

**From governance structure to governance mechanisms:  
opening the black box of the member-cooperative relationship**

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# **From governance structure to governance mechanisms: opening the black box of the member-cooperative relationship**

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## Abstract

Governance of any inter-firm collaboration has at least two functions: maintaining partners' commitment and aligning interests on the one hand, and aligning and adjusting partners' actions and decisions on the other hand. While organizational economics has always emphasized the importance of market and hierarchy as governance mechanisms that support cooperation and coordination between transaction partners, agricultural cooperative are complex organisational configurations, that include two more governance mechanisms: democracy and community. This paper develops a conceptual framework for analyzing the effect of four different governance mechanisms on cooperation and coordination in voluntary member-based organisation, such as agricultural cooperatives. We conjecture that this effect is mediated by individual member commitment and the extent of cognitive heterogeneity among the membership.

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## **1. Introduction**

Firms collaborating in a value chain, that is, who engage in seller-buyer relationships, are faced with two types of economic challenges. The first challenge relates to the cooperation among firms with potentially conflicting interests. Goal congruence among firms engaged in vertical transactions is not a natural feature, and even when parties have agreed on a common goal, changes in the market and institutional environment may cause their interests to divert. The second challenge relates to coordination of the decisions and activities of the different partners in the collaborative venture. Vertical coordination is particularly challenging when partners seek to develop product innovation requiring adjustments at different stages of the value chain.

These challenges of cooperation and coordination can be understood in terms of transaction costs, more specifically two types of transaction costs: transactional risks and coordination costs (Grover and Malhotra, 2003). Transactional risks, or exchange hazards, relate to potential opportunistic behavior of the collaborating firms. The origin of such risk is in conflicting interests. These type of transaction costs have also been called appropriation concerns (Gulati and Singh, 1998), as asymmetric information and uncertainty leaves an opportunity for contract partners to appropriate a large share of the transaction benefit than was contractually agreed upon. Such transaction costs include the risk that other parties in the transaction will shirk their agreed upon responsibilities. For instance, a farmer supplying to a food processing company might deliver a product with an inferior quality if he knows the processor is not able to identify and measure the violation (Raynaud et al., 2005). Or a processor may hold-up the farmer after the latter has made investments that are specific to the transaction with the processor (Williamson, 1991).

Coordination costs arise when firms are unaware that their actions are interdependent and when there is uncertainty about the others' actions or when there is a situation of asymmetric information (Gulati and Singh, 1998; Gulati et al, 2005). Each of the collaborating firms must collect and process information, take decisions on the basis of this information, and communicate its decisions to the collaboration partner as these decisions may have implications for the decisions and actions of the partner. All of these actions are costly, thus give rise to coordination costs. Even if all appropriation concerns are addressed, that is, when partners' interests are fully aligned and no opportunistic behaviour may be feared, coordination problems remain (Hodgson, 2004; Gulati et al., 2005). In the case of a supplier-processor transaction, coordination costs include costs of exchanging information on quantity and quality of products, price, availability, demand, as well as the costs of adapting the quality of the product or production process (Grover and Malhotra, 2003). When information is interpreted differently by the transaction partners, coordination cost further increase.

Agricultural cooperatives are special types of organisations, combining two stages of the value chain: production and processing/marketing. In addition, cooperatives are membership organisations, where voluntary membership is based mainly on the expectation of individual economic benefits. The relationship between a farmer-member and the cooperative firm is characterized by both cooperation and coordination challenges. Opposite to classical dyadic transaction relationship between suppliers and buyers, the relationship between members and cooperative has a bilateral and a multilateral character. Thus, understanding the factors that effect cooperation and coordination in the member-cooperative relationship requires integrated analysis of bilateral and multilateral structures and processes.

The objective of this paper is to propose a conceptual framework for analyzing transactional efficiency within agricultural cooperatives, by first disentangling the cooperation and coordination challenges and second distinguishing four different governance mechanisms. We pose that the relationship between governance mechanisms and cooperation (or transaction risks) is mediated by the parties' willingness to sacrifice short term gains for the sake of the sustainability of the relationship, here called commitment, and that the relationship between governance mechanisms and coordination costs is mediated by the variation in parties' interpretation frameworks, here called cognitive heterogeneity.

## **2. Governance structures and governance mechanisms**

The main proposition of transaction cost economics is that transactions, with their specific features leading to transaction costs, will be aligned with governance structures, with its specific characteristics in terms of incentives, control, coordination and contracting. A governance structure is designed to foster efficiency in transacting by deterring one party from appropriating the other, by coordinating exchange, and by resolving disputes that are due to differences in judgements (Williamson, 2000). Initially, only two generic governance structures were distinguished: market and hierarchy (Williamson, 1975). Later the idea of a hybrid governance structure was introduced as if it were an intermediate form on the continuum between market and hierarchy (Williamson, 1991). Instead of hybrid, Powell (1990) proposed the network form as a third governance structure distinct from market and hierarchy, as it used reciprocity norms and reputation as mechanisms of control. Other authors have further developed the concept of network as a distinct third type of governance structure, often presenting a further categorization of network governance forms (Jones et al., 1997; Provan and Kenis, 2008). Another strain of literature on governance structures has emphasized still another type, the community governance structure. Bowles and Gintis (2002) and Hayami (2009) have emphasized the important role of community mechanisms, more generally referred to as social capital, in keeping transaction costs down. In a community there is a reduced risk of opportunistic behaviour as members both uphold norms of compliance and fear social sanctions, and there is reduced information asymmetry because of geographical proximity and multiple interactions among members of that community.

