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## **The Relationship Between Members’ Trust and Participation in the Governance of Cooperatives: The Role of Organizational Commitment**

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### **Abstract**

This paper aims to explain the participative behavior of farmers-members of agricultural cooperatives in the governance of the latter. The study introduces two concepts from the organizational behavior literature: trust and organizational commitment. It tests a mediator effect of commitment in the relationship between the trust a farmer has in the cooperative and his/her participative behavior in its governance. Based on a sample of 259 members of French agricultural cooperatives, results showed that affective commitment had a mediating role in the relationship between trust and participation in the governance of cooperatives, notwithstanding the cognitive or affective nature of trust.

**Keywords:** Organizational commitment, cooperative members

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## **Introduction**

Agricultural cooperatives are created by farmers to pool their means and increase their negotiating power on the market (Fulton and Hueth 2009). By definition, they are controlled by their members (Siebert and Park 2010). By belonging to a cooperative, farmers subscribe to a share of the capital and, they participate, as partners, in the running of the cooperative according to the democratic principal of “one man one vote”. Now, certain studies have noted a decrease in members’ participation in the democratic life of cooperatives even if these are indeed their “own” (Harte 1997; Holmström 1999; Levi and Davis 2008; Siebert and Park 2010). Whether members behave opportunistically (Cook 1995; Nilsson et al. 2009) or as free-riders (Bhuyan 2007), the main reason for this change in farmers’ behavior seems to lie in the phenomenon of concentration and restructuring of agricultural cooperatives (Fulton and Giannakas 2001; Lang and Fulton 2004). In certain cases, farmers find themselves in huge cooperative groups; these are diversified and international with strategy so complex that farmers find it difficult to understand (Österberg and Nilsson 2009). In view of their members’ detachment, it is important that cooperatives understand such attitudes and behaviors, for members contribute to the cooperatives’ performance (Fulton and Adamowicz 1993; Birchall and Simmons 2004; Bhuyan 2007). The success of a cooperative depends on the degree of participation of its members, as is shown in Österberg and Nilsson’s study (2009) carried out with over 2000 Swedish farmers. As voluntary organizations, cooperatives are based on a democratic decision-making process that rests upon collective participation, balance of countervailing powers, and cohesion among members (Hendriske and Bijman 2002). Moreover, members’ participation in the governance of a cooperative is the distinctive characteristic of this form of organization (Gray and Kraenzle 1998). However, very few studies in management and organizational behavior have investigated the behaviors of farmers and the antecedents of these behaviors in the specific context of cooperatives (Hansen et al. 2002; Morrow et al. 2004).

The aim of this paper is to explore and test the mediator role of organizational commitment in the relationship between trust and members’ participation in the governance of French agricultural cooperatives. These concepts are generally used in the organizational behavior literature to describe the relationship between an employee and his/her employer. Nevertheless, even if farmers are usually autonomous and independent workers, their relationship with their cooperative can be seen as a social exchange link in which trust and commitment are central phenomena (Blau 1964; Gouldner 1960). As participants in cooperative relationships, farmers desire: “(1) reciprocity, by which one is morally obligated to give something in return for something received (Gouldner 1960), (2) fair rates of exchange between utilitarian costs and benefits (Blau 1964), and (3) distributive justice, through which all parties receive benefits that are proportional to their investments” (Ring and Van de Ven 1992, 489). Further, the literature on cooperatives often makes use of trust to explain members’ behavior (Birchall and Simmons 2004; Hansen et al. 2002; James and Sykuta 2006; Morrow et al. 2004), but this use has not been yet explored through the lens of a social exchange framework. Also, organizational commitment which is a multidimensional attitudinal concept devoted to describe the relationship between an individual and an organization, has not yet, to our knowledge, been studied in the context of agricultural cooperatives. Nevertheless, many studies show that commitment is both a consequence of trust (Dirks and Ferrin 2002; Mayer and Gavin 2005) and a determinant of participative behaviors

within an organization (Podsakoff et al. 2000; LePine et al. 2002). This paper integrates these different concepts and tests their links in the context of agricultural cooperatives.

The first part of this article deals with the theoretical framework. The second covers the methodological aspects of the study carried out on a sample of 259 members of French agricultural cooperatives in the cereals sector. The third part focuses on the results and the fourth on a discussion of these. The limitations and perspectives for future research are covered in the final part.

## **Theoretical Framework and Hypotheses**

### *Members' Trust and Participation in the Cooperative*

Trust is a “psychological state which consists of accepting the vulnerability resulting from the positive expectations of the intentions or behaviors of the other” (Rousseau et al. 1998, 394). Members' vulnerability towards the cooperative can be understood in view of their dependence on the latter in terms of revenue and information. The relationship between member and cooperative is based on information asymmetry: the cooperative holds information which the member does not: this may be information on market prices, or again on clients' behavior (Borgen 2001). It is this uncertainty about the behaviors of one of the parties of the exchange which makes trust a determinant of the attitudes and behaviors of the other party (Kollock 2009; Ring and Van de Ven 1992).

As in the work which Hansen et al. (2002) and Morrow et al. (2004) carried out in agricultural cooperatives, we retain the theoretical perspective focusing on the mental and psychological processes which determine the member's decision to put his or her trust in the cooperative. The decision to grant trust depends on processes which may be both conscious and cognitive or emotional and affective (Hansen and Morrow 2003; McAllister 1995; Schaubroeck et al. 2011). For McAllister (1995), although these two components of trust (cognitive and affective) are distinct because they have different antecedents and consequences, they are complementary. Indeed members may trust their cooperative both because it is competent, reliable and conscientious in making the best decisions and also because it shows goodwill and they feel that its intentions towards them are good (Hansen and Morrow 2003).

