An Evaluation of Customer Relationship Management (CRM) Practices Among Agribusiness Firms

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Abstract

Customer Relationship Management (CRM) has received much attention in the business press as a management process to enhance firm performance. This research highlights differences between groups of respondents who believe their firm's CRM program is performing at a high level, as compared to those not satisfied with the performance of their CRM initiative. Cluster analysis was used to develop a taxonomy of respondents based on their perceived CRM performance. The resulting clusters are then profiled on both demographic variables as well as a core set of activities/behaviors to better understand key differences in the CRM programs of agribusinesses.

Keywords: customer relationship management (CRM), marketing, strategy, information technology, cluster analysis.

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Introduction

Customer Relationship Management (CRM) can be defined as the integrated use of people, process, and technology to build and maintain long-term, profitable relationships with target customers. CRM has garnered much attention as a tool to enhance a firm's competitive standing. However, recent research reveals that the performance of CRM programs is less than idyllic. Commonly cited reasons for the poor performance of CRM programs include the need for better customer data, the inability to match customer preferences with particular communications media, the inability to merge databases for separate business units, shifting customer demand patterns, and regulatory issues (Findlay and Stone, 2001). Clearly, this points to a need to improve the overall quality of CRM programs.

A review of the literature revealed a plethora of "To Do" or "How To" lists suggesting a myriad of business protocols to best implement CRM. However, few if any of these lists are based on empirical research and often merely reflect the author's opinion. Additionally, scant information is available on why businesses are motivated to adopt CRM, nor is there a detailed explanation of the problems that are encountered in implementing and managing the CRM process (i.e., specific activities that comprise a CRM program) from a manager's perspective. (See the October 2005 (Volume 69) issue of the Journal of Marketing for some recent empirical work on CRM and firm performance.)

Furthermore, little research exists on CRM in agriculture or agribusiness. Existing research focuses on the grocery industry (Ogbonna and Harris, page 291, 2001) and affinity or loyalty card programs (O'Brien and Jones, page 75, 1995), where the decision to adopt a CRM program has already been made. In summary, much popular press has touted the success of CRM, but there is far less work on how CRM is successfully implemented and managed.

CRM is often referred to as a strategy. Porter contends that, "the essence of strategy is in activities - choosing to perform activities differently or to perform different activities than rivals…" (Porter, 1996, page 64). Thus, if CRM is a strategy, then CRM must consist of a series of activities that provide a firm the opportunity to obtain or sustain a competitive advantage over their competitors. However, the specific activities which comprise a CRM program are not well defined.

The objectives of this research are to bridge the existing gap in the CRM literature with respect to agribusinesses by developing a taxonomy of agribusinesses, describing their CRM programs and highlighting key differences across a set of activities/behaviors. The aim is to better understand CRM performance differences in agribusiness organizations and then to begin to understand what drives these

performance differences. Ultimately, the resulting taxonomy and profiling will allow for the placement of agribusinesses on a continuum of "successful" to "unsuccessful" CRM program performance and allow for a deeper understanding as to why some agribusiness firms are relatively more "successful" with CRM while others struggle.

Literature Review

A successful CRM program provides a firm with a distinctive capability by collecting and analyzing data on their customers and prospects and transforming that data into information for use in managerial decision-making (Empson, 2000; Grant, 1996; Spender, 1996). With this knowledge of the customer, a firm can develop a customized marketing mix (price, product, place, promotion) for each customer and begin to engage in "cooperative and collaborative" relationships with their customers.

In a study assessing the impact of relational information and processes, Jayachandran, Sharma, Kaufman, and Raman (2005) found that firms that have higher CRM performance also had the ability to capture, access and use customer information. Another study of on-line retailers with a brick and mortar presence, Srinivasan and Moorman (2005), linked the impact of firm strategic commitment to the performance of CRM system investments. More specifically, they conclude that firm commitments to either an on-line or bricks and mortar presence affect the performance of the CRM initiative, emphasizing the importance of context when evaluating the impact of CRM on firm performance.

