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## The impact of trust on cooperative membership retention, performance, and satisfaction: an exploratory study<sup>☆</sup>

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### Abstract

This research explores the effect of trust in the relationships *among* members and *between* members and the management teams of two agricultural marketing cooperatives (co-ops). Specifically, this research focuses on the impact of trust on co-op members' performance, satisfaction, and their commitment to remaining a part of the co-ops. We examine trust along two dimensions: cognitive and affective. We argue that cognitive-based trust will be more salient in some contexts while affective-based trust will be more salient in other settings. Findings suggest that in both co-ops, trust *among* members and trust *between* members and co-op management are important predictors of group cohesion, which is a measure of the strength of members' desires to remain in a group (co-op) and their commitment to it. As hypothesized, there are differences in the effects of cognitive and affective trust, depending upon differences in the contexts represented by the two co-ops.

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## 1. Introduction

“Trust tends to be somewhat like a combination of the weather and motherhood. It is often talked about and it is widely assumed to be good for organizations, but when it comes to specifying just what it means in an organizational context, vagueness creeps in.” (Porter, Lawler & Hackman, 1975, p. 497) The preceding quotation succinctly summarizes the issue addressed in this paper. Trust is widely held to be a “good” thing that can have a positive impact on organizations in general and cooperative (co-op) organizations in particular. Most co-ops invest resources to support efforts to retain and satisfy members, which include, among other things, building trust among its membership and the management team. For instance, several co-ops reference “trust” as a guiding principle in their mission statement. However, just what, exactly, is “good” about the presence of trust in farmer co-ops? Does trust play the same role in every co-op? And, what effect does trust have on members’ co-op experience? This study addresses these questions by examining (1) trust *among* members in the co-op, and (2) trust *between* members and the co-op management team. Cognitive and affective trust are analyzed as to their respective impacts on membership retention, performance and satisfaction in two marketing co-ops. Explanations concerning differences in the results from the two co-ops are offered in Section 4.

Trust has received increased theoretical attention from management scholars and economists in recent years (Barney & Hansen, 1994; North, 1990; Sabel, 1993; Wilson, 2000). However, the important role of trust in economic exchange has long been recognized (Gambetta, 1988; Macauley, 1963). Empirically, trust has been found to reduce transaction costs by avoiding costly negotiations and contracting (Dyer, 1996, 1997; Gulati, 1995; Sako, 1992). Some have recognized that trust may also lead to enhanced revenues for alliance partners by allowing for a more complete interaction of the partner firms’ resources (Barney & Hansen, 1994; Dyer & Singh, 1998; Hansen et al., 2001). Calls have been made for economists to explicitly recognize the “humanness” of the economic actors whose behavior economic models are intended to explain (e.g., Wilson, 2000). This paper responds to that call by empirically testing some of the effects of trust on the economic relationships entailed in agricultural co-op membership.

## 2. Theory development

### 2.1. Definition of trust

Economists, management scholars, and sociologists have developed multiple definitions and typologies of trust (see Wilson, 2000 for a review). However, simply put, trust is the extent to which one believes that others will not act to exploit one’s vulnerabilities (Barney & Hansen, 1994; McAllister, 1995; Sabel, 1993). McAllister (1995) found that interpersonal trust among members in an organization was both affect- and cognition-based. He argued that interpersonal trust is cognition-based because individuals choose who they trust and base this decision on what they believe are “good reasons” (Lewis & Weigert, 1985). Affect-based trust arises out of the emotional bonds that exist between individuals, in that

these emotional bonds may eventually provide the basis for trust (Lewis & Weigert, 1985; McAllister, 1995).

Consistent with others (Lewis & Weigert, 1985; McAllister, 1995), we also view trust as having cognitive and affective dimensions. However, our definitions of these two dimensions of trust vary slightly. We argue that cognitive and affective trust refer to the *process* by which one determines that an individual, group or organization is trustworthy. Put differently, these terms refer to *how* one develops “good reasons” that others may be trusted or how “emotional bonds” of trust develop. Specifically, we suggest that although both types of trust result from social interaction, *cognitive trust* is more objective in nature and is based on a rational and methodical process that results in a judgment that an individual, group or organization is trustworthy. On the other hand, we argue that *affective trust* is subjective in nature because it is based on the moods, feelings or emotions that one has concerning the perceived trustworthiness of an individual, group or organization.

## 2.2. Trust in farmers' marketing co-ops

A co-op alliance may be defined as an inter-firm arrangement that involves the utilization of resources from autonomous organizations for the joint accomplishment of individual goals (Parkhe, 1993). Thus, farmers may join co-ops for a variety of reasons. The most obvious reason farmers join co-ops is to satisfy economic goals, or the desire to become financially better off. However, in addition to this goal, it seems reasonable to suggest that some individuals may also seek to satisfy social goals through their co-op membership. These social goals may include the desire to interact with other members and develop personal and business relationships. In pursuing their collection of goals, we suggest trust will develop *among* members of the co-op and *between* members and the managers of the co-op.