Several authors, however, have emphasized that governance structures use a combination of different governance mechanisms to align interests and actions. Ouchi (1980) distinguished between the mechanisms market, bureaucracy and clan. "Markets, bureaucracies, and clans are therefore three distinct mechanisms which may be present in differing degrees, in any real organization" (Ouchi, 1980: 132). Bradach and Eccles (1989), for example, emphasized that any governance structure combines, in different degrees, the instruments of price, authority and trust. Hennart (1993) argues that it is necessary to distinguish between methods of organizing transactions (mainly hierarchy and the price system), each with particular costs and benefits, and institutions (such as firms and markets). Although markets rely predominantly on prices and firms rely predominantly on hierarchy, there is not a one-to-one correspondence between prices and markets or between hierarchy and firms.

Grandori and Soda (1995) have argued that inter-firm networks are neither an entirely different third pure type of governance next to pure markets and pure hierarchies, nor intermediate hybrids combining some traits of markets and some of hierarchies. Inter-firm networks are institutions employing a wide range of governance mechanisms. According to Grandori and Furnari (2008), empirically observed governance structures embody varying mixes of four ideal-type mechanisms: market, hierarchy, community and democracy. Market relates to high-powered incentives and the capacity of coordinating action with minimal communication. Hierarchy relates to the use of formal

authority and implies predictability, transparency and accountability through rules, procedures and evaluation systems. Community, defined slightly different compared to community governance mentioned above, means infusing cohesion and homogenizing interests through knowledge and value sharing. Finally, democratic mechanisms of decision-making infuse voice and integrate different interests through allocation of ownership, decision and representation rights.

### **3. Cooperatives as hybrid governance structures**

Cooperatives have often been classified as hybrid governance structures. Menard (2007) posits that all cooperatives, as hybrid governance structures, share three characteristics: the members pool resources, the cooperative firm contracts with its members, and members compete among each other. Members maintain autonomy over their own property, while they share some strategic resources. Still, Menard considers a hybrid governance structure as a distinct organisational form. Following Makadok and Coff (2009) on hybrids in general, Chaddad (2012) argues that the cooperative is a distinct hybrid mode rather than an intermediate between market and hierarchy. Although the cooperative does blend particular market mechanisms with hierarchy mechanisms.

Organizational economics, however, has largely overlooked several features that give the cooperative governance structure a unique form: first, its democratic decision-making model in which each member has at least one vote, and, second, its bidimensionality as a being both a social community and an enterprise (Bonus, 1986; Borgen, 2004; Valentinov, 2004). Nilsson et al. (2012) provide a social capital framework for understanding why cooperatives often suffer from problems in the current market environments. However, democracy and community mechanisms have not yet been, so far, integrated in a Transaction Costs Economics framework, the same ways as market and hierarchy mechanisms have been. Following Grandori (1997) and Grandori and Furnari (2008) we shift the level of analysis from the description and categorization of distinct governance structures to the modeling of the constitutive governance mechanisms: market, hierarchy, community and democracy. We propose that the impact of individual governance mechanisms on transaction costs (notably transactional risks and coordination costs) is mediated by commitment and cognitive heterogeneity among the members.

An agricultural cooperative is a suitable type of organisation to apply Grandori and Furnari's (2008) framework for understanding dynamics in organisations. A cooperative is a complex organisation, being both a firm and an association, and the relationship between members and cooperative firm is multi-dimensional. The member-cooperative relationship consists of at least three elements: members are individual users of the services of the cooperative, members are jointly owners of the assets of the cooperative, and members jointly decide on the strategies and policies of the cooperative firm (Dunn, 1988).

All four governance mechanisms are present in the relationship between members and cooperative firm. First, democracy is present as the cooperative is an association applying democratic principles in electing representatives and taking major decisions. Second, as members remain independent entrepreneurs, market elements continue to characterize the relationship between individual members and the cooperative firm. For instance, the price a farmer receives for its products continues to be a strong incentive for individual production decisions. Third,

Hierarchy is difficult to conceptualize in cooperatives, since, on the one hand, members are the formal owners of the cooperative firm (thus hierarchy 'flows' from members to managers), and on the other hand managers tell the members what to do regarding supply operations (thus, here hierarchy 'flows'

from manager to member). Third, the membership of a cooperative can be considered as a community, in which social capital plays an important role in keeping transaction costs low. However, as Nilsson et al. (2012) have argued, this community character seems to be decreasing in cooperatives with a large and/or heterogeneous membership. In their early stage of development, most cooperatives make use of existing communities and the social capital present in these communities. Social mechanisms for information sharing, norm building and sanctioning of opportunistic behaviour kept transaction cost low. Fourth, as the relationship between the member and the cooperative is also a contractual relationship, hierarchical elements play a role (Stinchcombe, 1985).

