rancher it is affecting the dollars. I think it will help us if we think that way. (Out-of-program)</p>
Network-level institutionalized culture	
<ul style="list-style-type: none"> • Sustainability • Cooperative principles • CNB bylaws (e.g. respect, integrity, honor and trust) • • Business logic of competition 	<p>Grassroots, local, rancher owned and operated, "birth to boxes" still the most powerful part of our market difference. (Purchasing cattle)</p> <p>CNB was born out of a desire to manifest one's own destiny by eliminating the middleman and making decisions as a cohesive cooperative. (Purchasing cattle)</p> <p>We have some valuable loyal [retail] customers and they have stood behind us... We want to support our [retail] customer where we can. (Union crisis)</p> <p>Rapid decision-making is required. Marketing and production were required to make [it] happen at a break neck pace. (Purchasing cattle and bylaw change)</p>
Negotiation and settlement of the cultural elements among members	<p>We have to be careful to be the judge between the feedlot and employees. (Union crisis)</p> <p>The feedlot and one IP of the co-op have interest in both companies. This conflict of interest creates a problem with trust from worker and public perspective. (Union crisis)</p> <p>We propose payment on the number of heads of over X%... The X% number can move. If you don't want any risk then maybe you should sell them as calves. (Out-of-program)</p>

Identification of the institutionalized culture of the network

The whole point of co-op model, honoring each member, is precisely what will be corrupted by a 3-tier management structure. (Bylaw change)
Is there the opportunity to grow store by store and continue to increase market share at a pace that is reasonable, profitable, and sustainable? (Purchasing cattle)

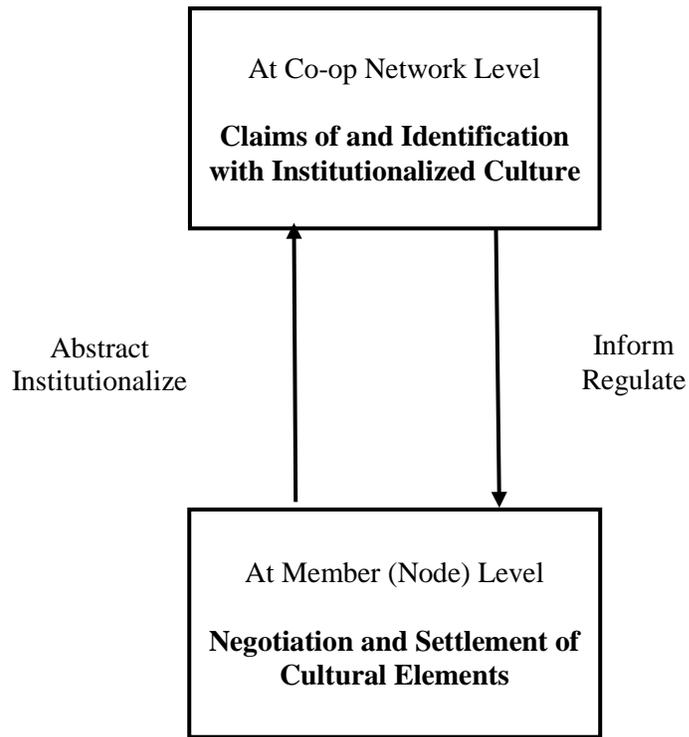


Figure 1. Conception of Cultural Embeddedness as Multi-level Interactions between Cultural Elements and Institutionalized Culture