Winer (2001) provides a framework for one to begin conceptualizing a CRM program. This framework although useful, is quite general and is only a starting point in the quest to identify relevant activities/behaviors/outcomes for a CRM program. Taking Winer's framework into consideration, coupled with a review of the literature, six areas are identified which comprise a CRM program. These areas are: 1) objectives of the CRM program; 2) types of customer data collected/available; 3) uses of customer data for managerial decision-making; 4) the firm's approach to market; 5) tactics used to develop and maintain relationships with customers, and 6) the information technology infrastructure currently in use.

The previous six areas of interest identify specific activities/behaviors that comprise a CRM program; however, they do not provide any information regarding the overall performance of such programs nor do they give any indication as to the challenges faced by managers when implementing CRM. Thus, the final two areas explored in this study include CRM performance and CRM challenges.

Data and Methods

A four-page, 20-question self-administered questionnaire was mailed to 2,000 middle and upper level agribusiness managers. (See Appendix 2 for a copy of the questionnaire). The initial questionnaire was pre-tested with middle and upper level agribusiness managers in January 2004, and revised before being mailed in February 2004. A follow-up reminder questionnaire was mailed two weeks after the initial mailing. Names and addresses for these agribusiness managers were identified using the Center for Food and Agricultural Business database at Purdue University. This target population was selected because it is believed that these are the individuals in an agribusiness firm who were most likely to be responsible for, and have some working knowledge of, their firms' overall CRM program. The managers were asked to use their respective operating unit as the focal unit of analysis because it is believed that the operating unit, not the firm, is most responsible for implementing and monitoring a CRM program.

Specific questions solicited agribusiness manager opinions with respect to their operating units' CRM program performance; metrics that managers considered important; types of customer data collected/accessed; uses of customer data; approaches to the market; tactics used to develop and maintain customer relationships; information technology infrastructure assessment; and challenges to making the best use of customer data in information systems/databases.

Of the 2,000 questionnaires mailed, a total of 256 questionnaires were returned. This resulted in a response rate of 12.8 percent, which is acceptable considering that most response rates for research of this type are less than 10% (Alreck and Settle, 1995, page 34). After an initial screening, 23 questionnaires were removed because missing observations existed on one or more of the 22 performance metrics that are to be used as basis variables in a cluster analysis. The final (usable) response rate was 11.6%.

Detailed descriptive statistics for the respondents are presented in Torres (2004). Firms represented in this sample are about equally split between small (less than $49 million – 31.0%), medium ($50 million - $499 million – 34.5%), and large ($500 million or more – 34.5%) sized firms. About two-thirds of respondents indicated that their firm played only one role in the distribution channel, and they either were a manufacturer (37.9%), distributor/wholesaler (10.6%), or dealer/retailer (18.1%). Furthermore, respondents tended to be from firms that were privately-owned (43.7%), with 22.1% of the sample from cooperatives, and 30.3% of the respondents from publicly-owned firms.

With respect to the arenas where agribusiness operating units compete (primary business interests) the most often cited interests were seed (29.5%), crop protection chemicals (10.2%), and feed/animal nutrition (9.9%). The remaining respondents

were scattered across a wide range of agricultural input and first handler industries including crop capital equipment (6.0%), fertilizer (5.2%), and crop handling/processing (4.3%). Additionally, a distribution channel with one level between the end-user and the operating unit was the most often used channel (55.1%) by responding firms, with 34.3% of the respondents selling direct to end-users.

Cluster analysis was identified as the multivariate tool that could be used to develop a taxonomy of responses and assist in the development of a narrative profile to better understand key differences between the clusters across the core set of activities/behaviors/outcomes of a CRM program. The basis variables used to develop this taxonomy are the 22 CRM performance metrics. These 22 performance metrics serve as "characteristics that tell us why segments [groups] differ (e.g. needs, preferences, decision process, etc.)" (Moriarty, 2004, course notes).

One would expect that the CRM programs of agribusiness firms would differ in their effectiveness, and as such, can be classified into homogenous subsets based on their CRM performance. Furthermore, there is interest in identifying "best practices" associated with CRM programs. A profile of such performance-based clusters on each of the core sets of activities/behaviors/outcomes can be used to identify those "best practices" employed by successful agribusinesses, illuminating key differences in CRM programs between superior and inferior performers.

