

## Governance Mechanisms in Food Community Networks

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### Abstract

How do consumers and farmers organize credence food transactions? This paper discusses this issue through the concept of Food Community Network (FCN). A FCN is defined as an organization where consumers and farmers integrate their goals organizing a network. FCN is based on *pooling* specific resources and using membership-based contracts, to assign decision and property rights. It implies an organization based on a combination of several *democratic* and *communitarian* elements, with few *market-like* and *bureaucratic* ones. Based on those concepts this paper proposes a research to analyse the FCN governance mechanisms. Real case studies collected through an internet-based investigation on Community Supported Agriculture in North America have been found. Applying (i) new institutional economics and (ii) organizational science arguments, the case studies were used to determine features that are useful to describe how FCN governance works. On one hand we used (i) new institutional economics based features such as *pooling* resources and *contracting*; (ii) on the other hand *market-like*, *bureaucratic*, *communitarian* and *democratic* elements represent the organizational science approach. The results indicate a great variety of FCN organizational forms emerging in North America.

**Keywords:** *community supported agriculture, governance mechanisms, credence food transactions.*

### 1 Introduction

Farmers and consumers are setting-up new organizations to exchange food worldwide (Pascucci, 2010). This is especially evident when food has the features of a credence good, so the way it is produced matters more than other attributes it entails. In previous studies this type of organizations has been defined as alternative supply chains, civic food networks or food community networks (FCNs) (Renting et al., 2003; Auglia et al., 2008; Bougherara et al., 2009; Pascucci, 2010). In these organizations transactions of credence foods are carried out through a direct interaction of consumers and farmers, who share resources and stakes. In a more recent contribution scholars proposed a more formalized approach to define this organization, mainly through a new institutional economics oriented approach, and using Grounded Theory as a methodological tool (Pascucci et al., 2011). However a clear and crystallized definition of FCN is far to be achieved. In this paper we propose a further step in the direction of identifying the elements constituting FCNs. We mainly build our analysis on organizational design arguments, by comparing new institutional economics approach with a more recent contribution in organizational science proposed by Grandori and Furnari (2008). More specifically in this paper we investigate different case studies from North America, mainly using internet-based sources and literature review.

## 2 The design of Food Community Network organization

FCN is an emerging type of organization which often is challenging more traditional, “mainstream” type of organizations dealing with food production and distribution (i.e. supermarkets and hard discounts) (Hendrickson and Heffernan, 2002). More specifically FCN seems to be a competitive organization when it comes to exchange foods with higher degree of credence attributes. Those are foods for which “the way” they are produced and distributed is more important than “what” constitutes them (i.e. chemo-physical elements). Traditional organizations of credence foods are affected by the presence of several legally independent actors, like food companies, farms, public agencies and consumers (or households), which coordinate quantity and quality issues with means of standards, logos, brands and labels (Raynaud et al. 2005). All these actors have to deal with issues of asymmetric information and moral hazard problems, therefore often experiencing high level of transaction costs. Typical solutions are the use of organizations such as *bilateral contracts*, *strategic networks and alliances*, *vertical integration* (Ménard and Valceschini, 2005; Pascucci, 2010). Often these organizations rely on public monitoring (Vetter and Karantininis, 2002). However FCNs are organized in a different way. But how?

According to preliminary empirical evidence, FCNs have been described as based on a group of highly motivated consumers and a (group of) producer(s) that decide to vertically coordinate, and partially integrate, on the base of a long-term relationship to produce and transact credence foods (Pascucci, 2010). In this section we have further investigate the organization of FCNs looking at two theoretical approaches: new institutional economics and organizational science.