The cognitive component of trust is based on a considered and rational analysis of the “pros and cons” of the decision to trust. This decision is made by calculating the advantages and risks in order to maximize the hoped for gains or minimize the potential losses resulting from the interaction (Colquitt et al. 2007; Erdem and Ozen 2003). Members choose to trust their cooperative depending on what they consider to be “the right reasons”. This choice depends on the information they have about the cooperative and is based on their beliefs about its competence, reliability and conscientiousness. Members thus evaluate the cooperative's capacity to satisfy their needs and create added value which is to their advantage (Theuvsen and Franz 2007). As for the affective component, it is based on more emotional and affective relationships between the two parties. “Individuals who commit emotionally to a relationship of trust show a sincere and special attention to the well-being of others” (McAllister 1995, 29). The affective component is based on a feeling of goodwill, mutual generosity and affective closeness between the parties. Hence, each party commits emotionally to a positive relationship, is truly concerned about the well-being of

the other party and believes that these feelings are mutual (Colquitt et al. 2007; Erdem and Ozen 2003). Consequently, if the cooperative pays attention to members showing itself to be highly concerned about them, the members will have an attitude of trust towards it. The affective component is therefore more subjective and emotional than the cognitive component.

In a relationship of exchange, trust is often used to explain an individual's behaviors towards his/her organization (Ferrin and Dirks 2003; Kramer 2009). The social exchange between two parties includes non-specified mutual obligations which are long-term; this is unlike economic exchange where a formal contract is used to ensure that both parties fulfill their short-term obligations (Blau 1964). The theory of social exchange is mainly based on Gouldner's norm of reciprocity (1960) which refers to the fact of being obliged to the other party from the moment that the latter acts in favor of the former (Cropanzano and Mitchell 2005; Shore et al. 2009). Thus, according to this theory, when mutually favorable actions take place between a cooperative member and the cooperative, the relation of exchange should be a lasting one where mutual obligations will be reinforced and respected. From the moment that the farmer is confident that the cooperative will fulfill its future obligations (find the best market for the crop, provide the best advice, etc.), he or she will act reciprocally and behave favorably towards the cooperative. Studies carried out on members' participation show clearly that trust is one of the main determinants of farmers' behavior. Based on a sample of over 2000 American corn and soya producers, James and Sykuta (2006) showed that trust is linked to members' behavior of loyalty towards their cooperative. Trust constitutes a determining factor in their choice to sell their crop to the cooperative rather than to a private entity. Nilsson et al. (2009) as well as Österberg and Nilsson (2009) found from samples of Swedish farmers, that trust is linked to members' participative behavior in their cooperative's governance. Also, Birchall and Simmons (2004) tested a model of the members' motivation to participate to the governance of their cooperative, and found that trust has a central role into farmers' participative processes.

Members' behaviors of participation in the governance of their cooperative may be displayed in various ways. A member may become an administrator of his/her cooperative. He or she will thus participate directly in the cooperative's governance because an administrator guides and controls the cooperative's strategy. He or she is the guarantor of its purpose and its long-term survival (Siebert and Park 2010). A member may also participate more indirectly in this governance during Annual General Meetings (AGM). The AGM is one of the members' means of expression, ensuring that the cooperative is run democratically according to the principal of "one man one vote". During the AGM, members participate in choosing for example, how the cooperative's outcomes will be spent or again in the election of administrators. Democracy within the cooperative takes the form of delegated democracy and is based on the results of this election. Nevertheless, cooperative democracy may also be participative. Members can increase their role in decision-making and in the cooperative's political life by taking part in non-statutory instances (section meetings, diverse commissions, etc.). The above types of participation are left to the discretion of each individual. There is no control, no sanction, and no reward or prize linked to farmers' participation to the governance of their cooperative. Consequently, a member's participation in the governance of the cooperative is conceptually similar to an organizational citizenship behavior of civic virtue. It is defined as an individual's mobilization and active participation in the life of his/her organization, and the fact of feeling concerned by what goes on within that organization (Organ 1988; Organ, Podsakoff, and Mackenzie 2006). It refers to responsible par-

ticipation in the political life of an organization (Graham 1991; Van Dyne et al. 1994). The interest of such behaviors for an organization is that they engender better performance (Podsakoff et al. 2009; Whitman, Van Rooy, and Viswesvaran 2010). This type of behavior can thus encourage the success of farming cooperatives (Gray and Kraenzle 1998; Bhuyan 2007).

## **The Mediating Role of Organizational Commitment**

In this study, we suppose that organizational commitment plays a mediating role in the relationship between trust and members' involvement in the governance of their cooperative. Commitment is a multidimensional attitudinal construct which allows explaining the relationship between an individual and an organization (Meyer et al. 2002; Solinger et al. 2008). There are three components to this concept (affective, continuance and normative), but we focus on only two of these since the normative dimension is often excluded as too strongly correlated with the affective dimension (Meyer et al. 2002; Cooper-Hakim and Viswesvaran 2005). Hence, a member's commitment may be "desired": this is the affective component of the concept which corresponds to an emotional attachment, a feeling of belonging and a wish to remain a member of the organization. A member may also concede commitment because he or she feels that there is no other choice but to remain a member of the cooperative since leaving it would entail costs and the loss of acquired advantages. This is the continuance component of organizational commitment.