Cluster Analysis Results

The cluster analysis (using the Euclidean distance as a measure of dissimilarity and by employing Ward's method as the linking method) was performed on all 22 CRM performance metrics, where respondents were given 22 areas of CRM performance and asked to rate their operating unit's performance relative to its expectations over the past three years. The 1 to 5 scale offered the following responses: far worse than expected, slightly worse than expected, about the same as expected, slightly better than expected, and far better than expected.

Inspection of the resulting cluster analysis dendogram revealed a three-cluster solution. In the three-cluster solution, the first cluster contained 121 respondents, which accounted for about 52% of the sample. The second cluster contained 42 respondents and represented about 18% of the sample, while the third cluster contained 70 respondents and represented approximately 30% of the sample. For each cluster, the mean rating on each CRM performance variable was calculated as well as the overall mean rating. In Table 1, CRM performance variables are listed in descending order according to the overall mean. In addition, ANOVA statistics, F-tests and associated p-values are also displayed.

For Cluster 1, each of the CRM performance variables have a mean rating above 3.0, indicating that respondents in Cluster 1, as a group, perceive themselves as

Table 1: Cluster Mean Ratings for CRM Performance Metrics

	Overall Mean	Leaders	Emerging Leaders	Under achievers	F-test	p-value	
n (%)		121 (52%)	42 (18%)	70 (30%)			
Maintaining long-term customer relationships	3.64	3.97	3.62	3.09	44.40	0.000	***
Achieving a reputation for fairness with customers	3.62	3.88	3.67	3.16	28.85	0.000	***
Providing value for customers	3.61	3.93	3.71	3.00	54.81	0.000	***
Increasing profitability	3.50	3.98	2.76	3.10	39.43	0.000	***
Gaining an edge over competition in marketplace	3.49	3.96	3.26	2.81	59.43	0.000	***
Retaining current customers	3.46	3.83	3.40	2.87	41.23	0.000	***
Achieving mutual trust with customers	3.46	3.74	3.52	2.94	36.78	0.000	***
Increasing market share	3.45	3.95	2.95	2.87	54.45	0.000	***
Attracting new customers	3.39	3.75	3.07	2.97	28.37	0.000	***
Differentiating products/services from competitive products/services	3.39	3.74	3.31	2.84	28.94	0.000	***
Increasing sales with current customers	3.39	3.77	3.12	2.89	39.60	0.000	***
Increasing customer loyalty	3.38	3.66	3.10	3.06	19.03	0.000	***
Increasing customer satisfaction for products/services	3.38	3.66	3.33	2.90	25.57	0.000	***
Customizing products/services for customers	3.26	3.47	3.64	2.66	26.00	0.000	***
Providing up-selling opportunities (i.e., selling products with higher margins)	3.26	3.57	2.95	2.90	17.99	0.000	***
Developing new products/ services for customers	3.24	3.48	3.50	2.66	23.10	0.000	***
Reducing customer conflict (i.e., billing/invoice problems, product returns/exchanges)	3.18	3.31	3.38	2.84	9.36	0.000	***
Sharing information w/ customers	3.18	3.38	3.40	2.71	18.35	0.000	***
Reducing total cost of sales effort	3.09	3.31	2.76	2.93	7.83	0.001	***
Anticipating customers' emerging needs	3.03	3.22	3.36	2.50	23.87	0.000	***
Providing cross-selling opportunities (i.e., selling other products/brand lines)	2.99	3.16	2.81	2.81	4.29	0.015	**
Understanding customer purchasing behavior	2.88	3.01	3.40	2.33	30.75	0.000	***

Note A: A 1 to 5 rating scale was used, where 1 = far worse than expected, 2 = slightly worse than expected, 3 = about the same as expected, 4 = slightly better than expected and 5 = far better than expected.

Note B: *** 1% significance level, ** 5% significance level, and * 10% significance level

Note C: All mean values, except overall means, were calculated using the harmonic mean. See Appendix 1 for the formula used to calculate the harmonic mean.

exceeding their operating unit's expectations for performance over the past three years (Table 1). Additionally, Cluster 1 has the highest mean rating of the three clusters for 16 of the 22 performance metrics. Members of Cluster 1 are labeled Leaders.

