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Using Communications to Influence Member Commitment in Cooperatives

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In the popular press and in cooperative boardrooms there are discussions about member commitment. Since they are formed to enhance members' well being, member commitment is an important issue for cooperatives. Cooperative communication strategies may influence member commitment, and these strategies are under the direct control of cooperatives. This study of Minnesota and Wisconsin cooperatives focuses on two questions: (1) do communications influence a member's commitment to their cooperative, and (2) do different segments of the cooperative community respond differently to different communication approaches. Our results suggest that the answer to both questions is yes.

Member commitment is critical to the long-term success of cooperatives. An involved membership is more likely to elect a strong board of directors that can effectively guide the cooperative. Involved members are more likely to hold management and the board to high standards of performance. Further, given the major structural changes occurring in the food sector, cooperatives will likely be facing major changes if they are to survive. Committed members are more likely to understand the need for these changes and to support them.

An interesting question is why some cooperatives appear to have more committed members than others. Factors that might promote greater member commitment include: the level of a member's investment, family involvement with cooperatives, the age of member, the educational level of the member, financial returns received from the cooperative, the speed with which the cooperative revolves equity, and communication efforts by the cooperative.

The relationship of communication strategies to member commitment is particularly interesting because this variable is under the direct control of the cooperative. In contrast, most other factors expected to affect member commitment are partially (financial performance) or completely (member education, family history with the cooperative, age) exogenous to the cooperative. This paper reports on research into the relationship between communications and member commitment and on the communication preferences of different types of members.

The research on which this paper is based was supported by a cooperative research agreement from U.S. Department of Agriculture, Rural Business—Cooperative Services. David D. Trechter is professor, University of Wisconsin at River Falls; Robert P. King is E. Fred Koller Professor of Agricultural Management Information Systems, University of Minnesota; and Laura Walsh is outreach specialist, University of Wisconsin at River Falls.

Literature Review

The question of what influences member commitment in cooperatives has been studied by a number of researchers. At a theoretical level, Staatz (1989) concluded that farmer commitment should depend upon: the length of time a patron expects to remain in farming (if he/she is exiting soon they will be less committed), the psychic or monetary penalties associated with defection (if these are high they will be more loyal), and the patron's discount rate (a lower discount rate means greater loyalty).

Gray and Kraenzle (1999) found that member involvement was positively related to farm size—the larger the farm, the more likely is the farmer to be involved in the cooperative. They also found that service on the board of directors of dairy cooperatives was positively related to: gross farm sales, size of milking herd, a belief that cooperatives should use one person-one vote, a belief that cooperatives should work with other cooperatives, a belief in cooperative ownership, and satisfaction with the board. Service on the board of directors was negatively correlated with a belief that individuals can make better marketing decisions than groups. Gray and Kraenzle concluded that cooperatives might need to change their governance practices to increase the involvement of smaller farms and to emphasize cooperative principles, the benefits of cooperation, and the importance of participation in member education efforts.

Reynolds noted that because cooperative members are increasingly diverse in terms of size of operation and farm technologies and practices, cooperatives might need to adjust their decision-making practices. Cooperatives have, historically, been governed by a consensus process involving "acknowledgement and respect for different opinions" (1997, 4). Consensus, as defined by Reynolds, doesn't require unanimity but rather a sharing of ideas. This consensus approach has been critical in terms of gaining member input, what Hirshman terms "voice" (1970). Voice in cooperatives is critical because this is the means by which members can tell the cooperative what they would like changed rather than quietly "exiting" to a competitor. Strong member commitment is required to generate voice because transaction costs for members go up significantly if the voice option is chosen. Reynolds hypothesizes that organizations that use consensus may be more likely to maintain the status quo and to subsidize some services desired by highly vocal constituencies. As the diversity of their members increases, cooperatives may need to adopt special decision-making rules if they are to retain member loyalty.

Fulton and Adamowicz (1992) found that member involvement is more likely if members share in patronage refunds, if the availability of related agricultural services is important to them, and if a higher percentage of their income comes from farming.

Some authors have identified factors that are likely to reduce member loyalty toward cooperatives. Schrader, et al. (1985) concluded that farmers in Indiana and Illinois felt that investor-owned firms offer better financial rewards and operate more efficiently than cooperatives. Burt and Wirth (1990) found that farmers "felt members were poorly informed about the operations of their cooperatives."

Erickson (1989) argues that cooperative education and communication efforts often don't achieve as much as desired. He states that this is so because communication programs: (1) are not integrated into the cooperative's over-all strategic plan, (2) lack clear, well-established goals, and/or (3) the cooperative doesn't have an overall planning process in place.

Most of these studies of the commitment or loyalty of members to cooperatives focus on the characteristics, beliefs, and expectations of the members. This research has two primary foci. First, we examine the ability of different communication strategies employed

by cooperatives to build commitment among members. Second, we examine factors associated with member preferences for different communication channels.

The Study Design

Data for this study were collected in two stages. First, we sent questionnaires to 220 agricultural cooperatives that are members of either the Minnesota Association of Cooperatives or the Wisconsin Federation of Cooperatives. We had a poor response rate with only forty managers returning the survey. The response rate was disappointing given that supporting letters were included with the questionnaire from the two trade associations and because non-respondents were contacted twice. Three cooperatives subsequently dropped out of the study, so the final sample included thirty-seven cooperatives, or 17% of those who received a questionnaire. We collected the following information about our sample cooperatives:

- basic cooperative information (date founded, number of members, number of business sites, type of equity redemption program, tenure of current manager),
- recent structural changes (mergers, acquisitions, or joint ventures),
- communication strategies used, and
- basic financial information for the years of 1997 through 1999.