Previous research has shown that commitment is determined by trust. In marketing literature, several authors have highlighted the central role of trust (Moorman et al. 1993) and found a positive relationship between trust and commitment (Morgan and Hunt 1994; Wilson 1995). According to Dwyer, Schurr, and Oh (1987), commitment represents a relational bond between interdependent exchange partners, and connotes solidarity, durability, and consistency. These criteria underline the importance of trust as an antecedent of commitment. In human resource management, some authors found a positive link between affective commitment and trust (Aryee et al. 2002; Flaherty and Pappas 2000; Tan and Lim 2009). Others have also found a positive relationship between trust and continuance commitment (Hrebiniak and Alutto 1972). In the cooperative context and to our knowledge, organizational commitment has not been used to explain a members' attitude or behavior. However, Borgen (2001) has shown that there is a link between trust and members' identification with their cooperative; this identification covers part of the affective dimension of commitment as defined by Meyer and Allen (1997). Gray and Kraenzle (1998) also underlined the importance of members' identification with their cooperative. On the basis of a sample of over 1000 farmers, 60% identify strongly or very strongly with their cooperative. Thus, prior research posits a global positive influence of trust on organizational commitment whatever the dimensions of one construct and the other are. Following current standards of measurement of trust (McAllister 1995) and organizational commitment (Meyer et al. 2002), we make the hypothesis of positive links among various dimensions of both trust and commitment.

While the type of commitment (affective or continuance) does not seem to be a determining factor in the link between commitment and trust, this does not appear to be the case for the link between commitment and participation behaviors which are favorable for the organization. Affective commitment is positively linked to participation whereas continuance commitment is linked negatively or not significantly (Chen and Francesco 2003; Meyer et al. 2002; Norris-Watts and Levy 2004). Thus, we may expect that members who feel affective commitment towards their

cooperative behave positively towards it. On the other hand, members who remain within the cooperative because of their perception that the costs of leaving it are too high or because they have no alternative but to continue their membership (continuance commitment), may have feelings of frustration which result in distancing behaviors and non participation in cooperative governance.

We thus posit the following hypotheses:

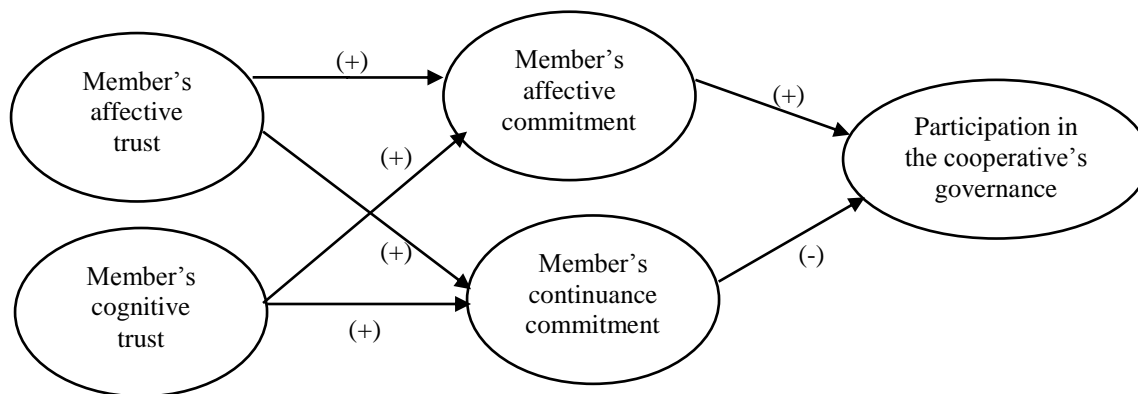
*Hypothesis 1: Members' affective commitment will positively mediate the relationship between affective trust in their cooperative and participation in its governance.*

*Hypothesis 2: Members' affective commitment will positively mediate the relationship between their cognitive trust in the cooperative and their participation in its governance.*

*Hypothesis 3: Continuance commitment will negatively mediate the relationship between members' affective trust in their cooperative and their participation in its governance.*

*Hypothesis 4: Continuance commitment will negatively mediate the relationship between members' cognitive trust in their cooperative and their participation in its governance.*

The hypothetical model is shown in Figure 1.



**Figure 1.** Hypothetical Model of the Research

## Methods

### Sample

The total sample consists of 322 farmer-members from French agricultural cooperatives from the cereal-supply sector. These cooperatives are located in the Midi-Pyrénées region of France where cereal production is a dominant activity and where cooperatives occupy a preponderant position. Farmers were encountered between 2007 and 2008. Some of them were encountered on the site of their cooperatives and others were contacted during several agricultural regional events unrelated to their cooperatives, for example agricultural shows. They were issued with a survey questionnaire which was followed up by a reminder phone-call. This methodology result-

ed in a highly satisfactory return rate of 58%. However, missing values reduced the sample used in this research to 259 farmers. The cooperative members questioned had an average age of 47 years; 38% were educated to the *Baccalaureate* (high school diploma) level or higher, and 62% to a lower educational level (no high school diploma). Men represent 92% of the sample. On average, members questioned had been members of their cooperative for 20 years (*SD.* = 12 years). Their farms have an average net agricultural surface area of 127 hectares.