These four governance mechanisms all play a role in keeping transaction cost low. However, we argue that their impact on transaction costs works both through cooperation (keeping transactional risks low) and through coordination (keeping coordination costs low). In Table 1 we present the cooperation and coordination principles of each governance mechanism, and then, in the last column, relating them to practices in (agricultural) cooperatives.

**Table 1. Cooperation and coordination principles of four governance mechanisms**

Governance mechanisms	Principles of cooperation	Principles of coordination	Practices in Cooperatives
Market	High powered incentives	Autonomous decisions, with price as main information carrier	Competitive prices; pay for performance (productivity or quality); premium for member loyalty
Hierarchy	Authority, and the power to reward or sanction	Command and control	Formal rules and standards; formal contracts; monitoring members' performance
Community	Shared norms and values; reciprocity	Shared cognitive framework; multiple interactions	Frequent member meetings; leadership training; family involvement; cooperative ideology
Democracy	Aligning interests through 'voice'; majority rules	Integrating different judgements in joint decision-making	Member participation in decision-making; election of member representatives; rotating offices

Source: own elaboration

#### 4. Transaction costs, commitment, and cognitive heterogeneity

The classical Transaction Cost Economics (TCE) has always focussed on transactional risks. The characteristics of a transaction determine the magnitude of exchange hazards, which determine the magnitude of the direct transaction costs of crafting safeguards, monitoring and enforcing the agreement, and the indirect transaction costs of failure to invest in productive assets (Williamson, 1996).

Commitment (or credible commitment) serves to reduce transactional risks. We define member commitment as the willingness to make a sacrifice to contribute to the organization's success (Solinger et al., 2008) and to the long-term stability of the relationship (Joshi and Stump, 1999).

While TCE considers the effect of governance mechanisms on opportunistic behaviour through their control of the individual's scope of action, it does not consider their effect on the individual's opportunistic attitude (Goshal and Moran, 1996: 20). However, opportunism and commitment, understood as opposite attitudes, might be open to management. We do not consider members of a cooperative as benevolent cooperators, nor as necessarily opportunistic agents. Member commitment to the cooperative is affected by how the member-cooperative relationship is governed. In inter-organizational configurations where the transactions between the parties are more frequent and the relationships are more stable than in the spot market the quality of the relationship is the appropriate unit of analysis (Nooteboom, 2004). Our unit of analysis is, therefore, the transaction relationship rather than the transaction *per se*.

Two potential problems regarding the transaction relationship between members and cooperative firm need to be distinguished: a multilateral problem of free riding and a bilateral problem of the inability to properly measure the effort of the individual member. In cooperatives the most fundamental transactional risk is a systemic risk, namely free-riding (Cook, 1995). This multilateral problem becomes more severe when the social group becomes larger and more heterogeneous (Ostrom, 2000). Members of an agricultural cooperative may choose to sell their farm products to alternative buyers when those offer a better price. This entails idle capacity and thus economic costs for the cooperative.

The type of commitment that reduces the risk of free-riding can be named **commitment to collective action**. Committed members are less likely to exit the cooperative, or to sell outside when alternative buyers offer better prices or services. If the risk of free-riding is considered as a systemic transactional risk, then members' commitment to collective action has the important function of reducing this systemic risk.

The second potential problem regarding the transaction relationship between members and cooperative firm is the inability to properly measure the effort of the individual member. In the context of differentiated products and high interdependencies in the value chain, the extent to which the individual member puts effort in improving quality at the farm level is increasingly important. A more customer-oriented strategy of the cooperative firm implies less freedom for the members at the farm level (Bijman et al., 2011). However, the individual farmer might shirk the agreement on product quality, particularly if quality implies intrinsic product attributes. This bilateral transactional risk between supplier and buyer is what TCE usually focuses on.

Member commitment to the strategy of the cooperative to enhance product quality and therefore put strict requirements on member activities that effect quality can be named **commitment to customer-orientation**. This commitment to customer orientation is an attitude towards the requirements that other actors in the value chain demand from the cooperative and its members. Thus, member commitment to customer-orientation reduces the transactional risk of members not complying with quality requirements.

Following Nooteboom (2000) we define **cognitive heterogeneity** as differences in peoples' interpretation, understanding and evaluation of the world. Assuming categories of cognition are constructed from real-world actions, heterogeneity results from different life paths and different environments people live in. Nooteboom et al. (2007) have approached this in terms of 'cognitive distance' between people.

Gathering and processing information, making decisions that take this information into account, and communicating these decisions are at the core of the coordination tasks. In case of strong interdependencies between transactions in food chains, more information exchange is needed. The lack of knowledge about the interactions between different actors' decisions is an important constraint on coordination. Problems inherent in language use are also constraints for coordination. Therefore, a common ground (or low cognitive heterogeneity) among people enables coordination because it allows people to accurately anticipate and interpret each other's actions. A shared cognitive framework consists of mutual, common or joint knowledge, beliefs and suppositions (Clark, 1996) and it includes codes, classifications and categories (Gulati and Puranam, 2011).