In general, farmers will seek to satisfy their social goals largely through their interactions with other members. The impressions made by these interactions will typically be based more on the moods and feelings experienced rather than the objective evaluation of information. Thus, the trustworthiness that develops *among* members will be largely affective in nature. Conversely, farmers will generally seek to satisfy the economic goals of their membership largely through their interactions with the managers of the co-op. As part of this interaction, members evaluate the abilities and propensity of the managers to further the economic interests of the co-op's membership. Therefore, the trust that develops *between* members and management will be more cognitive in nature as a result of the relatively objective evaluation of information. However, we are quick to recognize that the trust *among* members and the trust *between* members and management will also entail cognitive and affective elements, respectively.

## 2.3. Trust and group cohesion

Group cohesion may be defined as “the strength of members' desires to remain in a group and their commitment to it.” (Hellriegel, Jackson, & Slocum, 1999, p. 592) Group cohesion occurs as a result of members' positive feelings toward each other and the group

as a whole. [Bollen and Hoyle \(1990\)](#) defined cohesion as “an individual’s sense of belonging to a particular group and his or her feelings of morale associated with membership in the group.” (1990, p. 482) They suggest that without a fundamental sense of belonging, group members would not desire to continue their association with their cohorts. In turn, feelings of morale provide the motivation to achieve organizational goals and objectives.

[Bollen and Hoyle \(1990\)](#) argued that an individual’s sense of belonging and feelings of morale would be affected by cognitive and affective processes in different ways. For example, an individual’s sense of belonging to a group should have both cognitive and affective components. At the cognitive level, individuals make judgments of belonging using information stored up from past experiences with other group members or with the group as a whole. At the affective level, judgments of belonging are grounded in one’s “feelings that reflect the individual’s appraisal of their experiences with the group and group members.” ([Bollen & Hoyle, 1990](#), p. 483) This suggests that individuals develop their sense of belonging to a group, and a willingness to remain a part of the group, by relying on cognitive information from past experiences, as well as an assessment of their emotional feelings concerning their group membership.

However, when determining their feelings of morale, [Bollen and Hoyle \(1990\)](#) argued that individuals make these decisions based more on a “global affective response associated with belonging to the group.” (1990, p. 483) This seems to suggest that morale, or one’s enthusiasm for remaining in the group, is based largely on the affective elements of moods, feelings or emotions. Further, the level of cohesiveness that members feel concerning their co-op membership is likely to be based more on their feelings of trust toward other members rather than their feelings of trust toward members of management. Further, these feelings of trust are likely to be grounded in the affective rather than the cognitive dimension. The first set of testable hypotheses, thus, follows:

**Hypothesis 1a.** Trust among members (cognitive and affective) will have a greater impact on group cohesion than trust between members and co-op management (cognitive and affective).

**Hypothesis 1b.** Affective trust among members will have a greater impact on group cohesion than cognitive trust among members.

While members are likely to see themselves as belonging to a group with other members with whom they seek to satisfy their social goals, they must also develop relationships with co-op management in order to meet their economic goals. These interactions with management are likely to result in the development of both cognitive and affective trust. It seems reasonable, therefore, to suggest that members’ trust of the co-op’s management will also impact their level of group cohesion (although the impact will be less than that associated with trust among members). Given the nature of group cohesion, we suggest that the affective trust that members feel toward co-op management will be more important than cognitive trust in determining group cohesion. This leads to the third hypothesis:

**Hypothesis 1c.** Affective trust *between* members and co-op management will have a greater impact on group cohesion than cognitive trust *between* members and co-op management.

#### 2.4. Trust, performance and satisfaction in marketing co-ops

The differences in the types of trust (cognitive and affective) held *among* members of a co-op and *between* members and management should result in differences in outcomes or performance from the farmers' co-op membership. Using different typologies of trust, others have argued for and found such differences (Barney & Hansen, 1994; Dyer, 1997; Gulati, 1995; Sako, 1992). In exploring this relationship in a marketing co-op, we focused on two types of outcomes members may realize from their membership, namely, performance and satisfaction.

It seems clear that members of farmer-owned marketing co-ops will make qualitative assessments concerning their level of performance from their co-op membership. These assessments are likely to involve both financial indicators of performance (such as whether their membership resulted in increased revenues and profits) and non-financial indicators of performance (such as whether they are satisfied with their membership and whether their membership has met or exceeded their expectations).

Members develop *expectations* regarding the benefits or outcomes that they believe they will receive from their participation in the co-op. Trust has been shown to have a positive influence on the decision to form an alliance (Gulati, 1995), which may be interpreted as an indicator of positive expectations about the outcomes of the alliance. Therefore, trust (cognitive and affective) is likely to have a positive influence on co-op members' perceptions of performance and satisfaction, a sort of 'halo effect'. In particular, we suggest that members who feel affective trust for other members are likely to form positive expectations about belonging to a co-op. Much like affective trust, these expectations may be largely based on subjective feelings or a "sense" about what they should expect from their co-op membership. Likewise, when members make a determination concerning whether their co-op membership has satisfied their expectations, they are likely to make this determination largely based on similar subjective criteria. Although we predict that the degree to which members' *expectations* are satisfied will be positively associated with both cognitive and affective trust, we predict that affective trust will have a stronger influence. For similar 'halo effect' reasons, group cohesiveness will also likely have a positive impact on perceptions of performance and satisfaction. This leads to the next set of testable hypotheses:

**Hypothesis 2a.** All types of trust (cognitive and affective) at both levels (among members and between members and management) will have a positive effect on the members' performance and satisfaction from their co-op membership.