In the second stage we worked with each of the thirty-seven cooperatives in our sample to draw a random sample of sixty of their members. The response rate for this questionnaire was considerably better with 759 members, or 34%, returning their questionnaires. We gathered the following information from cooperative members:

- demographic information (age, educational level, years in farming, marital status, and off-farm employment status),
- level of cooperative involvement (number of cooperative memberships, length of cooperative membership, recent annual meeting attendance, family history with the cooperative, cooperative board or committee service, cooperative training, and equity investment level),
- self assessment of personal cooperative commitment, and
- importance of various cooperative information sources (newsletter, employee communications, annual meeting, etc.).

The Sample

Twenty-two of the sample cooperatives are from Wisconsin and fifteen from Minnesota. Twenty-eight of the cooperatives in our sample are primarily engaged in input supply, five are marketing, and four are service cooperatives. Figure 1 provides a breakdown of the number of members in the sample cooperatives and shows that a variety of cooperative sizes are represented. Table 1 provides a summary of selected financial characteristics. The financial data reported are averages for each cooperative over the most recent three years, 1997–1999. As the table indicates, there are roughly equal numbers of cooperatives with strong financial performance (income in excess of \$1 million, local return on equity in excess of 10%, debt to equity ratios of less than 0.5, and relatively rapid turnover of equity) and with weak performance (negative local net income and local return on equity, debt to equity ratios in excess of 1.0, and very slow

Figure 1. Number of Members in Sample Co-ops

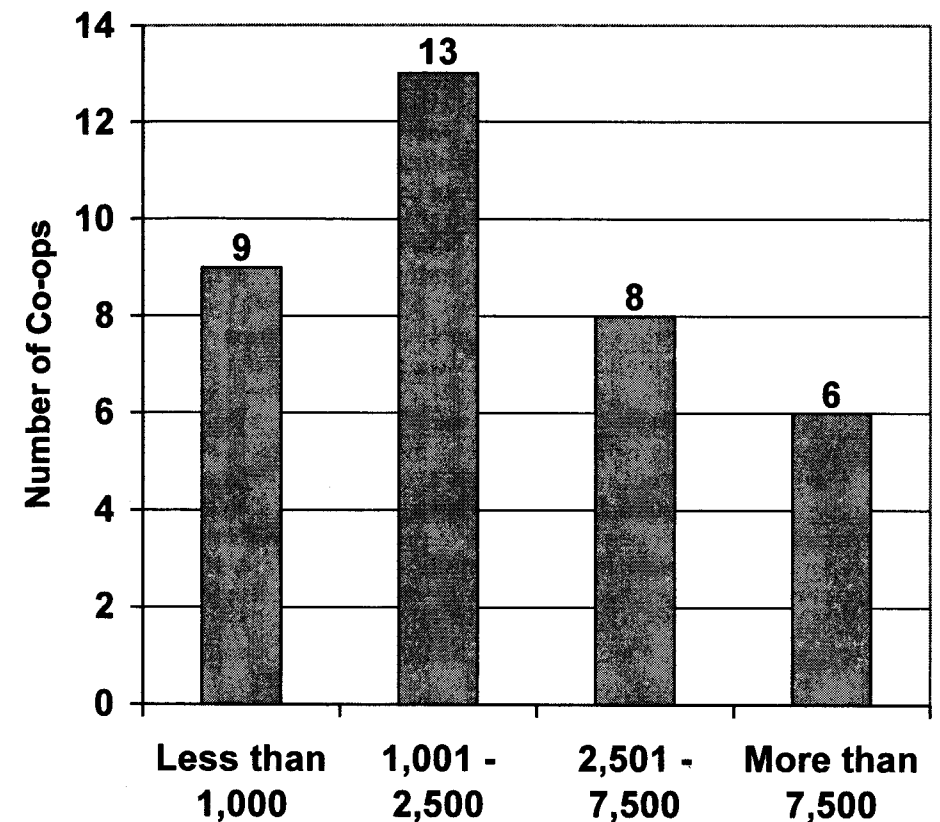


Table 1. Selected Financial Characteristics of Sample Cooperatives

	Number of Cooperatives per Category				
	<\$0	\$0-\$100,000	\$100,001-\$250,000	\$250,001-\$1,000,000	\$1,000,000+
Local Net Income	5	8	11	9	4
Avg. Local ROE	<0%	0%-2.5%	2.6%-5.0%	5.1%-10.1%	10.1%+
	5	12	7	8	5
Debt/Equity Ratio	<.25	.26-.50	.51-.75	.76-1.0	1.1+
	3	7	11	8	8
Equity/Equity Revolved	<15 years	16-25 years	26-50 years	51-75 years	76+ years
	5	6	14	8	4
% Cash Refunds	<20%	21%-30%	31%-40%	40%+	
	8	15	10	3	

equity turnover). In short, there is substantial variability in financial performance and conditions within the sample.