### 2.1 A new institutional economics perspective

To characterize FCN from a new institutional economics approach we can look, for example, at different dimensions of the *governance mechanisms* and namely the degree of resource *pooling*, type of *contracting mechanisms* which can be divided in type of *coordination*, and type of internal or external *competition* (Williamson 1991; Ménard, 2004; Ménard and Valceschini, 2005; Karantininis, 2007). The governance mechanisms used in the FCN are based on intense resource pooling, while coordination is based on limited authority and relational contracts (Pascucci, 2010). Moreover limited competition among the members is present while external competition with other organizations (for example super-markets) is very high. Following this approach we can see FCN as a *form of vertical integration* between consumers and farmers, leading to the constitution of a hybrid such as a formalized network. The integration process is based on using *membership* to assign decision and property rights, and driven by the need of sharing and pooling resources which are specific for the members. When membership is strongly formalized then the network assumes the form of a club which, in some cases, can lead to the legal form of a producer-consumer cooperative. Resource pooling and sharing is slightly different between consumer and producer members: (1) consumers provide time, information, knowledge and financial resources by participating directly in the organization of production process; (2) farmers provide land and capital assets but also specific skills and knowledge (Pascucci, 2010). They also transfer decision rights to consumers. On one hand consumers receive as pay-offs leisure and credence foods while decreasing transaction costs (i.e. the costs of monitoring). The time spent by consumers in the production process is assumed to be leisure time (Pascucci et al., 2011). The time allocated in the production process is either related to manual working and

to its organization (managerial tasks). The time allocated by consumers is also used to monitor the process, and therefore, to reduce the risk of producers moral hazard. Since consumers can coordinate participation (i.e. by turning the visits) and their time spending in participation is not a cost but an utility-enhancing activity, we can assume that the overall monitoring costs of the process can be considerably reduced by this mechanism. On the other hand farmers reduce part of production and transaction costs (i.e. labour costs, certification costs, etc.), uncertainty of specific investments and income instability (Pascucci, 2010). Producers reduce their production or transaction costs by allowing consumers to direct participate to the organization of production process. They also limited uncertainty and can reduce lock-in problems of investing in specific assets related to the credence food production.

## 2.2 *An organizational science approach*

New institutional economics is limited in addressing the “micro-elements” of organizations (Grandori and Furnari, 2008). This constitutes a main shortcoming when scholars are trying to analyse “new type” of organizations, for which empirical evidence are still limited. This is the case of FCN. Grandori and Furnari (2008) proposed to overcome such a problem by using a “chemistry of organization” type of approach. Building on three theoretical frameworks in the tradition of organizational science, namely complementary and configurational approaches, transaction cost economics and contingency theory approaches, they identify a “combinative approach” to analyse multiple effective organizational combinations under different contingencies (Grandori and Furnari, 2008). Their approach is based on the identification of basic elements, “building blocks”, which constitute an organization. More precisely they distinguish between four categories of elements such as: (i) *market-like elements*, which include price-like and control-by-exit devices; (ii) *bureaucratic elements*, including formal rules and plans, and articulation of the division of labor; (iii) *communitarian elements*, including knowledge and value sharing, and common culture; (iv) *democratic elements*, including the allocation of ownership, decision and representation rights. Market-like elements mainly refer to the capacity of coordinating action with minimal communication through highly powered incentives: bureaucratic elements are linked to formal elements of governance mechanisms such as formal rules, procedures and evaluation systems. Community elements are related to organizational practices infusing cohesion and aligning interests, for example through value and knowledge sharing. Finally democratic elements refer to the diffusion of ownership, decision and representation rights which enable the organization to integrate different interests among and between their members (Grandori and Furnari, 2008).

In this approach it is assumed that combination of different elements are not only possible but constitute the potential advantage of an organization. This is particularly useful in the case of FCN where a clear definition is still lacking and often contrasting elements persist at the same time. For example in market-like practices organization members base their decisions on the economic incentives they receive. In FCN consumers often pay a “market” price to farmers for the (box of) products delivered. Specific forms of “pay-for-performance” are also used. For example when the farmer receives a “premium” for “extra-quality” products, such as for niche or fresh products. However also discounts can be arranged, also for high-quality products, for example in case higher quantity of products are bought, or “share-based” payment are organized at the beginning of each season. In this case a lower price per product is not linked to lower quality, and it doesn’t work as a disincentive for the

farmer. On contrary it might positively affect trustworthiness between farmers and consumers, reinforcing the willingness to buy and produce high-quality products. Therefore it can be said that also the exchange activities of FCN are coordinated through a type of price mechanism.