**Hypothesis 2b.** Affective trust (at both levels) will have a greater impact on members' performance and satisfaction from their co-op membership than cognitive trust (at both levels).

**Hypothesis 2c.** Group cohesion will have a positive effect on members' performance and satisfaction from their co-op membership.

### 3. Methods

The hypotheses were tested using samples from two different marketing co-ops. Two samples were used in an effort to provide greater generalizability of the results. These

specific co-ops were chosen based on the diversity of the services offered and the commodity handled by each co-op. One co-op dealt in grain where the marketing services were relatively simple and straightforward. The other co-op dealt in cotton fiber and offered members a more complex range of marketing options.

A survey methodology was employed to collect primary data in order to test the hypotheses and to assess the impact of the different types of trust. Guidance in the design and construction of the survey and the instrument was provided by [Bromiley and Cummings \(1995\)](#), [Cummings and Bromiley \(1996\)](#) and [Zaheer, McEvily, and Perrone \(1998\)](#). For Sample 1, the questionnaire was mailed to 606 members of a farmer-owned grain-marketing co-op headquartered in the southeastern U.S.. A total of 71 responses were returned, which represented a response rate of 12%. For Sample 2, a survey questionnaire was mailed to 2,819 members of a farmer-owned cotton marketing co-op also headquartered in the southeastern U.S.. Seven hundred eight individuals completed and returned the survey for a response rate of 25.1%.

### 3.1. Measures

The survey contained two four-item scales developed to measure *trust* among members and between members and co-op management on both the cognitive and affective dimensions.

We collected *performance and satisfaction* information using a four-item scale developed to provide a quantitative assessment of performance (e.g., my co-op membership has resulted in increased profits.). A more qualitative assessment was used to measure the degree of membership satisfaction (e.g., overall, I am satisfied with my co-op membership).

In addressing the need to develop a set of measures for an individual's perception of *group cohesion*, [Bollen and Hoyle \(1990\)](#) created the Perceived Cohesion Scale (PCS). This is a six-item measure reflecting the two underlying dimensions of cohesion—belonging and morale. In examinations of the psychometric properties of the PCS, the scale has demonstrated strong reliability and validity in large groups ([Bollen & Hoyle, 1990](#)) and small groups ([Chinn, Salisbury, Pearson, & Stollak, 1999](#)). The four scales used in the survey are presented in [Table 1](#).

All of the scales used in the study were factor analyzed and subjected to tests for interrater reliability before they were included in the analyses. All items used were found to have acceptable factor loadings and reliabilities. Cronbach's alpha was used to test for reliability, and these values are presented in [Table 1](#). A copy of the factor analysis results is available from the authors.

### 3.2. Control variables

The number of acres farmed was used to control for variability caused by the size of the member's farm. The number of years that the respondents had spent farming and the number of years they had been members of the co-op were also included as controls.

#### 3.2.1. Results—Sample 1

Data from the grain-marketing co-op were analyzed first and missing data reduced the usable responses to 46. There were no statistically significant differences (based on "t-tests")

Table 1  
Construct measurement scales and reliabilities

Cognitive trust

1. I considered objective criteria when assessing the trustworthiness of other co-op members.
2. I assessed the trustworthiness of other co-op members in an orderly fashion.
3. I used a business-like approach to determine if I could trust other co-op members.
4. I relied on a rational process to gauge whether other co-op members could be trusted.

Cronbach's alpha = 0.79 (management).

Cronbach's alpha = 0.79 (members).

Affective trust

1. My sense of intuition tells me that other co-op members can be trusted.
2. I feel that other co-op members have a reputation for being trustworthy.
3. My instincts tell me that I can trust other co-op members.
4. I have a 'gut feeling' that other co-op members are trustworthy.

Cronbach's alpha = 0.89 (management).

Cronbach's alpha = 0.75 (members).

Performance and satisfaction

1. My co-op membership has resulted in increased profits.
2. My co-op membership has resulted in increased sales revenue.
3. Overall, I am satisfied with the results of my membership in my co-op.
4. Overall, I am getting what I bargained for when I joined my co-op.

Cronbach's alpha = 0.85.

Group cohesion (Bollen & Hoyle, 1990)

- I feel a sense of belonging to (name of group).  
 I feel that I am a member of the (name of group) community.  
 I see myself as part of the (name of group) community.  
 I am enthusiastic about (name of group).  
 I am happy to be a member of (name of group).  
 (Name of group) is one of the best (type of group) in the (region).  
 Cronbach's alpha = 0.96.