### *Measures*

For the set of items related to trust, commitment and participation in cooperative governance, respondents had to mention their degree of agreement according to a Likert type 5 point scale (from 1: *Totally disagree* to 5: *Totally agree*)

*Trust.* Farmers see their trust in the cooperative as the trust they grant to the cooperative's directors<sup>1</sup>. For farmers, the management team "is responsible for ensuring both good profitability for members and higher quality services from the cooperative" (Österberg and Nilsson 2009, 187). On the basis of Levinson's (1965) research, members personify the cooperative by attributing it with the human qualities of its directors. This is why we retained a measure of trust in the directors, as proposed by Campoy and Neveu (2007). This measure has two advantages: firstly it captures both the affective and cognitive components of trust proposed by McAllister (1995), and secondly, it has already been tested in a French context. Affective trust comprises 6 items. This scale had very high internal reliability with a Cronbach alpha of 0.90. "*I can trust the cooperative's directors because they sincerely share information about the cooperative*" is an example of an item from this scale. Cognitive trust groups 8 items. Its Cronbach alpha was 0.94. "*I can trust directors to make the right decisions about the future of the cooperative because they are competent*" is one of these 8 items.

*Commitment.* We measured commitment with the scale developed by Allen and Meyer (1990) and revised by Meyer et al. (1993). We adapted the items to the farmer-cooperative relationship. Thus affective commitment retains 6 items and Cronbach's alpha was 0.83. "*I feel emotionally attached to my cooperative*" is an example of an item from this scale. Continuance commitment, with a Cronbach alpha of 0.80, is comprised of 4 items, such as "*I think I have too few alternatives to consider leaving my cooperative*".

*Participation in cooperative governance.* The measure was inspired by the three items developed by Podsakoff et al. (1990), and Podsakoff and MacKensie (1994) to measure civic virtue behaviors. We adapted these items to measure the participation in governance in the context of agricultural cooperatives. Thus, on the basis of the original first item, relative to the individual propensity to remain informed about the organization future, we considered that the farmer's attendance to the cooperative's General Meetings is an indicator of this propensity. Also, the second item measured the farmer's active participation to votes in General Meetings and elections. The third item measured the voice and speaking up behaviors during the cooperative meetings. The Cronbach alpha of these three items was 0.74.

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<sup>1</sup> Statement based on the results of a qualitative study previously carried out by the authors using interviews.

*Control variables.* Three control variables were used because they are often associated with the variables of our model: age, members' level of education and the size of the farm. (Meyer et al. 2002; Lind and Akesson 2005; Hoffman et al. 2007). We account for educational level under 5 terms: (1: no qualifications, 2: five years of education, *certificat d'études* - a secondary school diploma equivalent to five years of education, 3: 10 years of education *Brevet Professionnel* basic professional qualification equivalent to 10 years of education, 4: High school diploma *Baccalauréat*, 5: 2 years post High School and above). The size of the farm was determined using the indicator of net agricultural surface area measured in hectares. Indeed, farmers may display different attitudes or behaviors towards the cooperative depending on their age, education, or the size of the farm under their responsibility (Klein et al. 1997; Hansen et al. 2002; Österberg and Nilsson 2009).

### *Statistical Analyses*

We firstly tested the measurement model with a series of confirmatory factor analyses (CFA) according to the procedure recommended by Anderson and Gerbing (1988) and using structural equations modeling with LISREL 8.80 (Jöreskog and Sörbom 1996). These confirmatory factor analyses allowed to ensure the convergent and discriminant validity of the variables retained in the study. Several nested models were compared with our hypothetical measurement model in order to show that our model fits better the data. Secondly, we tested our hypotheses about commitment as mediator using the *bootstrap* method for testing indirect effects (Preacher and Hayes 2008). We also used the Sobel test of significance of indirect effects as recommended by MacKinnon et al. (2002).

Tests for mediation effects often use the “step by step” procedure proposed by Baron and Kenny (1986). However, this procedure suffers from certain limits. Thus, its statistical power is limited in most situations and particularly in those where the sample under study is a small one with a non-normal distribution; moreover, the first step is not suitable as it requires a questionable significant direct link between the independent and dependent variables (MacKinnon et al. 2002). Furthermore, Preacher and Hayes (2008) suggested that “type I errors” are likely to occur with Baron and Kenny's (1986) method. This type of error may result in erroneous conclusions about the mediation effect.

The above reasons explain why we used the *bootstrap* method for indirect effects. This method for testing mediation effects is a recent alternative to Baron and Kenny's (1986) procedure. It overcomes the limits of the latter, notably by using confidence intervals to get around the problem of statistical power (Edwards and Lambert 2007; MacKinnon et al. 2002) and decrease type I errors (Preacher and Hayes 2008). Based on Preacher and Hayes's works (2008), the *bootstrap* method relies on using a SPSS macro which combines the Sobel test with a step by step procedure; this makes it possible to test all the indirect effects of mediation while at the same time controlling for the other variables of the model. Our analyses were based on 5000 replications generated by the *bootstrap* method.

## **Results**

The descriptive statistics, reliability of scales and correlations between variables are shown in Table 1.

**Table 1.** Means, Standard Deviations and Correlations

	M	SD	1	2	3	4	5	6	7	8
1. Age	46.5	9.83								
2. Level of education	3.59	1.35	-0.35**							
3. Net agricultural surface	127.	83.36	-0.18*	0.23**						
4. Affective commitment	3.12	0.81	0.23**	-0.16*	-0.10	(0.83)				
5. Continuance commitment	2.76	0.75	0.14*	-0.18*	-0.21*	0.43**	(0.80)			
6. Affective trust	3.47	0.75	0.06	-0.11	0.00	0.71**	0.55**	(0.90)		
7. Cognitive trust	3.68	0.74	-0.12†	-0.11†	0.02	0.66**	0.50**	0.87*	(0.94)	
8. Participation in the cooperative governance	2.73	1.05	0.10	0.02	0.10	0.36**	0.02	0.22*	0.22*	(0.74)