Table 2 summarizes some of the characteristics of the cooperative members in the sample. The age of the people in the sample reflects the average for the farm population as a whole with 424 (55%) being less than fifty years old and 333 (45%) more than fifty. The sample population is relatively well educated with only forty (5%) lacking a high school diploma and 149, or one-fifth, having a college degree. For the most part, the sample population is relatively heavily involved with cooperatives, with two-thirds of the sample (497) belonging to at least three cooperatives. Further, most had been members of the cooperative in our sample for a long time; 462 (62%) for more than fifteen years. Finally, we asked the members to rate their commitment to the sample cooperative on a scale of 0 to 100%. Table 2 indicates that, in general, there is a relatively high degree of commitment to the cooperatives in the sample with 428, or slightly less than 60%, reporting more than 60% commitment to their cooperative. On the other hand, 146 (20%) of the respondents are less than 40% committed to their cooperative.

The primary focus of this research is on the communication strategies pursued by the sample cooperatives and their members' reactions to those strategies. Table 3 summarizes the communication strategies employed by the thirty-seven cooperatives surveyed. As the table indicates, most of the cooperatives in the sample had a newsletter, with the largest proportion publishing three to four issues per year. In contrast, fewer than half of the cooperatives issued press releases. Half of the sample cooperatives have a website but most reported very little activity at their site. Relatively few, 16%, reported doing focus groups with their members, but slightly more than half had done a members survey. In total, we asked about nine communication techniques the cooperatives might employ.¹ The number of communication techniques actually employed by the sample cooperatives ranged from two (board of director training and an annual meeting) up to nine, with an average of five.

Finally, we asked members to rate, on a scale of 1 (very unimportant) to 5 (very important), the importance to them of various sources of information about the cooperative. Table 4 summarizes the results from these questions. The sources of information are listed in descending order of importance based on the percent of respondents who

Table 2. Selected Characteristics of Cooperative Members in Sample

	Number of Members Per Category				
	<30	31-40	41-50	51-60	60+
Age of Member	22	136	266	172	161
Educational Level	<High School	High School	Some College	College Degree	
	40	336	229	149	
Co-op Memberships	1	2	3	4	5+
	124	134	208	124	165
Years Member of Sample Co-op	0-10 years	11-15 years	16-20 years	21-25 years	25+ years
	190	95	136	111	215
Level of Commitment to Co-op	0-20%	21-40%	41-60%	61-80%	81-100%
	91	55	162	203	225

Table 3. Cooperative Communication Techniques

	Cooperatives per Category				
	0	1-2	3-4	5-6	6+
Newsletters/Year	6	3	16	7	5
Percent of Sample	16%	8%	43%	19%	14%
Press Releases/Year	0	1-2	3-4	5-10	10+
	20	2	7	4	3
Percent of Sample	54%	5%	19%	11%	8%
Co-op Web Site	No	Yes			
	18	18			
Percent of Sample	50%	50%			
Uses Focus Groups	No	Yes			
	31	6			
Percent of Sample	84%	16%			
Uses Member Survey	No	Yes			
	18	19			
Percent of Sample	49%	51%			

identified an information source as being important or very important. Informal communications, particularly with the employees and the manager, are the most important sources of cooperative information to the sample. This finding suggests that employee training in public relations and message design could be important for cooperatives wishing to improve communications with their members. The next three items, the cooperative newsletter, newspaper articles, and the annual meeting, are some of the more traditional mechanisms used by cooperatives for communicating with members. These traditional avenues remain important to a majority of cooperative members. As noted in table 3, fewer than half of the cooperatives in the sample issue press releases. Again, this may represent a missed opportunity for cooperatives to communicate specific messages to their members and the broader public. Communications with the board of directors and with other members are important or very important to slightly fewer than half the respondents in the sample. Communications among members is somewhat problematic for cooperatives in that the quality of the information being exchanged is uncertain. Finally, member surveys, focus groups, and electronic communications are important to a minority of members surveyed. Half of the cooperatives report developing electronic communication capabilities (see table 3), suggesting that cooperatives may be ahead of their members with respect to this technology.

Analyzing Factors Associated with Member Commitment

As noted above, member commitment to their cooperatives was self-assessed and reported as between 0 and 100%. Because there were bounds on the upper and lower values of the dependent variable, we used a two-sided Tobit analysis to examine the factors associated with member commitment. Based on the literature review and our own expectations, member commitment is hypothesized to be associated with a number of variables. Table 5 summarizes the hypothesized relationships between member com-

Table 4. Member Evaluation of Communication Techniques

	Members per Category				
	Very Unimportant	Unimportant	Neutral	Important	Very Important
Communications with employees	19 3%	29 4%	119 16%	332 44%	245 33%
Communications with manager	41 5%	65 9%	164 22%	279 38%	195 26%
Co-op Newsletter	36 5%	53 7%	228 31%	345 47%	80 11%
News Articles	42 6%	56 8%	237 32%	337 45%	71 9%
Annual Meeting	58 8%	84 11%	235 32%	224 30%	143 19%
Communications with board of directors	53 7%	85 11%	271 37%	236 32%	97 13%
Communications with Other Members	38 5%	69 9%	301 41%	270 36%	63 8%
Member Survey	84 11%	98 13%	328 45%	188 26%	37 5%
Focus Groups	111 15%	137 19%	343 47%	118 16%	22 3%
Electronic Communications	154 21%	179 25%	287 39%	78 11%	27 4%

mitment and variables associated with member characteristics, cooperative characteristics, cooperative financial performance, and cooperative communication strategies

Table 6 summarizes the results of the model. It explains 23% of the observed variability in member commitment, and the set of variables in table 5 is statistically significant at the 1% level as indicated by the F-test. Variables associated with each of the four broad categories of variables (member characteristics, cooperative characteristics, cooperative financial performance, and communication techniques) are statistically significant at the 10% level.