When there is strong cognitive heterogeneity, that is, when people interpret information differently, the implementation of interdependent activities between procuring and supplying units can involve costly and time consuming negotiations (Gulati et al., 2005). The more dissimilar is the cognitive framework among members, the more information exchange is needed to make sure that a task is understood. The more homogeneity in cognitive frameworks among the membership, the more likely individuals are able to anticipate each other's actions, thereby minimizing the need for communication while still enabling coordination (Gulati and Puranam, 2011).

Although, strictly, a cooperative is not one firm but an inter-organizational configuration, membership of the cooperative might support the creation of shared understanding of the task environment and the interdependence it embodies (Weick, 1995), as well as shared values and norms that serve to make the actions of others more predictable (Kogut and Zander, 1996). A shared cognitive framework enables actors to follow rules in an routine and non-calculative way, as if it was the 'software' of their own mind (Hofstede, 1991). It reduces cognitive complexity by setting a frame of knowledge 'out of discussion' within which current action problems can be considered and solved (Grandori, 1997). The lower the cognitive heterogeneity among members, the more confident one member is about how others will behave and how one should behave in a given situation. This leads to lower coordination costs in the dealings between cooperative firm and its member-suppliers.

## **5. Governance mechanisms affecting commitment**

Governance mechanisms have a function of aligning interests and generating credible commitments. This cooperation-enhancing function of the governance of any collaboration (Gulati et al., 2012) is about reducing the risks associated with opportunistic behaviour. In this section we will develop a number of propositions regarding the effect of each governance mechanism on commitment. Since we distinguish two types of member commitment in agricultural cooperatives, towards collective action and towards customer-orientation, we will put forward propositions for both.

### **Market**

The market mechanism is here understood as a high powered incentive system rather than "a completely defined governance form" (Grandori, 1997). It includes the use of prices as informational devices that signal the direction of the autonomous adjustments of production decisions. Participants take independent decisions about their own investments and activities, mainly based on the incentives they receive, that is, decision making is decentralized. Pay-for-performance schemes that reward producers according to their efficiency and/or quality are market practices because they work as high powered incentives. Monetary incentives induce reliable behavior from members, where actions are elicited by rewards (Nooteboom, 2007).

The market mechanism individualizes the relationship between cooperative and members allowing for some degree of autonomous adaptation. However, in cooperatives with strong social ties among members who are intrinsically motivated, monetary incentives might damage the quality of exchange outcomes by discouraging individuals' voluntary willingness to cooperate. It has been argued that commitment is reduced when extrinsic rewards are increased and the weakening of commitment is not restored even after the extrinsic rewards are taken away (Baker, Jensen and Murphy, 1988). Some external interventions might damage the quality of exchange outcomes by discouraging individuals' voluntary willingness to cooperate, that is, member commitment. The effect is especially important when monetary incentives are applied to an activity that has been intrinsically motivated before, possibly reducing the total available motivation to engage in the activity. As the outcome, engagement in the activity might well be reduced rather than increased (Frey, 1997; Frey and Jegen, 2001). Therefore, if monetary incentives are used to foster member compliance to an agreement or even loyalty to the cooperative, they might have counterproductive effects if they weaken commitment. Because commitment is the attitude towards sacrificing short term economic benefits for the sake of the relationship and of the organization's success, and not the actual loyal behavior, we can still pose that the market mechanism weakens commitment to collective action.

#### **P1a: The market mechanism negatively affects members' commitment to collective action**

On the other hand, it might happen that when the membership of the cooperative becomes larger and more heterogeneous, and social ties become weaker, farmers begin to require more of the market mechanisms to be committed to the cooperative. Also if members have fewer opportunities to influence the cooperative's decisions, through informal or formal processes, they might request more of the market mechanism in their individual transactions (Bijman et al., 2011). More importantly, market mechanisms are a good way to align members' interests with a customer oriented strategy. Members need to feel that their effort to maintain or elevate the quality of their products and production processes as a response to customer demands is being rewarded.

#### **P1b: The market mechanism positively affects members' commitment to customer orientation**

### **Hierarchy**

The hierarchy mechanism is understood as the execution of authority, in the sense of decision and/or control rights exercised legitimately by a central agent (Grandori, 1997), rather than the centralization of ownership and residual rewards rights within one party (Coase 1937; Williamson 1975). Hierarchy as the consolidation of ownership does not imply that the dominant coordination mechanism should be authority. The ability to use authority as a mechanism is not limited to intra-firm settings, since authority can also be used between organizations by means of contractual provisions, which essentially "produce the effects of hierarchies" (Stinchcombe 1985, p. 165). Authority implies the allocation of resources through formal rules and plans but it varies in degree of formalization and centralization of decision-making. As put by Ménard (2004; 2007), authority on some decisions may be with the cooperative board of directors and managers, when the membership has delegated to these governing bodies specific rights such as coordinating activities, allocating resources, and solving disputes. When we study the degree of authority in cooperatives we focus on the strength of surveillance and fiat used by the cooperative board of directors and managers to promote certain types of behaviours and deter others with member-suppliers.