Note: Each item was scored using a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) except the general trust scale which was scored using a 5-point scale. For the two types of trust, the referent group "other co-op members" was changed to "members of co-op management" to measure trust between members and management. Respondents were given the following instructions: The purpose of these questions is to help us understand the nature of your relationship with the management (other members) of your co-op. In particular, we're interested in the trust that you have for management (other members) and how you determine whether management (other members) is/are trustworthy. In answering these questions, consider how you feel about the management team (other members) of your co-op in general, and not any specific member(s) of management.

between this sample and the sample of 71 respondents among any of the variables. All of the variables had variance inflation factors of less than 3, suggesting that multicollinearity was not a problem. In addition, the variables were within acceptable limits for skewness (<2.0) and kurtosis (<5.0). This suggests the data were univariate normal and the data set was appropriate for multiple regression. The means, standard deviations and Pearson correlation coefficients for the variables are contained in Table 2.

Table 3 presents the results of the hierarchical-regression analyses used to test the first group of hypotheses. Variables were entered in the hierarchical-regression in the following

Table 2  
Sample 1—means, standard deviations and Pearson correlation coefficients

Variable	N	Mean	SD	1	2	3	4	5	6	7	8
1. Performance and satisfaction	46	5.26	1.13								
2. Group cohesion	46	5.53	1.24	0.79***							
3. Cognitive trust—management	46	4.72	1.14	0.39**	0.21						
4. Affective trust—management	46	5.51	1.09	0.67***	0.65***	0.37*					
5. Cognitive trust—members	46	4.30	1.08	0.35**	0.38**	0.37*	0.25+				
6. Affective trust—members	46	5.04	0.96	0.53***	0.59***	0.19	0.70***	0.22			
7. Acres farmed	46	2512.72	1778.82	0.05	0.05	0.10	-0.05	0.23	0.05		
8. Years in farming	46	19.52	11.41	-0.05	-0.21	-0.07	-0.04	-0.17	-0.06	0.20	
9. Years in co-op	46	15.76	8.57	0.15	0.08	0.46**	0.17	0.22	0.06	0.04	0.25+

†  $p < 0.10$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

steps: (1) the three control variables, (2) cognitive trust among members, (3) affective trust among members, (4) cognitive trust that members had for co-op management, and (5) affective trust that members had for management. The statistics for each model iteration are found in Table 3. In the end, the total variance explained by the model is 54%.

Hypothesis 1a states that trust among members (cognitive plus affective) will have a greater impact on group cohesion than trust between members and co-op management (cognitive plus affective). The results reported above indicate that trust among members explained 36% of the variance in group cohesion while cognitive trust between members and management had no effect on group cohesion and affective trust between members and managers explained 11% of the variance in group cohesion. Therefore, Hypothesis 1a is supported.

Hypothesis 1b argued that affective trust among members will have a greater impact on group cohesion than cognitive trust among members. The results suggest that affective trust among members explains 26% of the variance in group cohesion while cognitive trust among members explains only 10% of the variance. These findings support Hypothesis 1b.

Hypothesis 1c also argues for the efficacy of affective trust in explaining group cohesion. Specifically, it states that affective trust between members and the co-op's management will have a greater impact on group cohesion than cognitive trust between members and management. The findings are consistent with Hypothesis 1c. That is, cognitive trust between members and management does not explain any variance in group cohesion while affective trust between members and management explains 11% of the variance.

Table 4 presents the results of the hierarchical-regression analyses used to test the second group of hypotheses concerning the effects of trust and group cohesion on members' performance and satisfaction from their membership in the co-op. Variables were added to the model in the order indicated in the table. Note that group cohesion (added in Step 6) explained an additional 23% ( $p < 0.001$ ) of the variance in performance, for a total  $R^2 = 0.73$ .

Table 3

Sample 1—results of hierarchical-regression analyses, the effect of cognitive and affective trust on group cohesion

Independent variables	$\beta$ estimate	F-statistic	$\Delta R^2$	Total $R^2$
Step 1				
Constant	5.593***	1.066	NA	0.07
Acres farmed	0.000			
Years in farming	-0.028			
Years in co-op	0.021			
Step 2				
Constant	4.047***	2.093 <sup>+</sup>	0.10***	0.17
Cognitive trust—members	0.399*			
Acres farmed	0.000			
Years in farming	-0.017			
Years in co-op	0.006			
Step 3				
Constant	1.151	6.151***	0.26***	0.43
Affective trust—members	0.684***			
Cognitive trust—members	0.272 <sup>+</sup>			
Acres farmed	0.000			
Years in farming	-0.015			
Years in co-op	0.005			
Step 4				
Constant	1.151	4.998***	0.00	0.43
Cognitive trust—management	0.000			
Affective trust—members	0.684***			
Cognitive trust—members	0.272 <sup>+</sup>			
Acres farmed	0.000			
Years in farming	-0.015			
Years in co-op	0.005			
Step 5				
Constant	0.859	6.304***	0.11***	0.54
Affective trust—management	0.549**			
Cognitive trust—management	-0.133			
Affective trust—members	0.278 <sup>+</sup>			
Cognitive trust—members	0.242*			
Acres farmed	0.000			
Years in farming	-0.018 <sup>+</sup>			
Years in co-op	0.006			

*N* = 46 for all models.<sup>+</sup>  $p < 0.10$ .<sup>\*</sup>  $p < 0.05$ .<sup>\*\*</sup>  $p < 0.01$ .<sup>\*\*\*</sup>  $p < 0.001$ .