Although FCN are far from being a hierarchical type of organization, some form of authority, for example in some strategic decisions, is often adopted. For example authority is used to decide on investments, to control quality issues, to arrange delivery service and solve dispute between farmers and members. As indicated by Grandori and Furnari (2008) the main advantage in using bureaucratic-power is basically to have a higher capacity to control opportunism, especially where transaction costs are high or when specific investments were made by FCN members. However authority and bureaucratic elements represent a challenge for FCN because hierarchical mechanisms are often in contrast with cooperative behaviour and trust. FCN are often characterized by participatory decision-making, open access/open exit membership. This can lead to the problem of free-riding of some members (as in many cooperative-type of organizations). To address the issue of free-riding authority (and formalized rules) can be used to mitigate the tension between group-based interests and individual member interest.

Communitarian elements constitute a fundamental component of FCN. They are formed by shared norms, which are mainly based on informal rules within each community. They are built to facilitate, motivate and coordinate type of collective actions led by community-members because they can prevent opportunism by limiting the expectation that other members will behave opportunistically. In this way they can create trust and trustworthiness, which also can reduce transaction costs (Nooteboom, 2007). In FCN context trust is an important feature FCN for example to reduce the cost of safeguarding against opportunism. This is mainly due to information and knowledge exchange, which is leading to control on members' reputation. More in general communitarian elements can be effective in building trust if within the community shared norms can be created. This process is also leading to increase member involvement and commitment thus reducing the need for economic-based "punishment" for opportunistic behaviour, while supporting non-economic rewards for group loyalty. It is important to highlight that in communitarian practices participants are often trustworthy not due to control mechanism (punishment) or economic incentives (rewards), but because they choose on the basis of intrinsic motivation. In general, similar to other collective organizations, the capacity of FCN to build trust, and therefore reducing transaction costs, is conditional to the size and homogeneity of the group of participants\members. Especially in starting stage FCNs tend to select highly motivated members, while tending to exclude (indirectly) less aligned and motivated ones.

Distinct from issues of trust and trustworthiness, democratic elements refer to the component of FCN based on sharing decision rights and fairness of decision making. A more participatory decision making and shared ownership on strategic resources are seen as enforcing commitment in the group interests, also leading to transaction costs reduction. Many FCNs adopt democratic procedures, for example to check quality of processes and products, to enhance investments. The possibility to control but also to deliberate on strategic issues is a fundamental aspect of FCN potential competitive advantage (Nooteboom, 2007).

### 3 Classification of FCNs: evidence from CSA in North America

We have analysed and classified a sample of 95 Community Supported Agriculture operating in North America (U.S. and Canada). We implemented a K-means cluster analysis. We use data available on-line, through their web-sites and blogs. We collected this information in the second half of 2011. Using these information we derived variables related to both the new institutional economics approach, such as pooling and contracting, and the organizational science approach, such as market-like, bureaucratic, communitarian and democratic elements. Of the various types of FCN, CSA are the most widespread in Anglo-Saxon countries especially in urban and peri-urban areas of U.S and Canada. CSA are often established from an innovative dynamic strategy of farmers, who seek to establish relations with consumers in the same area. FCN are based on local food supply and maintain a high sense of community. CSA are often lead by educated and highly skilled farmers, who work in a mosaic of small-scale farms. CSA prosper where many small farms can satisfy consumer needs with a wide range of food products, for a sizable urban population living in proximity of those farms (Adam, 2006). The concept of CSA originated in the 1960s, when Japanese women, concerned with the increase in imported food and the loss of farmers and farmland, asked local farmers to grow vegetables and fruit directly for their families. Starting from that, a number of families committed themselves to supporting their region's agriculture. In this way, the *teikei* concept was born which, literally translated, means "food with the farmer's face on it" (Van En, 1995). This model, first implemented in the United States in the mid-80s, became known as CSA. As defined by Gradwell et al. (1999), CSA is a partnership between farmers and community members working together to create a local food system. CSA farmers may produce vegetables, fruits, meats, dairy products, fibres, etc., directly for local community members. CSA differs from direct marketing because its members commit to a full-season price in the spring, sharing the risks of production (Cicia et al., 2011). With this up-front support, farmers can concentrate on growing quality food and caring for the land. In return, members know where their food comes from and how it is grown; they share a connection to the land and farmers who produce for them, establishing a direct economic and social link between farmers and community members (Wells and Gradwell, 2001). Table 1 describes the variables used to identify pooling and contracting elements:

**Table 1.**  
Pooling and contracting elements

Element	Variable	Meaning	Score
Pooling	Knowledge	Yes if presence of practices to share knowledge between members and producers	Yes = 1 No = 0
	Labour time	Yes if members provide time to work in the community	Yes = 1 No = 0
	Financial capital	Yes if members provide financial capital, for example through subscribing membership shares	Yes = 1 No = 0
	Physical capital	Yes if members share their assets, such as machineries or facilities for supporting the activities of the community	Yes = 1 No = 0
	Decision right on product portfolio quantity	Yes if members can decide how much products to receive from the CSA	Yes = 1 No = 0
	Decision right on product portfolio composition	Yes if the members can decide the type of products to receive from the CSA	Yes = 1 No = 0
	Decision right on specific product quantity	Yes if the members can decide the quantity of each product to receive from the CSA	Yes = 1 No = 0
	Decision right on specific product quality	Yes if the members can decide whether receive organic or non-organic products	Yes = 1 No = 0
Contracting	Input	Yes if the members provide inputs for the production process (other than labour and capital)	Yes = 1 No = 0
	Production process checking	If members directly participate and check farming processes	Yes = 1 No = 0
	Direct visit	Yes if members can visit the farm (either in a flexible or a scheduled way)	Yes = 1 No = 0
	Quality checking	Yes if members have the opportunity to comment, complain and discuss about the quality of the products (i.e. through a blog, website, etc.)	Yes = 1 No = 0
	Certification system	Yes if a (private and/or public) formalized certification system is in place	Yes = 1 No = 0
	Contracting membership	If the membership contract is formalized	Yes = 1 No = 0
	Default conditions	If in the contract is specified default conditions (i.e. default in deliveries, breakdown in quality levels, etc.)	Yes = 1 No = 0

Table 2 describes the organizational elements we used according to the organizational science approach:

**Table 2.**  
Organizational Science elements

Element	Variables	Score
Market-like	Presence of incentive for subscribing annual shares	Yes = 1 No = 0
	Presence of private quality certification system	Yes = 1 No = 0
Bureaucratic	Participation in the community is formalized	Yes = 1 No = 0
	Subscription of annual shares is formalized	Yes = 1 No = 0
	Formal public and/or private quality certification system	Yes = 1 No = 0
	Formalized membership	Yes = 1 No = 0
	Formalized default conditions	Yes = 1 No = 0
	Scheduled visit in the farm	Yes = 1 No = 0
	Participation in the production process is formalized	Yes = 1 No = 0
	Members are stimulate dot share knowledge	Yes = 1 No = 0
Communitarian	Participation in the community is informal	Yes = 1 No = 0
	Participation in the production process is informal	Yes = 1 No = 0
	Free-access to the farm	Yes = 1 No = 0
	Informal certification system	Yes = 1 No = 0
	Quality is checked through blogs, discussions and/or debates	Yes = 1 No = 0
	Participation in the community is open	Yes = 1 No = 0
Democratic	Quantity of products per box is jointly decided	Yes = 1 No = 0
	Portfolio composition of products is jointly decided	Yes = 1 No = 0
	Quantity of each product is jointly decided	Yes = 1 No = 0
	Quality of each product is jointly decided (i.e. organic non organic)	Yes = 1 No = 0
	Type of inputs to be used is jointly decided	Yes = 1 No = 0
	Production decisions are shared	Yes = 1 No = 0
	Visiting the farm is possible	Yes = 1 No = 0
	Information are shared	Yes = 1 No = 0

We use these variables to build indexes of intensity for the 6 elements of governance we have considered: pooling, contracting, market-like, bureaucratic, communitarian and democratic. We decided to not assign a weight to different variables, nor to different elements. Therefore each variable is equally contributing to determine the intensity of the relevant element. If the specific variable was found we assigned a score of 1, otherwise we gave a score of zero. In table 3 we report the descriptive statistics of the 6 governance elements we have measured in the sample.