Research on intra-organizational relationships has shown that too much authority weakens the incentives of subordinates to invest in relationship-specific assets (Williamson, 1985) and in acquiring information needed to make informed decisions (Aghion and Tirole, 1997). Even if sanctions can promote certain types of behaviours and deter others, surveillance and fiat might have negative effect on individual attitudes toward the specific behaviour that is required (Enzle and Anderson, 1993). As argued by Goshal and Moran (1996), hierarchical control does not necessarily decrease opportunistic behaviour. In fact it might have precisely the opposite effect. When the relationship between principal (manager) and agent (farmer) is personal, the agent perceives increased monitoring as an indication of distrust and this induces him or her to reduce effort (Frey, 1993).

Hierarchical mechanisms do not seem to combine well with the democratic and participatory norms in cooperatives, as they seem inherently contrary to cooperative principles such as voluntary membership, joint interests, and participatory decision-making. Strengthening the hierarchy mechanism in a cooperative may eventually increase members' opportunistic attitude because, first, farmers do not want to be controlled (Hogeland, 2006), and second, members might perceive that they are not trusted to behave appropriately. Therefore, we expect that the more hierarchical is the cooperative relationship with its member-suppliers, the more the latter will develop a negative attitude towards their cooperative.

#### **P2a: The hierarchy mechanism negatively affects members' commitment to collective action**

Advantages of hierarchy, compared to the market mechanism, are a higher capacity to control performance of the other party in the transaction and to mitigate the costs associated with the holdup problem that arises when one party in the transaction has non-redeployable assets. In other words, it facilitates the control of opportunism when specific investments were made. The cooperative needs to safeguard its investments at the processing (firm) level, and it could do so by introducing more of the hierarchy mechanism, such as production contracts for individual members or even excluding members that are not able to comply with the standards that are needed to protect the brand (Bijman, 2009).

Given a situation of interdependency in the food value chain, and the increasing importance of private quality standards, the cooperative is seeking more control over members' inputs, outputs and production processes. Hierarchy mechanisms can be considered as a guarantee for members, because the latter know what to expect from the cooperative. Formalization represents not only duties but also rights, such as the cooperative's commitment to reward the quality of delivered products. If members feel their investments are more safeguarded with more control and formalization, they will recognize that following consumer trends and delivering high quality will determine the value of their production in the long-run. Moreover, if the cooperative has the authority to act unilaterally and decisively (Masten, 2006) upon members' production processes in response to unfolding events in the market, members might have no option but to commit to the cooperative's customer-oriented strategy.

#### **P2b: The hierarchy mechanism positively affects members' commitment to customer orientation**

### **Community**

A community is a social network in which people have repeated interactions, and where norms arise to coordinate their interaction (Bowles and Gintis, 2002; Hayami, 2009). The frequency of interactions and presence of shared knowledge or interests of its members, are defining characteristics of a

community (Masten and Pruffer, 2011). Shared moral norms are informal rules that facilitate, motivate and govern joint action of concrete people with whom one shares common identity feelings (Coleman, 1988), as they substantiate the expectation that others will not behave opportunistically (Ostrom, 2000). Cooperatives have been defined as social-capital-dependent organizations (Valentinov, 2004; Nilsson et al., 2012), because in addition to being an enterprise, the cooperative is a social community where trust, moral norms, beliefs and the internalization of cooperative values are important.

While rational control based on information and the use of formal administrative mechanisms can limit deceptive behaviour, social control, based on the use of informal mechanisms to build motivation and commitment, can also limit deception (Ouchi, 1980). Furthermore, social control induces individuals to internalize values and goals of the organization and therefore it implies a change in attitudes. As recognized by Relational Exchange Theory (Macneil, 1978; Joshi and Stump, 1999), relational norms are a unique class of governance mechanism, based on internalization of moral norms that prescribe commitment in exchange relationships.

As Hogeland (2006) indicates, without applying the term social capital, social networks based on norms of reciprocity and trust can be seen as the most essential asset of cooperatives, in comparison to the investor-owned firm (IOF). In fact, the strength of cooperatives in effecting coordination resides, in principle, in their tendency to involve lower information asymmetries and greater trust in their relationships with farmers than would be the case with IOFs (Sykuta and Cook, 2001). The most important consequence of the community mechanism is to enhance members' commitment to the cooperative, their generalized attitude towards serving and enhancing the organization's interests (Solinger et al., 2008). We pose that the community mechanism positively affects members' willingness to make a sacrifice for the sake of the continued relationship with the cooperative.

### **P3a: The community mechanism positively affects members' commitment to collective action**

However, there is also research showing that too much community governance might lead to sub-optimal results. There is a risk that members will be locked-in into a low innovative or inefficient situation. Cooperative members might be subject to the 'paradox of embeddedness' (Uzzi, 1997), which means that an organization (the farm) has difficulties to access new information and to learn new skills because it is too embedded in one network (the cooperative). For instance, if farmers trust only the community of members from the cooperative but do not trust other actors in the value chain, they might develop a negative attitude towards the cooperative's customer-orientation. Successful vertical coordination in value chains requires complying with a number of quality requirements from customers. Therefore, a negative attitude towards downstream partners in the chains might result in member opportunistic behavior towards shifts in customer's preferences and quality requirements. If members have strong social ties among the community of members and weak ties to other actors in the value chain, reinforcing community mechanisms might hinder members' commitment to customer orientation.