**Hypothesis 2a** argued that all types of trust (cognitive and affective) at both levels (among members and between members and management) would have a positive effect on performance. This hypothesis appears to receive qualified support. When each type of trust is entered for each level, it has a strong positive effect on performance. However, in the final

Table 4

Sample 1—results of hierarchical-regression analyses, the effect of cognitive and affective trust on membership performance and satisfaction

Independent variables	$\beta$ estimate	F-statistic	$\Delta R^2$	Total $R^2$
Step 1				
Constant	5.004 ***	0.464	NA	0.03
Acres farmed	0.000			
Years in farming	-0.009			
Years in co-op	0.022			
Step 2				
Constant	3.614 ***	1.506	0.10 ***	0.13
Cognitive trust—members	0.359 *			
Acres farmed	0.000			
Years in farming	0.000			
Years in co-op	0.009			
Step 3				
Constant	1.247	4.136 **	0.21 ***	0.34
Affective trust—members	0.559 ***			
Cognitive trust—members	0.255 *			
Acres farmed	0.000			
Years in farming	0.002			
Years in co-op	0.008			
Step 4				
Constant	0.577	4.217 **	0.05 **	0.39
Cognitive trust—management	0.276 *			
Affective trust—members	0.524 **			
Cognitive trust—members	0.195 +			
Acres farmed	0.000			
Years in farming	0.005			
Years in co-op	-0.008			
Step 5				
Constant	0.302	5.504 ***	0.11 ***	0.50
Affective trust—management	0.519 **			
Cognitive trust—management	0.151			
Affective trust—members	0.141			
Cognitive trust—members	0.167			
Acres farmed	0.000			
Years in farming	0.004			
Years in co-op	-0.008			
Step 6				
Constant	-0.241	5.504 ***	0.23 ***	0.73
Group cohesion	0.631 ***			
Affective trust—management	0.172			
Cognitive trust—management	0.235 *			
Affective trust—members	-0.035			
Cognitive trust—members	0.014			
Acres farmed	0.000			
Years in farming	0.015 +			
Years in co-op	-0.011			

$N = 46$  for all models.

+  $p < 0.10$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

model that includes all of the variables, only cognitive trust between members and managers has a positive effect on performance. The reason for this finding appears to be the strong positive influence that group cohesion has on performance (which supports [Hypothesis 2c](#)). The presence of group cohesion in the model appears to override the positive effects caused by the other three types of trust. Indeed, our findings indicate that all types and levels of trust *except* cognitive trust between members and co-op management have strong positive effects on group cohesion. Finally, as predicted by [Hypothesis 2b](#), affective trust (at both levels) had a greater impact on performance (32% of the variance explained) than cognitive trust at both levels (15% of the variance explained).

### 3.2.2. Results—Sample 2

Next, we analyzed data from the cotton marketing co-op and missing data reduced the usable responses to 614. Again, there were no statistically significant differences (based on “*t*-tests”) between this sample and the sample of 708 respondents among any of the variables. All the variables had variance inflation factors of less than two, indicating an absence of multicollinearity. In addition, the variables were within acceptable limits for skewness (<2.0) and kurtosis (<3.0), suggesting the data were univariate normal and the data set was appropriate for multiple regression. The means, standard deviations and Pearson correlation coefficients for the variables are contained in [Table 5](#).

The hierarchical-regression analysis used on the Sample 2 data was identical to that used on Sample 1 data. The statistics for each iteration are found in [Table 6](#). The total variance explained by this model is 26%.

These findings from Sample 2 indicate that trust among members explained 17% of the variance in group cohesion while cognitive trust between members and management explained 6% of the variance but affective trust between members and managers explained

Table 5  
Sample 2—means, standard deviations and Pearson correlation coefficients

Variable	<i>N</i>	Mean	SD	1	2	3	4	5	6	7	8
1. Performance and satisfaction	614	5.99	0.88								
2. Group cohesion	614	5.68	1.07	0.63***							
3. Cognitive trust—management	614	5.18	1.12	0.35**	0.38***						
4. Affective trust—management	614	5.18	1.29	0.34***	0.35***	0.21***					
5. Cognitive trust—members	614	4.74	1.06	0.26**	0.31***	0.61***	0.20***				
6. Affective trust—members	614	5.02	1.12	0.30***	0.38***	0.20***	0.61***	0.35***			
7. Acres farmed	614	7.19	0.99	−0.02	0.01	0.10*	−0.01	0.02	−0.08*		
8. Years in farming	614	21.26	12.32	0.14***	0.14***	0.10*	0.16***	0.05	0.09*	0.23***	
9. Years in co-op	614	11.29	9.95	0.18***	0.13**	0.11**	0.17***	0.05	0.08*	0.22***	0.55***

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

Table 6

Sample 2—results of hierarchical-regression analyses, the effect of cognitive and affective trust on group cohesion