N = 259, Cronbach’s Alpha is presented on the diagonal

†p<.10; \*p<.05; \*\*p<.01

*Analysis of the Common Method Variance Bias*

We tested the common method variance bias in as much as the data were collected from the same persons on a single period of measurement (Podsakoff et al. 2003). To limit such bias, we followed Podsakoff et al.’s (2003) recommendations. First, we separated predictor and criterion variables sections in survey questionnaires, insured response confidentiality, and explicitly assured the participants that there were no right or wrong answers to the survey questions. We also distributed the surveys directly to the farmers, who returned them directly to the study team. Over and above these precautions, we carried out a series of statistical analyses recommended by Podsakoff et al. (2003) in order to check whether the data were affected by the Common Method Variance bias. We first examined a single factor model for data (i.e., Harman’s single factor test). This test revealed a very poor fit to the data (cf. Table 2); this indicated the weak probability of the existence of a hypothetical common method factor ( $\chi^2 [319] = 2273.75, p < .001, CFI = .91, NNFI = .90, RMSEA = .154$ ).

Second, we tested the baseline measurement model with an additional latent common method factor (LCMF) on which every item in the baseline model was allowed to load (in addition to its loading on its respective construct). This model presents a level of fit which is very slightly better than that of our hypothetical model ( $\Delta\chi^2 [6] = 28.77, p < .001; RMSEA = .07$ ). However, the LCMF accounted for only 7% of the total variance, which is considerably less than the median method variance (25%) in studies of self-reported perceptions (Lance et al. 2010; Williams, Cote and Buckley, 1989). In addition, correlations among substantive latent factors were virtually the same whether generated by the CFA with or without the LCMF. Together, these results indicate the absence of CMV bias.

### Confirmatory Factor Analysis

As shown in Table 2, six measurement models were compared using several fit indices. The  $\chi^2$  test should give the smallest possible value, the CFI<sup>2</sup> and the NNFI<sup>3</sup> should be higher, at .90, the RMSEA<sup>4</sup> should be less than .08 (Kline 2010). To compare the goodness of fit of the nested models, the difference of  $\chi^2$  test ( $\Delta\chi^2$ ) was retained (Medsker et al. 1994). The hypothetical model included five factors: affective trust, cognitive trust, affective commitment, continuance commitment and participation in the governance of the cooperative. Table 2 shows that the fit of this model to the data was highly satisfactory ( $\chi^2 = 804.66$ ,  $df. = 309$ ,  $p < .001$ ; NNFI = .96; CFI = .96; RMSEA = .07).

This model was compared to five others: model 1 (4 factors) combined affective trust and cognitive trust in one construct ( $\Delta\chi^2 = 393.68$ ,  $\Delta df = 4$ ,  $p < .01$ ); model 2 (3 factors) merged in one construct affective trust and cognitive trust and as another, affective and continuance commitment ( $\Delta\chi^2 = 527.85$ ,  $\Delta df = 7$ ,  $p < .01$ ); model 3 (3 factors) integrated affective commitment and affective trust and continuance commitment and cognitive trust ( $\Delta\chi^2 = 758.94$ ,  $\Delta df = 7$ ,  $p < .01$ ); model 4 (2 factors) merged both types of trust and both types of commitment into the same construct ( $\Delta\chi^2 = 1187.76$ ,  $\Delta df = 9$ ,  $p < .01$ ); and finally, model 5 was made up of only one factor (Harman 1976) ( $\Delta\chi^2 = 1469.09$ ,  $\Delta df = 10$ ,  $p < .01$ ).

These analyses show that the hypothetical model is the one that presents the best fit to the data. In spite of the strong correlation between affective trust and cognitive trust, these two constructs are therefore distinct according to our Confirmatory Factor Analyses. Previous research also showed up this strong correlation while maintaining the same distinction (McAllister 1995; Yang and Mossholder 2010).

**Table 2.** Confirmatory Factor Analysis of Measurement Models: Fit Indices

Models	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	NNFI	CFI	RMSEA
Hypothetical model	804.66	309	-	-	0.96	0.96	0.07
Model 1 <sup>a</sup>	1198.34	313	393.68**	4	0.95	0.95	0.10
Model 2 <sup>b</sup>	1332.51	316	527.85**	7	0.94	0.95	0.11
Model 3 <sup>c</sup>	1563.60	316	758.94**	7	0.93	0.94	0.12
Model 4 <sup>d</sup>	1992.42	318	1187.76**	9	0.92	0.93	0.14
Model 5 <sup>e</sup>	2273.75	319	1469.09**	10	0.90	0.91	0.15

N=259

<sup>a</sup> combines affective and cognitive trust.

<sup>b</sup> combines affective and cognitive trust and affective commitment and calculated commitment.

<sup>c</sup> combines affective trust and affective commitment and cognitive trust and calculated commitment.

<sup>d</sup> combines affective trust, cognitive trust, affective commitment, calculated commitment.

<sup>e</sup> combines the 5 constructs (Harman's test, 1976).

\*\*  $p < .01$ .

<sup>2</sup> Comparative Fit Index.

<sup>3</sup> Non Normed Fit Index.

<sup>4</sup> Root-Mean-Square Error of Approximation.

### *Test of the Hypotheses on the Mediator Effect of Commitment*

We tested the indirect effects of affective and cognitive trust on participation in the governance of the cooperative *via* affective and continuance commitment using the *bootstrap* procedure recommended by Preacher and Hayes (2008). Table 3 shows the regression coefficients of the mediator effect of *affective commitment* in the relationships between affective and cognitive trust and members' participation behavior in cooperative governance. In Table 4, we present the results of the test of the mediator effect of *continuance commitment* in the relationships between trust and participation in cooperative governance.