Member Characteristics

With respect to member characteristics, the results indicate that the commitment level declines as the level of formal education of a member increases. In contrast, a member who has served on a board of directors, served on a cooperative committee, or received cooperative education, tends to be more committed to the cooperative. Interestingly, this research does not support Staatz's hypothesis that older farmers, who are presumably closer to retirement, will have a lower level of commitment to their cooperatives.

Cooperative Characteristics

The size, complexity, and type of the cooperative are also systematically related to commitment level. Although the estimated coefficients for the cooperative size variables

Table 5. Hypothesized Relationships to Member Commitment

	Expected Correlation	Rationale
Member Characteristics		
Age	Negative	Based on horizon issue (Staatz)
Education	Unclear	Need to control for statistical purposes
Years of Membership	Positive	More history, more investment
Board/Committee Service	Positive	More personal involvement, greater responsibility for co-op's strategic direction
Cooperative Training	Positive	Greater understanding of role of cooperative
Cooperative Characteristics		
Number of sites	Negative	More bureaucracy, less personal
Number of members	Negative	Less personal
Total Local Assets	Negative	Less personal
Year Founded	Positive	Longer history with co-op
Co-op Type	Unclear	Need to control for statistical purposes
Manager's Tenure	Positive	More comfort/confidence with leadership
Equity per Member	Positive	More wealth at risk
New Generation Co-op	Positive	Greater cash patronage refunds, more wealth at risk
Type Equity Revolvement	Positive	If more systematic rather than special situation plan
Recent Structural Change (merger, consolidation, joint venture)	Negative	Members may not be comfortable with change
Co-op Financial Performance		
Cash Patronage Refund	Positive	Helps member cash flow
Local Return on Equity	Positive	More cash for investment or revolvement
Debt-Equity Ratio	Negative	Better solvency means higher likelihood of continued service and eventual revolvement
Equity Revolvement Rate	Positive	Better cash flow, increased value of membership
Co-op Communications		
Newsletters per Year	Positive	More current information
Press Releases per Year	Positive	Accessible and current information
Web Site	Positive	Constant access to information
Focus Groups	Positive	Opportunity for member input
Member Survey	Positive	Opportunity for member input
Communications with Manager	Positive	Opportunity for member input
Communication with Employees	Positive	Opportunity for member input

Table 6. Factors Associated with Member Commitment

Variable	Coefficient	t-Statistic
Intercept (Supply Co-op)	92.84	8.08***
Member Characteristics*		
Service on Board of Directors	14.02	3.87***
Co-op Training	7.59	3.13***
Educational Level	-6.03	-2.79***
Service on Co-op Committee	5.64	1.74*
Years Co-op Member	0.14	1.30
Age	-0.12	-0.12
Cooperative Characteristics*		
Marketing Co-op	-22.03	-2.98***
Number of Business Sites	-2.93	-5.05***
Consolidation in Last 5 Years	24.38	4.94***
Merger in Last 5 Years	-16.79	-3.73***
Type of Equity Revolvement	-11.13	-3.09***
New Generation Total Equity per Member	-0.002	-3.04***
Total Equity per Member	0.001	1.71*
Number of Members	0.001	1.35
Average Total Local Assets	0.0000003	0.98
Age of Co-op	-0.12	-1.18
Service Co-op	-7.00	-1.16
Years of Manger's Tenure	0.28	1.52
Joint Venture in Last 5 Years	-3.63	-0.99
Financial Performance*		
Average Debt to Equity Ratio	-19.20	3.61***
Average Local Return on Equity	-68.70	-1.98**
Equity Revolvement Rate	-0.16	-1.69*
Cash Refund/Total Refund	0.06	0.33
Communication Techniques*		
Communication with Manager	4.77	3.41***
Number Press Releases/Year	2.80	3.20***
Co-op Focus Groups	-8.15	-1.67*
Number Newsletters/Year	1.02	1.52
Communication with Employees	-1.74	-1.28
Co-op Web Site	-1.26	-0.36
Co-op Member Surveys	-1.45	-0.44
Adjusted R = .23	*** = Significant at the 1% level	
N = 647	** = Significant at the 5% level	
F(30,616) = 7.37	* = Significant at the 10% level	

(number of members and average total local assets) are not statistically different from zero individually, when tested as a group against commitment they are highly significant.

The complexity of the cooperative structure, as indicated by the number of sites from which the cooperative operates, has a significant and negative relationship with member commitment. This finding may reflect greater physical and psychological distance between the average member and the board and general manager. It may also be related to mergers the cooperative has experienced: we found that participating in a merger also carries a negative and significant coefficient. Interestingly, a consolidation, in

which one cooperative takes over another, is associated with higher member commitment. Perhaps members of the acquiring cooperative see consolidations as more positive because there is less dilution of their cooperative's culture and members of the acquired cooperative see this as the best option available to them.

The type of cooperative also has a systematic impact on member commitment. Given the structure of dummy variables for cooperative type (marketing, service, or input), the strong positive relationship between member commitment and supply cooperatives is captured as part of the intercept term, which is positive and significant. In contrast, members of marketing cooperatives are significantly less committed to their cooperatives. Given that the survey was conducted during a time of low prices in most commodity markets, the negative sign for marketing cooperatives might reflect discontent with general market conditions as much as with the individual cooperatives.