Independent variables	$\beta$ estimate	F-statistic	$\Delta R^2$	Total $R^2$
Step 1				
Constant	5.628***	4.92	NA	0.02
Acres farmed	-0.031			
Years in farming	0.008*			
Years in co-op	0.008+			
Step 2				
Constant	4.234***	19.20***	0.09***	0.11
Cognitive trust—members	0.300***			
Acres farmed	-0.032			
Years in farming	0.007+			
Years in co-op	0.007			
Step 3				
Constant	3.071	29.00***	0.08***	0.19
Affective trust—members	0.290***			
Cognitive trust—members	0.193***			
Acres farmed	0.005			
Years in farming	0.005			
Years in co-op	0.006			
Step 4				
Constant	2.632	33.60***	0.06***	0.25
Cognitive trust—management	0.288***			
Affective trust—members	0.296***			
Cognitive trust—members	0.006			
Acres farmed	-0.016			
Years in farming	0.005			
Years in co-op	0.004			
Step 5				
Constant	2.496	30.28***	0.01	0.26
Affective trust—management	0.105**			
Cognitive trust—management	0.272***			
Affective trust—members	0.223***			
Cognitive trust—members	0.018			
Acres farmed	-0.015			
Years in farming	0.004			
Years in co-op	0.003			

*N* = 614 for all models.+  $p < 0.10$ .\*  $p < 0.05$ .\*\*  $p < 0.01$ .\*\*\*  $p < 0.001$ .

only 1% of the variance in group cohesion (which was not statistically significant). Interestingly, the findings regarding cognitive and affective trust between members and co-op management were reversed from the findings in Sample 1. Nevertheless, [Hypothesis 1a](#) is also supported by the data from the second sample.

Table 7

Sample 2—results of hierarchical-regression analyses, the effect of cognitive and affective trust on membership performance and satisfaction

Independent variables	$\beta$ estimate	F-statistic	$\Delta R^2$	Total $R^2$
Step 1				
Constant	6.203 ***	8.61	NA	0.04
Acres farmed	-0.066 <sup>+</sup>			
Years in farming	-0.005			
Years in co-op	0.013 **			
Step 2				
Constant	5.227 ***	17.72 ***	0.06 ***	0.10
Cognitive trust—members	0.210 ***			
Acres farmed	-0.066 <sup>+</sup>			
Years in farming	0.004			
Years in co-op	0.013 **			
Step 3				
Constant	4.551 ***	20.51 ***	0.04 **	0.14
Affective trust—members	0.168 ***			
Cognitive trust—members	0.148 ***			
Acres farmed	-0.045			
Years in farming	0.003			
Years in co-op	0.012 **			
Step 4				
Constant	4.188 ***	25.47 ***	0.06 ***	0.20
Cognitive trust—management	0.237 ***			
Affective trust—members	0.173 ***			
Cognitive trust—members	-0.006			
Acres farmed	-0.063 <sup>+</sup>			
Years in farming	0.003			
Years in co-op	-0.011 **			
Step 5				
Constant	4.025 ***	24.72 ***	0.02	0.22
Affective trust—management	0.127 ***			
Cognitive trust—management	0.219 ***			
Affective trust—members	0.085 *			
Cognitive trust—members	0.008			
Acres farmed	-0.062 <sup>+</sup>			
Years in farming	0.002			
Years in co-op	-0.009 *			
Step 6				
Constant	2.928 ***	57.57 ***	0.21 ***	0.43
Group cohesion	0.439 ***			
Affective trust—management	0.081 **			
Cognitive trust—management	0.099 **			
Affective trust—members	-0.012			
Cognitive trust—members	0.000			
Acres farmed	-0.055 <sup>+</sup>			
Years in farming	0.000			
Years in co-op	0.007 *			

$N = 614$  for all models.

<sup>+</sup>  $p < 0.10$ .

<sup>\*</sup>  $p < 0.05$ .

<sup>\*\*</sup>  $p < 0.01$ .

<sup>\*\*\*</sup>  $p < 0.001$ .

In Sample 2, cognitive and affective trust among members explained 9% and 8%, respectively, of the variance in group cohesion. This difference does not appear to be significant, which fails to support [Hypothesis 1b](#) for Sample 2. Likewise, [Hypothesis 2c](#) is also not supported in the second sample. As noted above, affective trust between members and co-op management has essentially no effect on group cohesion while cognitive trust between members and co-op management has a positive effect. This is counter to the arguments for [Hypothesis 2c](#) and a reversal from the findings in Sample 1.

[Table 7](#) presents the results of the hierarchical-regression analyses from Sample 2 used to test the second group of hypotheses concerning the effects of trust and group cohesion on members' performance and satisfaction from their membership in the co-op. The variables were entered in the model as indicated in [Table 7](#). As in Sample 1, the addition of group cohesion (in Step 6) increased the explanatory power of the model by a wide margin, explaining an additional 21% ( $p < 0.001$ ) of the variance in performance, for a total  $R^2 = 0.43$ .

Again, [Hypothesis 2a](#) appears to receive only partial support. In the final model, only cognitive and affective trust between members and co-op managers had a statistically significant effect (positive) on performance and satisfaction. However, when cognitive and affective trust among members were entered separately in Steps 2 and 3, they both had a positive and statistically significant effect on members' performance and satisfaction from their membership in the co-op.