Hypothesis 1 specified that the members' affective commitment acts as a positive mediator in the relationship between affective trust in their cooperative and participation in its governance. Affective trust was positively and significantly linked to affective commitment ( $\beta = .58, p < .01$ ); the latter also had a positive and significant impact on participation ( $\beta = .38, p < .01$ ). Sobel's test of the significance of the indirect effect of affective trust on a member's participation was satisfactory ( $z = 3.59; p < .001$ ). The *bootstrap* confidence interval [.07; .40] did not contain zero, thus it corresponds to the criterion of significance of the mediator effect (Preacher and Hayes 2008). Hypothesis 1 was thus verified.

According to Hypothesis 2, members' affective commitment acts as a positive mediator in the relationship between their cognitive trust in the cooperative and their participation in its governance. Cognitive trust was positively and significantly linked to affective commitment ( $\beta = .56, p < .01$ ). Affective commitment was also positively and significantly linked to participation in the cooperative's governance ( $\beta = .37, p < .01$ ). The Sobel test was consistent with this result ( $z = 3.56; p < .001$ ). This result was also confirmed by the *bootstrap* test with a confidence interval excluding the null value [.08; .39]. Hypothesis 2 was also verified.

In Hypothesis 3, members' continuance commitment acts as a negative mediator in the relationship between their affective trust in their cooperative and their participation in its governance. According to Table 4, affective trust had a significant impact on continuance commitment ( $\beta = .50, p < .01$ ). However, the latter was not significantly linked to participation ( $\beta = .02, ns.$ ). The Sobel test was not significant ( $z = -.08; ns.$ ) and the *bootstrap* confidence interval contained a 0 value [-.10; .12]. Hypothesis 3 was therefore rejected.

Finally, according to hypothesis 4, members' calculated commitment acts as a negative mediator in the relationship between cognitive trust in their cooperative and their participation in its governance. Table 4 shows that cognitive trust significantly influences calculated commitment ( $\beta = .51, p < .01$ ). However, calculated commitment is not significantly linked to participation ( $\beta = .02, ns.$ ). This result is confirmed both by the Sobel test which is not significant ( $Z = -.04; ns.$ ) and by the confidence interval of the *bootstrap* which contains a null value [-.09; .12]. Hypothesis 4 is thus not verified.

**Table 3.** Regression Results for Mediator Effects of Affective Commitment

<i>Variables</i>	<b>Model 1<sup>a</sup></b>			<b>Model 2<sup>b</sup></b>		
	$\beta$	<i>SE</i>	<i>t</i>	$\beta$	<i>SE</i>	<i>t</i>
<i>Partial effects of control variables</i>						
Age	.01	.00	1.05	.01	.00	1.17
Level of education	.07	.05	1.62	.08	.05	1.63
Net agricultural area	.19*	.09	2.05	.18*	.09	1.98
<i>Direct and total effects</i>						
<b>Effect of affective trust on affective commitment (a)</b>	<b>.58**</b>	<b>.05</b>	<b>10.72</b>			
<b>Effect of affective commitment on participation, controlling for affective trust(b)</b>	<b>.38**</b>	<b>.09</b>	<b>4.02</b>			
Effect of affective trust on participation (c)	.07	.08	.81			
Effect of affective trust on participation, controlling for affective commitment (c')	-.15	.10	-1.55			
<b>Effect of cognitive trust on affective commitment (a)</b>				<b>.56**</b>	.06	9.71
<b>Effect of affective commitment on participation, controlling for cognitive trust (b)</b>				<b>.37**</b>	.09	4.01
Effect of cognitive trust on participation (c)				.06	.08	.70
Effect of cognitive trust on participation, controlling for affective commitment (c')				-.14	.10	-1.47
<i>Indirect effects in cases of normal distribution</i>						
<i>Sobel</i>	<i>Value</i>	<i>z</i>	<i>LL 95% CI</i>	<i>UL 95 % CI</i>		
Model 1	.21	<b>3.59**</b>	.10	.33		
Model 2	.20	<b>3.56**</b>	.09	.32		
<i>Bootstrap results for indirect effects</i>						
<i>Effect</i>	<i>M</i>	<i>SE</i>	<i>LL 99% CI</i>	<i>UL 99 % CI</i>		
Model 1	.22	.06	<b>.07</b>	<b>.40</b>		
Model 2	.21	.05	<b>.08</b>	<b>.39</b>		

*Note.* N = 259. The regression coefficients are non standardized. The size of the bootstrap sample = 5000.

LL = lower limit; UL = upper limit; CI = confidence interval. M = mean; SE = standard error.

\*  $p < .05$ ; \*\*  $p < .01$ .

a.: Affective trust as independent variable and affective commitment as mediator; b.: Cognitive trust as independent variable and affective commitment as mediator.