Finally, equity management issues also have significant impacts on member commitment to their cooperative. Somewhat surprisingly, cooperatives that use a revolving fund or percentage of all equities plan have significantly lower member commitment than do those using a special situation plan. This may reflect the fact that the average length of revolvement for the seventeen cooperatives reporting use of a revolving fund is nineteen years. One cooperative reported a revolvement period of forty-four years. Finally, the equity investment per member in New Generation Cooperatives in the sample was substantially higher than for the traditional cooperatives. We, therefore, created a dummy variable for New Generation Total Equity per Member, which turned out to be significant and negative. This does not mean that there are low levels of satisfaction with New Generation Cooperatives, indeed the average member satisfaction level with New Generation Cooperatives is nearly 88% compared to 64% for the overall average. Rather, the negative sign reflects the much higher investment per member and the fact that commitment level is constrained to fall within the 0-100% range. Equity per member in non-New Generation Cooperatives has a significant positive relationship with commitment.

Cooperative Financial Performance.

The financial performance of cooperatives also has a systematic impact on member commitment. Cooperatives with higher local return on equity or higher debt to equity ratios tend to have lower member commitment. A high local return on assets is likely to be viewed negatively by members because they would rather recognize that profit on their own farms. Thus, for example, if an input supply cooperative has a high level of profitability, the members may well prefer lower prices on their purchases rather than waiting for a patronage refund from their more highly profitable cooperative. This is particularly true when combined with the relatively low proportion of patronage refunds that are paid in cash (29%) by the cooperatives in the sample and the long equity revolvement periods discussed above.

A high debt to equity ratio means that the cooperative is less solvent. Member commitment to highly leveraged cooperatives is expected to be lower because the survivability of the cooperative, and hence the security of investments in it, may be in question. Finally, cooperatives that hold equity for longer periods (a high equity revolvement rate) tend to have members who are less committed. Longer revolvement periods reduce the net present value of cooperative investments and, therefore, the benefits associated with cooperative membership. As the value of membership falls, it is likely that members will be less committed.

Communication Techniques

Finally, the primary focus of this research was on whether member communications influence member commitment. The results suggest they do. Table 6 indicates that there is a statistically significant relationship between member commitment and communications with the manager, the number of press releases issued by the cooperative per year, and whether or not the cooperative has run focus groups in recent years. Good communications with the manager is strongly related to member commitment in a positive way. The direction of causality for this relationship, however, is not clear. Does higher commitment mean that more conversations with the manager are initiated and valued, or does increased communication with the manager cause more commitment? Recall that the most highly rated source of information about the cooperative was communications with employees. There is no statistically significant relationship between member commitment and communications with employees. One interpretation of this result is to support the earlier conclusion that cooperatives may not be exploiting the full potential of this important link with their members. For example, if employees receive training in customer relations and the cooperative provides them with message points to deliver to members, they might prove a more valuable means of building member commitment.

The number of press releases may relate to the general perception of the cooperative in the community. A series of positive articles may increase the standing of the cooperative and increase the sense of commitment of its members. We noted above that fewer than half of the cooperatives in our sample issued any press releases. Again, these results suggest that more cooperatives should consider using press releases as a tool for communicating with and building commitment among their members.

Finally, we were surprised to find a negative correlation between member commitment and cooperative use of focus groups. The financial performance of the cooperatives that used focus groups was not consistently worse than the average for all cooperatives. Focus group cooperatives had lower average local returns on equity but also had a lower debt to equity ratio, revolved equity slightly faster, and paid a higher proportion of their equity refunds as cash. Focus group cooperatives were no more likely to have been involved in a merger, all but one was an input supply cooperative, all but one used a special situation plan, and only one of the six operated from a large number of sites. In short, there is little in the nature of the cooperatives that used focus groups that helps explain the negative estimated coefficient. The managers of the cooperatives that reported using focus groups had been with their cooperative for a shorter time (6.17 years) than the overall sample average (9.05 years). A hypothesis for the negative sign on this variable would be, therefore, that cooperatives tend to use focus groups when they are having some sort of serious problem (which may have resulted in a relatively recent managerial change).

None of the other communication techniques considered (newsletters, web site, member survey, or the annual meeting) is individually statistically significant. We also tested the relationship between member commitment and members' evaluation of this group of communication techniques (number of newsletters per year, press releases per year, web site, focus groups, member survey, and the annual meeting) and found a strong statistical association. Our conclusion is that communication strategies are statistically associated with the level of commitment of members.

Analyzing Communication Preferences

In addition to the impact of communication techniques on member commitment, we are interested in the factors associated with the preferences of different cooperative

members for different communication techniques. For instance, results in table 6 suggest that members with higher levels of formal education tend to have lower levels of commitment to cooperatives. If more highly educated members prefer a particular type of communication technique, cooperatives could use this information to reach this group of customers more effectively.

In this section we examine factors associated with the preferences of members for newsletters, the annual meeting, board meetings, communications with the manager, communications with employees, communication with members, news articles, electronic communications, focus groups, and member surveys. Because some individuals seem to have a higher or lower ranking for all forms of communications, the preferences of each member are calculated relative to that member's average preference rating. For example, suppose an individual member's average preference rating for the twelve communication tools considered was 3.5 and the rating given to newsletters was 4.0. The relative rating for newsletters would be 0.5 (= 4.0-3.5). Analyzing the relative ranking helps account for the different internal metrics used by individual members and means that the dependent variable (relative preference for a given communication tool) is now a continuous variable that can be analyzed using ordinary least squares (OLS).