**Table 3.**  
Descriptive statistics for the 6 organizational elements

Element	Min.	Max.	Mean	Std. Deviation
Market-like	0	2	1.22	0.47
Bureaucratic	0	5	3.24	1.00
Communitarian	0	6	3.27	1.82
Democratic	0	7	1.81	1.44
Pooling	1	9	4.06	1.62
Contracting	0	11	5.62	2.49

N. observation= 95

#### 4 Results

The results of the K-means cluster analysis indicate the presence of 5 typologies of CSA. Table 4 shows the average values of the indexes of governance intensity for each typology:

**Table 4.**  
Typologies of CSA

Element	Typologies				
	Bureaucrats	Hard participants	Democratic sharers	Soft participants	Relational sharers
Market-like	1.3	1.4	1.4	0.9	1.1
Bureaucratic	3.7	3.9	2.9	2.1	3.1
Communitarian	1.9	5.4	2.7	0.9	4.2
Democratic	0.5	2.8	4.6	0.9	1.9
Pooling	2.1	5.0	6.9	2.9	4.9
Contracting	5.3	8.9	4.7	2.1	5.6
N. of cases	22	22	7	16	28

Group 1 is characterized by high level of formalization and contracting. We define this group as “bureaucrats” to indicate that the governance mechanisms are mainly based on formalized rules. The decision making is “centralized” and still remain in the area of power of the farmers. The “hard participants” are the ones belonging to group 2. In this group all indexes have high values and indicate a strong and extended participations of members in all activities and governance issues of the CSA. Group 3 is more based on democratic mechanisms than group 2 and more based on sharing resources. Group 4 is constituted by soft participants, to indicate that they are not that much involved in the CSA. Finally group 5



is mainly based on communitarian elements with a strong combination of both pooling and contracting issues.

## 5 Discussion and conclusions

In this paper we have discussed and analysed CSA within the framework of food community networks. In this type of organization, consumers and farmers strongly integrate their functions by using combination of different organizational elements such as market-like, bureaucratic, communitarian, democratic, contracting and pooling. More specifically we have studied several CSA operating in North America. We have identified 5 main distinct typologies but also confirmed some common features. For example CSA often make use of very formalized membership, to definite not only the type of “delivering” service consumers would receive but also to share risks and transfer relevant decision rights. However we found that consumers decision rights on the production phase is sometimes limited, especially if we look at the allocation of land to different uses.

The presence of different typologies of organizations is indicating that within the framework of FCN researchers have to further investigate internal organizational dynamics and link them to FCN different performances. In the current scientific debate on alternative or short supply chains a specific attention of these links between different organizational structures and performances is under-investigated. While there is a common understanding that FCNs can contribute, for example, to local sustainable development, it is still unclear which types of FCNs can be more suitable in doing that. Another issue to be addressed is to better understand participation and whether a specific organizational structure is leading the FCN to attract more a target group of members. Understanding the relation between type of FCN and type of participation mechanism can be important to better use them to implement development oriented strategies. For example FCNs can be suitable to preserve local products, or to increase healthy food diets in a target group. Understanding whether a more or less formalized membership can facilitate participation can be considered as a key-factor.

The analysis provided in this paper should be seen in the light of a descriptive contribution. Stricter research hypotheses on factors contributing to adoption of different governance mechanisms couldn't be tested, given the type and the nature of available information. Also an analysis of FCN performance or members participation have to be implemented. These are points to be develop in a future research agenda.

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