**Table 4.** Regression Results for Mediator Effects of Continuance Commitment

Variables	Model 3 <sup>a</sup>			Model 4 <sup>b</sup>		
	$\beta$	SE	t	$\beta$	SE	t
<i>Partial effects of control variables</i>						
Age	.01	.00	1.64	.01	.00	1.60
Level of education	.07	.05	1.47	.08	.05	1.46
Net agricultural area	.15	.09	1.55	.15	.09	1.58
<i>Direct and total effects</i>						
<b>Effect of affective trust on continuance commitment (a)</b>	<b>.50**</b>	<b>.07</b>	<b>7.28</b>			
<b>Effect of continuance commitment on participation, controlling for affective trust (b)</b>	<b>.02</b>	<b>.07</b>	<b>.26</b>			
Effect of affective trust on participation (c)	.07	.08	.81			
Effect of affective trust on participation, controlling for continuance commitment (c')	.06	.09	.63			
<b>Effect of cognitive trust on continuance commitment (a)</b>				<b>.51**</b>	<b>.07</b>	<b>7.06</b>
<b>Effect of continuance commitment on participation, controlling for cognitive trust (b)</b>				<b>.02</b>	<b>.07</b>	<b>.32</b>
Effect of cognitive trust on participation (c)				.06	.08	.70
Effect of cognitive trust on participation, controlling for continuance commitment (c')				.05	.09	.51
<i>Indirect effects in cases of normal distribution</i>						
<i>Sobel</i>	Value	<i>z</i>	LL 95% CI	UL 95 % CI		
Model 3	-.01	<b>-.08</b>	<b>-.08</b>	<b>.07</b>		
Model 4	-.00	<b>-.04</b>	<b>-.08</b>	<b>.08</b>		
<i>Results of Bootstrap for indirect effects</i>						
Effect	<i>M</i>	<i>ES</i>	LL 99% CI	UL 99 % CI		
Model 3	.01	.04	<b>-.10</b>	<b>.12</b>		
Model 4	.01	.04	<b>-.09</b>	<b>.12</b>		

Note. N = 259. The regression coefficients are non standardized. The size of the bootstrap sample = 5000.

LL = lower limit; UL = upper limit; CI = confidence interval. M = mean; SE = standard error.

\*  $p < .05$ ; \*\*  $p < .01$ .

a.: Affective trust as variable and continuance commitment as mediator; b.: Cognitive trust as independent variable and continuance commitment as mediator.

## Discussion

In order to adapt to a changing economic context which has lead French agricultural cooperatives to modify their structures and strategies, it now seems important to analyze the relationships members develop with their agricultural cooperative. In this paper, we explored the links between trust, organizational commitment and members' participation in the governance of their

cooperative. Previous studies on agricultural cooperatives have shown the importance of members' trust in the managers of their cooperatives, and the participation of members in the life of the cooperative (Fulton and Giannakas 2001; James and Sykuta 2005; Gall and Schroeder 2006). Our research completes these previous studies in the sense that it tested the mediator effect of organizational commitment in the relationship between members' trust and their participative behaviors. We showed that members' trust impacted their participation through their affective commitment and the mediator effect of affective commitment between trust and participation was complete.

The results of this study have shown that trust is the starting point which explains a member's favorable behavior towards his/her cooperative. Members' trust in their cooperative, represented by the directors, depends on the cooperative's capacity to act competently and reliably and to take the right decisions while still showing goodwill, remaining close to members, heedful of their demands and showing strong concern for their interests. The two facets of trust - cognitive trust and affective trust - have an almost identical impact on organizational commitment, whether this be of an affective or continuance nature. This positive link between trust and commitment conforms to that mentioned in previous studies (Flaherty and Pappas 2000; Aryee et al. 2002; Kramer 2009).

Regarding the link between commitment and participation, the results of this study have shown that members participate in the governance of their cooperative when they are attached to it affectively. On the contrary, members' continuance commitment is not significantly linked to participation in the cooperative's governance. These findings are consistent with those of recent studies that found a significant and positive relationship between affective commitment and member's favorable behavior towards the organization (Peng and Chiu 2010; Rezaiean et al. 2010). Results concerning the link between continuance commitment and member's favorable behavior towards the organization lack consistency. Some studies attest to a negative link and others, like our own research, to an absence of significant link (Meyer et al. 2002). However, results obtained for continuance commitment remain coherent with the findings of other studies (Cook 1995; Nilsson et al. 2009). Linking one's economic fate with a cooperative and being aware of the potential losses resulting from leaving it do not exclude individualistic behavior (Bhuyan 2007). In such cases where we would expect a negative effect, our results only show that the economic aspect of this link has no influence on the member's behavior towards the cooperative as far as participation in governance is concerned. Only if the member is affectively attached to the cooperative and trusts the directors, is he or she likely to participate more in its governance independently of his/her continuance commitment. On the other hand, continuance commitment probably retains its potential mediating effect on trust towards other types of behavior which are more closely linked to economic aspects, such as loyalty in terms of supply and sales for example.

## **Managerial Implications**

From a practical point of view, these findings show the directors of agricultural cooperatives that it is useful to create the conditions which generate cooperatives' members' trust because this is a source of affective attachment and favorable behaviors.

The social exchange theory and the norm of reciprocity stipulate that from the moment that mutually favorable actions are developed, the relationship of exchange will be a lasting one and the obligations between the parties will be reinforced and respected (Shore et al. 2009). Thus, the relationship between farmers and their cooperative cannot be maintained unless the cooperative acts favorably towards their members. Indeed, the affective component of trust is determined by the frequency of interactions (McAllister 1995; Levin et al. 2006). We can therefore suppose that if cooperatives communicate more and share information with their members, the latter will be more attached to the cooperative and will feel more at ease in showing greater participation in decision-making. Their participation behaviors will thus be strengthened. The literature shows that practices of information-sharing are considered as the basis of individuals' commitment and motivation (Guerrero and Barraud-Didier 2004; Lawler et al. 1992). Moreover, we can also suppose that if those who represent the cooperative, in other words the directors, adopt altruistic or helpful behaviors towards members (Smith et al. 1983; Organ 1988; Organ et al. 2006), those members will feel obliged to the cooperative and will in exchange adopt favorable attitudes and behaviors towards it, such as participating in its governance.