We used the same set of explanatory variables for all the dependent variables. The independent variables were chosen to test for a significant relationship between the communication option and a variety of member and cooperative characteristics.

Explaining Member Communication Preferences

Table 7 summarizes the results of our analysis of communication preferences. In this analysis, the same set of explanatory variables were used to identify factors influencing the importance members attach to a given communication strategy as a source of information about the cooperative. A positive and significant coefficient indicates that increases in the dependent variable tend to increase the importance associated with the given communication technique. For example, more frequently publishing is statistically associated with a higher value being placed on newsletters as a source of information about a cooperative. In all cases our model explains relatively little of the overall variability in this sample (low R^2), but in most the set of variables is strongly associated, statistically, with the dependent variable (high F-test values).

Newsletters. As noted, more frequent publication is associated with a higher rating for the newsletter as a source of cooperative information. This could be because members view the information contained in newsletters published more frequently as being more current and relevant. The statistically significant, negative sign for the coefficient of the press releases variable indicates that they may be seen as a substitute source of information about the cooperative, while the positive sign for the coefficient of the web site variable suggests this form of communication is complementary to the newsletter. Cooperatives that have a manager with longer tenure tend to have newsletters that are more highly valued by their members. One explanation for this is that a manager with longer tenure, who presumably writes a column for the newsletter, may give the newsletter greater credibility as an information source. Finally, for reasons that are unclear, members that report having received education about cooperatives tend to put less value in a cooperative's newsletter.

Annual Meeting. Annual meetings are seen as an important source of cooperative information by people with experience serving on the board of directors, serving on a cooperative committee, or who have received cooperative education. On the other hand,

Table 7. Ordinary Least Squares Analysis of Communication Technique Preferences

Variable	Communication Techniques										
	News-letter	Annual Meeting	Board Meeting	Talk w/ Manager	Talk w/ Employee	Talk w/ Board	Talk w/ Members	News Articles	Electronic	Focus Groups	Member Surveys
Intercept	-.09 (-.74)	.12 (1.00)	.21 (1.65)*	.74 (5.81)***	.82 (6.27)***	.07 (.69)	.18 (1.45)	-.05 (-.45)	-.68 (-4.61)***	-.75 (-6.63)***	-.36 (-2.96)***
Age	.03 (.97)	.02 (.63)	-.07 (-2.09)**	-.04 (-1.19)	.01 (.41)	-.06 (-2.24)**	-.02 (.70)	.10 (3.64)***	-.05 (-1.22)	.02 (.56)	.04 (1.22)
Education	-.02 (-.42)	-.24 (-3.93)***	-.19 (-3.16)***	.08 (1.20)	.21 (3.19)***	.04 (.79)	-.003 (-.06)	-.12 (-2.29)**	.27 (3.84)***	.08 (1.52)	-.03 (-.54)
Years as Member	-.003 (-1.01)	.002 (.63)	.004 (1.40)	.003 (1.14)	.001 (.39)	.01 (3.47)***	.002 (.76)	-.006 (-2.15)**	-.005 (-1.44)	-.004 (-1.59)	-.01 (-2.20)**
Board Member	.005 (.05)	.39 (3.55)***	.57 (5.14)***	-.06 (-.54)	-.37 (-3.11)***	.04 (.43)	-.30 (-2.75)***	-.03 (-.32)	-.06 (-.42)	-.12 (-1.21)	-.12 (-1.20)
Committee Member	-.14 (-1.58)	.20 (2.23)**	.05 (.54)	.14 (1.43)	-.14 (-1.44)	.29 (3.69)***	-.01 (-.15)	-.11 (-1.40)	-.14 (-1.23)	-.04 (-.49)	-.03 (-.30)
Cooperative Education	-.11 (-1.70)*	.15 (2.24)**	-.03 (-.44)	-.04 (-.53)	-.11 (-1.54)	.10 (1.71)*	.08 (1.17)	-.09 (-1.46)	-.12 (-1.42)	.09 (1.39)	.09 (1.26)
Manager's Tenure	.01 (1.76)*	.005 (1.38)	.0002 (.01)	-.01 (-1.98)**	-.006 (-1.49)	-.005 (-1.49)	-.005 (-1.29)	-.004 (-1.08)	.01 (1.77)**	.003 (.94)	.003 (.72)
Cooperative Sites	.01 (1.27)	-.01 (-1.77)*	-.002 (-.31)	-.009 (-1.07)	-.001 (-.17)	-.01 (-1.23)	-.001 (-.12)	.02 (2.26)**	-.002 (-.25)	.01 (1.17)	-.002 (-.31)
Newsletters per Year	.04 (4.09)***	-.01 (-.68)	.004 (.37)	-.02 (-2.06)**	-.03 (-3.22)***	-.01 (-.79)	-.01 (-1.54)	.01 (.98)	.02 (1.94)**	.02 (2.04)**	-.02 (-2.09)**