### **P3b: The community mechanism negatively affects members' commitment to customer orientation**

#### **Democracy**

Inter-firm arrangements and collective ventures as consortia, associations, partnerships and cooperatives, which have joint action interdependences, cannot be understood without looking at the

democracy mechanism that is used to regulate collective action (Grandori, 1997). Equally distributed decision rights and ‘voice-giving’ procedures are typical ingredients of democratic governance, aimed at integrating different judgments and interests of multiple actors through representative devices (Harrison & Freeman, 2004). Democracy offers a simple, relatively verifiable criterion by which to judge the legitimacy of executive actions, namely, that decisions receive the explicit consent of designated individuals or groups before being implemented (Masten, 2006). Menard (2011) has shown, using a stylized case of a millers’ alliance, that members of a collective venture endorse a voting procedure to exercise their control rights. Despite the uneven distribution of shares across members of the alliance, decisions are made according to a ‘one member, one vote’ rule, like in most cooperatives.

Recent theories of political governance view the establishment of credible commitments as the principal function of democratic governance (Masten, 2006). Fenwick (2005) argues that increasing employees’ voice, i.e., the possibility to complain about a relationship and try to work things out, would lead to greater level of organizational commitment, which would further improve decisions’ implementation rates and reduce dysfunctional behavior of employees. We assume this equally applies to member-cooperative relationships. In cooperatives, the principle of democratic member control assumes that members will participate in setting policy and giving broad direction to cooperative activities in a way in which no member has greater voice than any other member. It has been shown that the perception among members that they are participating, that they are given ‘voice’, is likely to strengthen their commitment to the cooperative (Osterberg and Nilsson, 2009). A participatory decision framework and the opportunity to voice complaints, concerns and ideas strengthen the development of common interests, and this is probably the greatest advantage of the democracy mechanism.

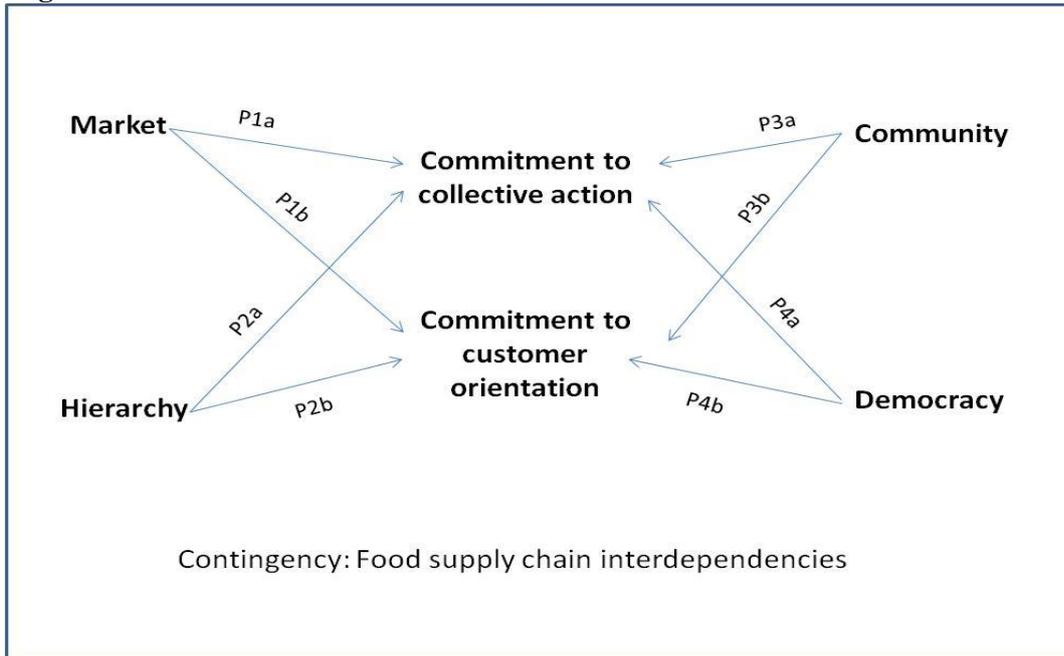
#### **P4a: The democracy mechanism positively affects members’ commitment to collective action**

Members are often interested in selling all of their products to the cooperative, no matter the quality, whereas the cooperative puts in place a strict quality control system to meet buyers’ requirements. Democratic decision-making in cooperatives might hinder value chain coordination if the latter involves innovation and adjustments to stricter quality requirements. In this type of decision-making structure the majority rules. However, the majority is usually rather conservative, that is, opposing change and refusing to agree to volume contracts and rigorous quality standards (Bijman et al., 2011). It is reasonable to expect, therefore, that the more members can voice complaints and concerns, and the more they perceive the cooperative as a democratic organization in decision-making the less they are willing to lose productive autonomy at the farm level and commit themselves to customers’ demands.

#### **P4b: The democracy mechanism negatively affects members’ commitment to customer orientation**

In Figure 1 the conceptual model relating governance mechanisms and both types of commitment – to collective action and to customer orientation - is presented and the eight arrows stand for the propositions that were put forward in this section.