Cluster 3, when compared to the other two clusters, does not have the highest rated mean for any CRM performance variable. However, they do have the lowest rated mean performance for 20 of the 22 performance variables, the exceptions being increasing profitability and reducing total cost of sales effort (Table 1). Moreover, Cluster 3 respondents have a mean rating below 3.0 for a majority of the CRM performance variables, which indicates that these respondents do not perceive themselves as meeting their operating unit's expectations with regard to performance. As a result, Cluster 3 respondents are labeled Underachievers.

Clusters 1 and 3 form the end-points of a continuum for CRM performance. Between Clusters 1 and 3 resides Cluster 2. Cluster 2, when compared to Clusters 1 and 3, has the highest rated mean scores for six of the 22 CRM performance variables (Table 1). Furthermore, Cluster 2 has a mean rating above 3.0 for 17 of the 22 CRM performance variables; thus, in general, they perceive themselves as meeting or exceeding their operating unit's expectations of performance. Overall, the mean performance ratings for Cluster 2 tend to be slightly lower than the mean ratings for Leaders (Cluster 1) and higher than Underachievers (Cluster 3). Thus, Cluster 2 respondents are termed Emerging Leaders.

To determine if group membership could be accurately predicted and to provide "meaningful practical differentiation" (Churchill, page 831, 1999), a reclassification procedure was employed (Torres, 2004). The three-cluster solution is a "good solution" because the resulting reclassification results (which are a part of a discriminant analysis) were able to predict a respondent's actual group membership 88.4% of the time.

Cluster Demographics

Cross tabulations were calculated to gain a better understanding of the firm demographics for each cluster. Only two cross tabulations showed a statistical dependence between a demographic variable and cluster membership: firm size and the operating unit that the respondent is responding for (Table 2).

Table 2: Summary Firm Demographic Characteristics by Cluster Membership

	Pearson's Chi-Square	df	p-value
Firm Role	16.52	14	0.283
Firm Size	9.66	4	0.047**
Firm Ownership Type	12.64	8	0.125
Operating Unit Represented	13.62	8	0.092*
Geographic Scope of Distribution for Products/Services	13.81	12	0.313
Operating Unit Size	6.33	4	0.176
Industry Segment	9.29	6	0.158
Primary Position in the Distribution Channel	0.14	4	0.998

Note: *** 1% significance level, ** 5% significance level, and * 10% significance level

The three size categories are: Small firms (sales less than $49 million), Medium firms (between $50 million and $499 million in sales), and Large firms ($500 million or more in sales). As described earlier, respondents were classified through the cluster analysis as Leaders, Emerging Leaders, or Underachievers. Almost two-thirds (63%) of the Medium firms were classified as Leaders, compared to 48% of the Large firms and 45% of the Small firms. Some 36% of the Large firms were classified as Underachievers, compared to 28% of the Small firms and 24% of the Medium firms. These findings suggest scale has positive and negative effects on CRM success. Size means resources, which provide opportunity for adequate investment to help insure CRM program success. At the same time, size means complexity and a successful CRM program involves orchestration of a myriad of components which is much more challenging in a large organization.

The types of operating units represented in this research include Total Firm/Parent Company, Agriculture Division, Geographic (Regional) Division, Product Division, and a category of "Other." Respondents reporting for Agriculture Divisions and Product Divisions were much more likely to be classified as Leaders with 69% of those reporting for Product Divisions classified as Leaders and 56% of those reporting for Agriculture Divisions. Only 43% of those respondents reporting for the Total Firm/Parent Company and those reporting for Geographic Divisions were classified as Leaders. Conversely, some 40% of those reporting for Geographic Divisions and 32% of those reporting for the Total Firm/Parent Company were classified as Underachievers. Organizational structure does seem related to CRM success. Product and Agriculture Divisions may have more focus with respect to target customer group compared to those reporting for the Total Firm/Parent Company or Geographic Division. And this focus may make the CRM strategy a bit more straightforward relative to other, more complex situations.