Press Releases per Year	-.02 (-1.87)*	.01 (1.24)	.02 (1.91)*	-.002 (-.18)	-.01 (-.97)	.02 (3.13)***	.02 (1.81)*	-.02 (-3.07)***	.001 (.07)	-.01 (-1.36)	-.01 (-.80)
Web Site	.12 (1.85)*	-.03 (-.50)	-.12 (-1.81)*	-.13 (-1.82)**	.04 (.59)	-.14 (-2.46)**	-.04 (-.53)	.08 (1.23)	.03 (.33)	.11 (1.80)*	.21 (3.18)***
Marketing Cooperative	.14 (.89)	-.31 (-2.01)**	-.24 (-1.54)	-.19 (-1.16)	-.14 (-.83)	-.02 (.15)	.07 (.44)	.30 (2.19)**	.36 (1.96)**	-.07 (-.52)	-.13 (-.85)
Service Cooperative	.03 (.25)	-.12 (-1.09)	-.16 (-1.48)	-.20 (-1.84)*	-.03 (-.27)	-.03 (-.32)	-.07 (-.71)	.20 (2.16)**	.24 (1.88)**	.04 (.46)	.09 (.84)
Merger	.03 (.37)	-.13 (-1.71)*	-.16 (-1.98)**	.08 (1.02)	.02 (.26)	-.05 (-.82)	.03 (.42)	-.01 (-.10)	-.02 (-.26)	.07 (.94)	.13 (1.72)*
Consolidate	.03 (.29)	.18 (1.61)	-.02 (-.19)	-.04 (-.37)	.11 (.92)	.04 (.44)	-.06 (-.52)	-.16 (1.58)	.05 (.35)	-.02 (-.21)	-.13 (-1.14)
Joint Venture	.03 (.44)	-.06 (-.87)	.05 (.62)	-.08 (-1.10)	.07 (.92)	.05 (.86)	.06 (.77)	.08 (1.28)	-.24 (-2.73)***	.01 (.10)	.16 (2.22)**
N =	661	663	659	662	662	660	660	661	645	650	654
F(16,___)	3.86***	5.05***	4.25***	2.42***	3.70***	5.34***	1.47	3.81***	4.18***	1.98**	2.26***
Pseudo R ²	.06	.09	.07	.06	.08	.10	.01	.06	.07	.02	.03

Figures in () are t-statistics

*** = Significant at the .01 level

** = Significant at the .05 level

* = Significant at the .10 level

members with more formal education consider annual meetings to be a poor source of information. Cooperatives that operate from more sites tend to have members who place little informational value on annual meetings. Marketing cooperatives and those that have recently merged also tend to have members who see annual meetings as having limited value as a source of information. In short, annual meetings tend to be valued most by those who already have a high level of involvement but offer little to draw in those who feel less attachment to the cooperative.

Board Meetings. Board meetings have some of the same characteristics as the annual meeting in the sense that those with a significant attachment to the cooperative (board members) rate them as an important information source. Those with more formal education and older members rate board meetings as a relatively unimportant source of information about the cooperative. Interestingly, more frequent press releases are associated with a more positive view of board meetings as a source of information (perhaps these press releases report on board actions) while a web site is seen as a substitute for information from the board meetings. Board meetings are significantly less highly valued as an information source in cooperatives that have recently experienced a merger.

Communications with the Manager. The regression results in table 6 indicate that communication with the manager is one of the most influential sources of information in terms of building member commitment. In table 7 the importance of managerial communications is indicated by the high and significant value for the intercept term. Interestingly, the value of managerial communications declines as the tenure of that manager increases. These results also suggest that more frequent newsletters or a web site are substitutes for communications with the manager. This substitution is likely to grow in importance as cooperatives get larger and farmers become more comfortable with this still-new technology. Finally, members of service cooperatives tend to value communications with their manager less highly than average.

Communications with Employees. The factors affecting the importance of communications with employees are somewhat different from those associated with managerial communications. As was true for managerial communications, the large and significant value on the intercept term illustrates the high value that most members place on this source of cooperative information. Respondents with board experience rate communications with employees as a very unimportant source of cooperative information. This may reflect the constraints board members face in their dealings with employees imposed by the nature of board-management relations. More highly educated members rate this source of information more highly. The number of newsletters per year is negatively correlated with the assessment of this source of information. In cooperatives with higher newsletter publishing rates, the need for current cooperative information from employees is reduced.

Communications with the Board of Directors. Older members place relatively less stock in communications with the board of directors than do younger ones. This result is counterbalanced to a certain extent by the positive correlation found between the value of communications with the board and length of membership in the cooperative. Greater understanding of the cooperative (through service on a committee or through cooperative education) tends to be associated with placing a greater value on board communications. More extensive use of press releases also leads to relatively greater value being placed on board communications. Perhaps newspaper articles about the

cooperative generate questions for which members seek answers from the board. In contrast, if the cooperative has a web site, board communications are a less highly valued source of information.

Communications with Other Members. The model was least successful with respect to identifying factors associated with the importance of this source of information. This set of independent variables, as measured by the F-statistic, is not statistically associated with the relative importance of communications with other members, and the model explains almost none of the observed variation in the relative importance of this source of cooperative information. Respondents with board experience discount this source of cooperative information, perhaps having had the experience of dealing with incorrect rumors circulating among their members. More frequent press releases, on the other hand, tend to increase the value placed on communications from other members.

News Articles. Factors associated with a high rating for news articles as a source of cooperative information include age, the number of sites from which the cooperative operates, and the type of cooperative (service and marketing cooperatives). Cooperatives operating from more sites tend to be larger and may have more layers of management between members and the chief executive officer. In such cases, news articles about the cooperative may be the most accessible alternative source of information about the cooperative. More highly educated members and long-term members give this source a low rating, as do members of cooperatives that issue many press releases per year. This last result is particularly interesting, suggesting declining marginal returns to press releases as a means of reaching the membership of a cooperative.