**Figure 1 Governance mechanisms and commitment**



Source: own elaboration

## 6. Governance mechanisms affecting cognitive heterogeneity

Governance mechanisms also have a cognitive function (Grandori, 1997; Nooteboom, 2004). In fact, a stream of research in Organizational Economics has considered the idea of institutionally-sustained shared cognitive frameworks a central point in explaining ‘the nature of the firm’ (Kogut and Zander, 1996; Nooteboom, 2000; 2004; Hodgson, 2004). Because of cognitive variation, “there is always greater or lesser cognitive distance between people” (Nooteboom, 2004: 512). However, in order to achieve common goals in an organization, its members need a certain degree of shared perception, interpretations and values (Weick, 1995). In this section we will develop a number of propositions regarding the effect of each governance mechanism on cognitive heterogeneity.

### Market

The market has been conceived as a highly efficient mechanism for coordinating large systems of similar agents through structured quantified information available to everybody and without further communication (Hayek, 1945). The market mechanism allows actors to greatly simplify economic decisions through the use of a particular set of heuristics, thus, it is capable of economizing on bounded rationality (Grandori, 1997). However, the market mechanism limits the quality of information and availability of information on other actors (Grandori, 1997). Therefore, actions are not concerted and the market mechanism is not efficient in coordinated adaptation. Situations involving specific investments, interdependent tasks, and the transmission of non-codified information would imply high transaction costs if the market mechanism was the only available.

Agricultural cooperatives generally pay market prices to their members for the products delivered. Thus, the production activities of the farmer and the processing and marketing activities of the cooperative firm are to some extent coordinated through the price mechanism. Pay-for-performance schemes where the farmer receives a price according to the quantity and quality of delivered products,

might have the effect of allocating too much of members' attention to easily measured activities and efforts. From intra-organisational studies, we know that high-powered incentives allocate individual attention away from important, but hard to measure, asset values (Holmstrom and Milgrom, 1991). Therefore, despite being a simple coordination mechanism, we do not expect the market or the price system to build a shared cognitive framework.

#### **P5: The market mechanism preserves cognitive heterogeneity among members**

##### **Hierarchy**

When interdependence increases in food value chains, the need for coordination also increases. This means more information needs to be exchanged and processed, and decision-making becomes more dependent on constant information updates because of shifts in market circumstances or in customers' quality requirements. It is necessary for the governing body of the cooperative to enhance the predictability of other's actions, and to increase knowledge about how actions are interdependent (Thompson, 1967). The hierarchy mechanism implies a higher capacity to process information, to take this information into account in decision-making and to communicate the decisions. A centralized decision-making body is able to use authority (Thompson, 1967) and standard operating procedures that allow quick decisions (Gulati and Singh, 1998) by clarifying decision-making procedures and anticipating issues before they arise (Stinchcombe, 1985).

Because hierarchy allows the efficient transmission and processing of information as well as centralized decision-making, it definitely has its advantages. In terms of decision-making, ultimately autocrats have the authority to act unilaterally and decisively in response to unfolding events, in contrast to democracy (Masten, 2006). Authority and centralized decision-making allow a small group of individuals to be informed about and decide how different interdependent actors should behave. An authority can figure out the optimal pattern of actions by interdependent individuals, and simply direct them to take such actions through appropriately stated rules (Conner and Prahalad, 1996). The ability to give orders rather than to persuade reduces the levels of information exchange (Demsetz, 1988). Authority exercised in the form of widely known plans, rules, standards and procedures (Grant, 1996) and used to legitimize and widely propagate terminology (Arrow, 1974) contributes directly to reducing cognitive heterogeneity (Gulati and Puranam, 2011).

#### **P6: The hierarchy mechanism reduces cognitive heterogeneity among members**

##### **Community**

An agricultural cooperative can be understood as a community of practice, since its members are a collection of people engaged in a common endeavour (Lave and Wenger 1991; Wenger and Snyder, 2000). They are not just a group of farmers having a contract with the same organization. The social group of cooperative members can be considered a community of practice because in the course of regular joint activity, the membership develops common ways of doing things, views, values, power relations and ways of talking. The cooperative engages its members in mutual sense-making about the collective organization, about their respective forms of participation, and about their orientation to other organizations and institutions around them (Eckert 2006).

The community mechanism as a managerial instrument is about diffusing values and beliefs to create a common ground of understanding. Diffusing cooperative ideology, i.e., the set of ideas and values as

expressed by cooperative principles is a practice which can be conceptualized as a community mechanism. Because ideologies may function as pre-packaged units of interpretation (Jost et al., 2008), and the community mechanism aims at members' internalization of specific values and beliefs, we expect that it builds a shared cognitive framework which reduces misunderstanding and allows for easier exchange of tacit knowledge (Kogut and Zander, 1996).