[Hypothesis 2b](#), which predicted that affective trust at both levels would have a greater impact on members' performance and satisfaction from their co-op membership than cognitive trust at both levels, was not supported. Counter to this hypothesis, in Sample 2, affective trust (at both levels) explained only 6% of the variance in member's performance and satisfaction while cognitive trust at both levels explained twice as much of the variance (12%). Finally, as with the first sample, group cohesion had a positive effect on members' performance and satisfaction from their co-op membership ( $p < 0.001$ ), which supports [Hypothesis 2c](#).

#### 4. Discussion

This paper is among the first to systematically examine different types of trust *among* members of a farmer co-op and *between* members and the management of a co-op. While this research must be considered exploratory in nature and certain limitations must be recognized, we hope the results obtained will be helpful to researchers and practitioners alike. Several important insights emerge from this study.

First, the pattern of results found here strengthens the general theoretical arguments that trust matters in organizational outcomes ([Barney & Hansen, 1994](#); [Dyer & Singh, 1998](#)). Second, these results also indicate that the "humanness" of economic actors varies depending on the context and that this "humanness" needs to be accounted for as suggested by [Wilson \(2000\)](#). Third, the differences in the relationships *among* members vs. the relationships *between* members and management will hopefully spawn new inquiry into organizational relationships in general. Finally, perhaps the most interesting findings to emerge from this study are the differences observed between the two co-ops.

The general pattern observed in the results obtained here indicates that cognitive trust was more important to the members of the cotton marketing co-op represented in Sample 2 while affective trust appeared more important to the members of the grain-marketing co-op. Also, the  $R^2$  values were consistently lower for the Sample 2 data. An examination of the differences between the two co-ops provides an interesting explanation of these observed differences.

Marketing co-ops exist to satisfy a variety of farmer needs. Different needs call forth different services and co-op arrangements. The two co-ops in this study appeared to be fulfilling different member needs. We argue that the effects of trust vary depending on these differences. An obvious classification of co-op differences would simply be to categorize co-ops by commodity or geographic region. However, our experience suggests that the “humanness” of the economic actors involved in co-op relationships is more effectively studied by categorizing co-ops based on two fundamental co-op characteristics, namely, the complexity of services offered and the geographic dispersion of the co-op’s members and facilities. These two characteristics are salient because of their influence on the interactions that necessarily occur *among* members and *between* members and management. The two co-ops in this study represented the extremes of these two dimensions. One offered a complex service and was geographically dispersed while the other co-op offered a less complex service and was geographically more condensed.

In co-ops that offer relatively more complex services, members have a strong incentive to rationally evaluate (cognitive) the skills and abilities of the management in carrying out those services. On the other hand, in co-ops offering less complex services, members have less incentive to evaluate the skills and abilities of management. The cotton marketing co-op used in Sample 2 is one example of a service that may be viewed as relatively complex. This co-op offers its members a marketing program in which the cotton goes into a pool. Managers of the co-op then market this cotton at various times throughout the year in an effort to maximize prices. Thus, these managers handle the marketing of the commodity in a market where personal relationships with buyers and/or brokers may enable them to achieve significant price advantages on behalf of the co-op members. A low complexity service is exemplified by the grain co-op in Sample 1. In this co-op, the farmer merely accepts the spot price of the grain on the day of delivery to the co-op’s elevator. A farmer has a strong incentive to rationally evaluate the abilities of management in the case of the complex marketing program because price will be dependent, at least in part, on those abilities. Whereas there is little incentive to evaluate the abilities of the co-op manager who simply passes along a well established commodity market price.

Farmers likely join co-ops offering complex services primarily to pursue economic goals as opposed to social goals. In such co-ops the more salient relationship is *between* members and management rather than *among* members because the achievement of economic goals is clearly more dependent on managers than on other members. Conversely, while we doubt that farmers join co-ops purely in pursuit of social goals, we argue that the pursuit of social goals is likely a more important issue in co-ops offering less complex services than it is in co-ops offering more complex services. Thus, in comparing co-ops offering complex services to those offering less complex services, we argue that (1) cognitive trust is more important to members than affective trust, and (2) the relationship *between* members and

management is more salient than the relationship *among* members. The results of this study bear this out.

Co-ops that are more geographically dispersed provide members an incentive to rationally evaluate management simply because the opportunities for more subjective (affective) evaluation are limited. A farmer separated from co-op management by several counties, or even located in another state, is likely to base evaluations of trustworthiness much more on the observable facts than on the moods and feelings of the relationship. Furthermore, in such a co-op, interactions among members overall are likely to be less frequent, and thus less important, to the fulfillment of members' social or economic goals because of distance and the infrequency of interaction. The respondents from Sample 1 represented 33 different Zip codes while the respondents from Sample 2 were from 343 different Zip codes. Clearly Sample 1 represents a more compact geographic area than Sample 2.

Furthermore, the smaller  $R^2$  values observed in the Sample 2 data results are likely the natural consequence of the increased complexity of the relationships involved in a co-op marked by complex services and geographic dispersion. That is to say, there are very likely more variables that need to be taken into account in explaining group cohesion and performance and satisfaction. For example, members' perceptions of management's expertise in marketing would probably have an important influence on members' satisfaction.