In a more practical vein, cooperatives have every interest in getting closer to their members by taking as many opportunities as possible to exchange with them and help them. However, this close relationship cannot be set up overnight. The relationship between a member and the cooperative has to be built up gradually over time. Indeed, trust based on affect corresponds to a highly specific relationship, one which is imprinted with goodwill and emotional attachment; as such it is a difficult thing to construct (Jeffries and Reed 2000). Affective trust is associated with an investment in terms of time and feelings; this is far more demanding than in the case of cognitive trust (McAllister 1995; Erdem and Ozen 2003; Hansen and Morrow 2003). In order to build up cognitive trust, the cooperative must show members that it is reliable and competent through its everyday actions. Its reputation depends on this. The cooperative can demonstrate its reliability and competence through the advice it gives members, whether this advice be technical, economic, strategic, environmental or regulatory in nature. Competence can also be shown through decisions made relative to investments, marketing cereals, ensuring outlets, etc. Even if a cooperative has economic objectives, it must not neglect its social relationship with its members.

## **Limits of Study and Future Avenues of Research**

We have shown that members' affective commitment is a mediator in the relationship between the affective and cognitive trust granted to the cooperative and members' participation in its governance. However, the results of this study should not hide a certain number of limitations which enable us to propose future avenues for further research.

The first limit is methodological. The study undertaken is cross-sectional. Yet, the relationship between a member and his/her cooperative is a dynamic one. The member may be in different psychological states at different times during this relationship and to varying degrees. Thus, it would be wise to take account of this evolution of psychological states by undertaking a longitudinal study. Such a study would make it possible to envisage retroactive loops between the member's trust, commitment and participation. Regarding our transversal procedure, a longitudinal study would allow a more robust test of the causal relationships among these three concepts. Nevertheless, we verified whether the "causal chain" presented here was the right one. For this,

by using methods of structural equations we compared our trust-commitment-participation model ( $\chi^2 = 265.78$ ,  $df. = 111$ ,  $p < .001$ ; RMSEA = .07) to two other models changing the direction of the relationships among the concepts. Model 1 (participation-commitment-trust) presented poor fit indices ( $\chi^2 = 432.24$ ,  $df. = 112$ ; RMSEA = .11). The fit indices of model 2 (commitment-trust-participation) were also not as good as those of our model ( $\chi^2 = 289.17$ ,  $df. = 111$ ; RMSEA = .08).

The second limitation of the study has to do with the exclusion of the normative facet of commitment and the sub-dimensions of continuance commitment. Since the original definition, works on organizational commitment have revealed two sub-dimensions to the continuance component: perceived sacrifice and absence of alternatives (McGee et Ford 1987; Vandenberghe et al. 2004; Vandenberghe 2009). Introducing these two sub-dimensions and the normative dimension into our model would certainly contribute to enriching our knowledge of members' behavior towards their agricultural cooperative. Concerning the concept of trust, we retained the managing directors of the cooperative as targets of trust. However, the direction of a cooperative is a "two-headed beast". The managing directors are employed by an agricultural cooperative to manage it on a day to day basis; but there are also administrative directors. These make up the board whose role is to guide and control the cooperative's strategy. The administrators are farmers who are members of the cooperative elected by their peers in a General Assembly (AGM). It would be interesting to change the target of trust from managing directors to the board: we might then suppose that members would have a higher level of affective trust in the directors of the board of administration than in the managing directors (Vandenberghe 2009). Concerning members' behaviors, we limited ourselves to the behavior of participation in the cooperative's governance. One future research track could explore transactional members' behaviors and their economic loyalty to the cooperative in order to integrate the profit motive in the analysis. Indeed, in an uncertain economic climate, farmers do not hesitate to set their cooperative in competition with others, or even with private dealers. This is why members' loyalty is a central concern for the directors of agricultural cooperatives. Finally, other variables could determine both farmers' participation and economic loyalty such as the level of price received, outcomes satisfaction, the duration of the relationship between a farmer and a cooperative. Including these variables in future research will shed new light on the complex relationships between farmers and cooperatives.

The theory which underlies our model is that of social exchange. This supposes reciprocity between two parties. In order to better understand this exchange, it would be wise to examine the actions which cooperatives could undertake in favor of their members. Indeed, each of the parties needs to believe that the other will fulfill future obligations and each will therefore engage in reciprocity. We suggest, for example, studying the impact which could result from practices of communication and information sharing or of sustainable development and Corporate Social Responsibility on the attitudes and behaviors of members of agricultural cooperatives. Finally, applying the norm of reciprocity to exchanges among members of cooperatives raises the question of membership expansion, power dilution, and voting rights of new members (Hart and Moore 1996). Indeed, "existing members are less willing to invest in the exchange since they anticipate that new members will enjoy the benefits later on, and as a result there is too little investment. Here, 'investment' can be financial, or it can be in the less tangible form of becoming involved in running the exchange and planning for its future" (Hart and Moore 1996, 67). Future research

could therefore investigate the impact of trust among existing and new members of cooperatives on the participation in the governance of cooperatives.

## **Conclusions**

This research contributes to a better understanding of the members' participation in the governance of agricultural cooperatives. We showed that members' trust impacted their participation through their affective commitment; this mediator effect of affective commitment between trust and participation was complete. We encourage the directors of cooperatives to create the conditions which generate cooperatives' members' trust because this is a source of affective attachment and favorable behaviors like participation. More precisely, we believe that cooperatives' directors should pay attention to their members on a daily basis, by encouraging and maintaining reliable relationships with them.

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