**P7: The community mechanism reduces cognitive heterogeneity among members.**

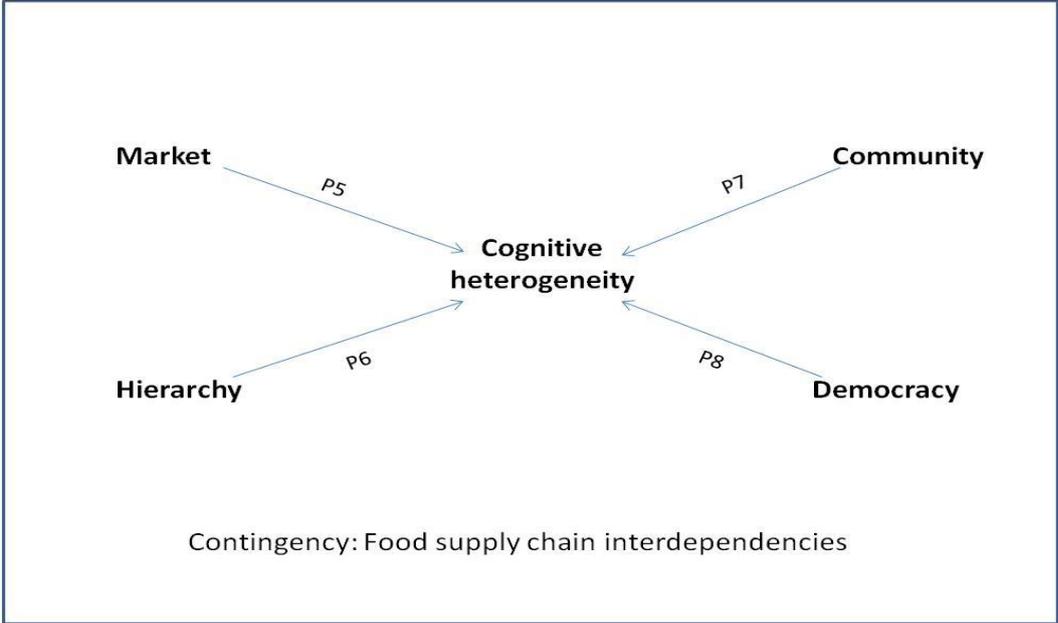
**Democracy**

In terms of informational requirements, the democracy mechanism, of which voting is a core practice, resembles the market mechanism since it involves “unilateral expected value maximizing decision-making over a set of well-defined alternatives” (Grandori, 1997, p.34). The point of democracy mechanisms is precisely to ensure that individuals with highly diverse ways of interpreting the world have the opportunity to express their views and to influence collective choices (Landemore, 2013). As this type of decision-making structure aims at integrating different interests and judgements, and gives members the possibility of ‘voice’, i.e., to complain about the relationship with the cooperative and try to work things out, we expect it to hinder the building of a shared cognitive framework. In this sense democracy preserves the diversity of cognition among people.

**P8: The democracy mechanism preserves cognitive heterogeneity among members.**

In Figure 2 the conceptual model relating governance mechanisms and cognitive heterogeneity is presented and the four arrows stand for the propositions that were put forward in this section.

**Figure 2. Governance mechanisms and cognitive framework**



Source: own elaboration

## 7. Conclusions

In this paper we argue that both commitment and cognition are open to management. Four governance mechanisms affect commitment and cognitive heterogeneity. Moreover, in the context of food value chain interdependencies and customer orientation, there are two types of commitment, which are affected in different ways by the four governance mechanisms. If both commitment to collective action and commitment to customer orientation are enhanced, control is facilitated, while if cognitive heterogeneity is reduced coordination is facilitated. However, strong interdependencies and strict quality requirements in food value chains generate a number of trade-offs between these mechanisms. While market and hierarchy might be needed to strengthen commitment to customer orientation, and thereby reduce short term transactional risks, these mechanisms might have a negative effect on commitment to collective action. That is, market and hierarchy mechanisms might increase the risk of future collective failure, by generating hidden social costs that accumulate and only appear in the long-run.

This paper has three main contributions to the organizational economics discourse on the cooperative governance structure. First, it acknowledges that agricultural cooperatives employ a wide range of governance mechanisms, as empirically observed firms, hybrids and markets do. Although we argue that the cooperative uses the market, hierarchy, community and democracy mechanisms simultaneously to manage the relationship between cooperative firm and farmer-member, the governing body of the cooperative can choose to increase the relative strength of a particular mechanism in seeking to enhance commitment and reduce cognitive heterogeneity.

Second, this paper acknowledges the crucial role of community and democracy mechanisms in enhancing commitment to collective action in cooperatives. Community and democracy mechanisms are seldomly integrated into studies on cooperatives. It is likely that these mechanisms are stronger in cooperative configurations than in other types of inter-firm-networks and investor-owned firms. Furthermore, it has been argued that these mechanisms are the very source of competitive advantage of cooperatives over alternative arrangements (Davis and Bialoskorski, 2010).

Third, this paper acknowledges the coordination function of governance mechanisms, in line with Gulati et al. (2012). Governance of any inter-firm collaboration has at least two functions: maintaining partners' commitment and aligning interests on the one hand, and aligning and adjusting partners' actions on the other hand. Since the democracy mechanism might preserve rather than reduce cognitive heterogeneity, it is likely to increase the coordination costs for the cooperative. Therefore, the main function of hierarchy in cooperatives might be to reduce cognitive heterogeneity through formal rules and standards, thus increasing predictability and facilitating coordination, than to mitigating opportunistic behaviour.

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