Electronic Communications. Electronic communication techniques have a large and significant negative intercept term, which indicates that most respondents find this a relatively unimportant source of cooperative information—a finding that is completely consistent with the descriptive results reported above. In contrast, these communication alternatives (email, web page) are preferred by more highly educated members, cooperatives that have a manager of long standing, and those with more newsletters per year. It is interesting that again electronic communication options seem to be complementing rather than substituting for more traditional sources of information. Electronic communications are more highly valued by members of marketing and service cooperatives but less valued by cooperatives that have experienced a recent joint venture.

Focus Groups. Focus groups, as noted above, were used by relatively few of the cooperatives in the sample, a fact that probably accounts for the large, negative, and statistically significant intercept term for this equation. The only independent variables with significant relationships to focus groups are the number of newsletters issued per year and the existence of a web page (positive relationships). Both of these communication vehicles could have been used to disseminate the results of the focus groups to the membership and/or explain why the cooperative was doing them in the first place. Either of these scenarios might account for the observed positive association.

Member Surveys. Member surveys are less valued by members of long-standing and in cooperatives that issue more newsletters per year. In contrast, members of cooperatives that have a web site or that have recently experienced a merger or joint venture, tend to place more value on this source of cooperative information.

Communication Preferences of Different Patron Groups

Reading across a row containing a member characteristic in table 6 provides insights into the preferences of a given type of member. Thus, older members are more likely to rate information coming from board meetings or from conversations with board members as relatively poor sources of information about their cooperative. Older members, on the other hand, rate news articles about their cooperative as a more important source of information.

In contrast, those with higher levels of formal education rate news articles, information from board meetings, and the annual meeting as poor sources of information. These members rate communications with employees and electronic options as their favored sources of information about their cooperative.

Members of long standing place greater trust in communications with the board of directors than any of the other communications methods examined. They rate news articles and member surveys relatively low.

Board members, probably because of their personal involvement, rate board meetings and the annual meeting as key sources of information. They rate communications with employees and with other members as much less important. Interestingly, communications with the manager is statistically insignificant, which is unexpected since a substantial amount of the information a typical board member receives comes from the manager.

Conclusions and Future Research Issues

The results of this study show that there is a relationship between member commitment to cooperatives and the techniques used to communicate with members. To the extent that building member commitment is an important goal for cooperatives, the results of this study indicate that there are relatively simple things cooperatives can do to achieve this result. For example, our results indicate that a newsletter is more effective in building member commitment if it is published more frequently. Given that employees are very important sources of information for many members, cooperatives should ensure that employees who have a high level of contact with the patrons understand and can clearly articulate the information the cooperative needs its members to have.

The analysis suggests that there are interesting relationships between the newer electronic communication methods and more traditional communication vehicles. For instance, our results indicate that a web site enhances or complements the impact of a cooperative's newsletter, focus groups, and member surveys. In contrast, the electronic communication options seem to substitute for direct communications with the board and manager. Cooperatives have long valued and promoted the strong links between members and themselves. If members are willing to substitute direct communications with key decision makers in a cooperative for the much less personal connection via the web or email, our view of cooperative relations may be poised for a significant re-evaluation.

Further, the results suggest that different member segments have distinct preferences for communication vehicles. Annual meetings and news articles appeal to particular segments of the membership base (those heavily involved in the cooperative and older members respectively) but may fail to reach other segments (more highly educated and members of long standing respectively). This suggests that the mix of communication techniques used should be tailored to fit the characteristics of the current or desired members of the cooperative.

This research has generated several issues for further research. First, given the relatively small number of cooperatives included in our final sample, replication of the study on a larger scale would be advisable. Second, our results support the hypothesis that good communications between the manager and the members is important in terms of building member commitment, but we can only speculate about what constitutes good communications. Indeed, we can't even be certain about the direction of causality (does good managerial communications build member commitment or are more committed members going to seek more managerial communications?). Research that identifies the types and forms of managerial communications valued by members would be useful.

Members identified employee communications as the most important source of information about the cooperative. However, we found no association between the importance attached to employee communications and the member's assessment of his or her commitment to the cooperative. It would be very valuable to understand why there is not a closer link between employee communications and member commitment and if cooperatives could indeed improve member commitment by working with their employees to sharpen their communication skills.

Our results suggest that in some instances electronic communications substitute for more traditional channels of communications (managerial or board communications), while electronic communications complement others (newsletters). Further research to test these relationships and to help to explain them would be valuable.

Finally, alternative forms of structural change appear to have strikingly different impacts on member commitment. The results of this study indicate that mergers result in less member commitment while consolidations result in more commitment. Given the rapid structural change that is occurring in cooperatives, this results bears additional scrutiny.

Cooperative communication strategies appear to have the potential to build member commitment and can be tailored to appeal to particular constituencies within the farming community. Since cooperatives have control over their communication efforts, these results indicate that cooperatives have powerful tools available for expanding their members' commitment.

Note

1. The communication strategies about which we asked were: whether the cooperative had a newsletter, had issued press releases, had provided formal training in customer relations, had provided formal board training, had a cooperative web site, had done focus groups, or had done a member survey. We also asked how many members attended the last annual meeting.

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