On the other hand, co-ops that are less geographically dispersed are more likely to provide members with more frequent interaction with other members and management. The more frequent social interactions result in members more frequently experiencing the moods, feelings, emotions, etc. upon which affective trust is built. Therefore, affective trust is likely to be more salient to members of such co-ops. Additionally, the relationship among members is likely to be more important as well because interactions occurring due to co-op membership parallel and support, and in turn, are supported by interactions in the community based on affiliations such as neighbors, schools, churches, etc.

The preceding arguments reveal an interesting parallel, namely that the influence of highly complex services and greater geographic dispersion are similar while the influence of less complex services and lower geographic dispersion are also similar. In fact, the authors' experience with co-ops suggests that co-ops tend to follow a pattern of coupling complex services with greater geographic dispersion and coupling less complex services with lower geographic dispersion. The two co-ops in this study certainly fit this pattern. While the degree to which this pattern is pervasive remains an empirical question and a detailed explanation is beyond the scope of this paper, we offer economies of scale as the basic reason for this phenomenon. Highly complex services requiring specialized skills appear to be scalable over larger geographic areas. The increased scale that comes with larger geographic dispersion (volume) may also be important in developing sufficient market clout such that the co-op is able to offer farmers the service. Certainly the scalability of services is dependent upon the commodity involved.

In summary, although this study is exploratory in nature, we argue that the trust developed *among* members and *between* members and management will vary depending on the complexity of the services offered and the geographic dispersion of the co-op. In co-ops marked by complex services and geographic dispersion, trust *between* members and managers will be more salient and cognitive trust will trump affective trust. Conversely, in

co-ops that offer less complex services and are less geographically dispersed, trust *among* members will be more important and affective trust will trump cognitive trust.

#### 4.1. Implications

We are encouraged by the success of using a survey methodology to operationalize the affective and cognitive constructs used in this research. Cognitive and affective trust were found to exist within both co-ops. These two types of trust have implications for the continuing research of co-op relationships. For researchers, this work will hopefully help to further establish the use of a survey methodology as an effective way of measuring trust within economic relationships. More research is needed that examines the effect of these different types of trust on a variety of organizational outcomes such as the decisions to join an alliance or co-op, to increase investment in existing alliances, to outsource, to divest, or perhaps even personal decisions. Comparative research examining the economic performance effects of differing levels of the two types of trust may prove especially useful to our understanding of organizational relationships.

This work may also be helpful to managers and board members who recognize the need to develop and foster trust among their members, particularly with regard to retention and satisfaction. We described affective trust as subjective in nature and based on an individual's feelings, mood, and emotions about another individual, group or organization. Thus, if affective trust is low, managers may want to appeal to individuals' feelings and emotions to increase it. An example of a strategy along these lines is an effort to enhance a co-op's "member relations." Activities that put members in contact with one another and with co-op employees and board members in a way that fosters a sense of family, good feelings and camaraderie may serve to develop, foster or enhance affective trust.

On the other hand, cognitive trust is objective in nature and is the outcome of a rational and systematic process based on objective information. This rationale suggests following different strategies than those mentioned above if the goal is to increase cognitive trust. It would be advisable to follow strategies that disseminate objective information or "hard data" to individuals so they could then use it to assess the trustworthiness of other individuals, groups or organizations. For example, testimonials from members about their success within the co-op and biographical information that highlights the skills, competencies and accomplishments of managers might provide a basis for cognitive trust to develop. In addition, the co-op's financial performance could be highlighted periodically, in reports or through other media, to provide evidence that members could use to assess the trustworthiness of management along the cognitive dimension.

#### 4.2. Limitations

This exploratory study is subject to limitations inherent in this type of research. The decision to focus this study on only two co-ops limits the ability to generalize the results across all co-ops. For example, geographic location and the commodities handled by the two co-ops in this study suggest potential biases that may not be found in co-ops located in other areas or handling different commodities. However, we know of no reason that these potential

biases would have an affect on the constructs and relationships examined in this study. Further research is needed to help determine if the results found here, along with our explanations of these results, are indicative of co-ops in general.

Another limitation of this study stems from the low response rate in Sample 1. This low response rate could be indicative of a non-response bias. However, the low response rate is no guarantee of a bias. The limitation is that we simply do not know whether some bias may exist or not. The surveys were administered several months apart. It may be that the survey caught farmers belonging to the Sample 1 co-op at an inopportune time as compared to the other. We view this limitation as one of the inherent challenges in modeling the "humanness" of economic actors.

#### 4.3. Conclusions

Hopefully this exploratory research effort will contribute to a better understanding of the nature of trust within organizations. The recognition that the effects of trust vary depending on organizational context is an important step in furthering our understanding of trust in organizations. We believe only after managers and board members have developed a conceptual model of trustworthiness can they attempt to effectively influence the type and level of trust that members have for each other as well as for members of co-op management. We encourage researchers and managers of farmer co-ops to use the scales that we have developed in this research study to assess the level of trust that exists within their own organizations. It is our hope that this research has begun to eliminate some of the "vagueness" concerning the role of trust within organizations and lead to a better understanding of the "humanness" of economic actors.

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