Cluster Profiles for CRM Objectives

Respondents were asked to rate 22 possible objectives for their CRM program on a scale of 1 (not important) to 5 (very important) to gather information on where respondents are targeting their efforts. Overall, each cluster rated every CRM objective important to their operating unit since no variable had a mean rating less than 3.0 (Table 3). Furthermore, the mean ratings across all three clusters are statistically equal for 9 of the 22 CRM objectives.
One can also see in Table 3 that Leaders have the highest rated mean of the three clusters for 6 of the 13 statistically significant differences. Some of their most important objectives

Table 3: Cluster Means for CRM Objectives

	Overall Mean	Leaders	Emerging Leaders	Under achievers	F-test	p-value
n (%)		121 (52%)	42 (18%)	70 (30%)		
Maintain long-term customer relationships	4.73	4.81	4.74	4.60	4.45	0.013**
Provide value for customers	4.67	4.78	4.81	4.39	13.86	0.000***
Retain current customers	4.66	4.74	4.69	4.50	4.92	0.008***
Increase profitability	4.56	4.53	4.58	4.60	0.36	0.699
Increase customer loyalty	4.44	4.45	4.58	4.33	1.81	0.166
Achieving a reputation for fairness with customers	4.42	4.59	4.52	4.07	12.17	0.000***
Achieve mutual trust with customers	4.41	4.53	4.57	4.10	9.72	0.000***
Increase sales with current customers	4.35	4.43	4.32	4.23	1.76	0.175
Gain an edge over competition in the marketplace	4.31	4.39	4.36	4.13	3.74	0.025**
Increase customer satisfaction for products-services	4.30	4.36	4.43	4.13	3.08	0.048**
Anticipate customers' emerging needs	4.25	4.34	4.29	4.09	2.29	0.103
Differentiate products-services from competitive products-services	4.21	4.32	4.31	3.96	5.79	0.004***
Attract new customers	4.19	4.24	4.43	3.96	4.41	0.013**
Increase market share	4.18	4.23	4.05	4.17	0.64	0.526
Share information with customers	4.05	4.11	4.17	3.87	2.23	0.110
Understand customer purchasing behavior	3.98	3.98	4.21	3.84	2.34	0.099*
Develop new products services for customers	3.92	4.06	3.76	3.76	2.99	0.052*
Provide up-selling opportunities (i.e., selling products with higher margins)	3.85	3.95	3.76	3.74	1.16	0.314
Reduce customer conflict (i.e., billing/invoice problems, product returns/exchanges)	3.67	3.73	3.93	3.41	3.39	0.035**

Table 3: (Continued)

Customize products/services for customers	3.63	3.68	3.93	3.35	4.82	0.009***
Reduce total cost of sales effort	3.33	3.36	3.52	3.16	1.62	0.200
Provide cross-selling opportunities (i.e., selling other products/brand lines)	3.33	3.35	3.48	3.48	0.59	0.555

Note A: A 1 to 5 rating scale was used, where 1 = Not Important and 5 = Very Important.
Note B: *** 1% significance level, ** 5% significance level, and * 10% significance level
Note C: All mean values, except overall means, were calculated using the harmonic mean. See Appendix 1 for the formula used to calculate the harmonic mean.

where Leaders have the highest rated mean are: 1) maintain long-term customer relationships; 2) retain current customers; and 3) achieve a reputation for fairness with customers.

Emerging Leaders, when compared to Leaders and Underachievers, have the highest rated mean for 11 variables, but only 7 of the differences in these mean ratings are statistically significant. Some of objectives where Emerging Leaders have the highest rated mean are: 1) provide value for customers; 2) increase customer loyalty; 3) achieve mutual trust with customers; and 4) increasing customer satisfaction for products/services.

Of the three clusters, Underachievers do not have the highest rated mean for any CRM objective. Moreover, while Underachievers consider each of the 22 CRM performance variables relatively important to their operating unit, they do not consider these as important as Leaders and Emerging Leaders do.
Comparing Table 1 with Table 3, one can reach some conclusions with regard to importance of CRM objectives and perceived CRM performance. The general trend in Table 1 is that, overall, only Leaders and Emerging Leaders perceive themselves as meeting their operating unit's expectations for CRM performance over the past three years. Coupling this information with the general trends shown in Table 3, it appears that operating units with loftier goals (i.e. higher mean ratings) also tend to have higher levels of perceived CRM performance.

Cluster Profiles for Approach to the Market
Respondents were asked to indicate their operating unit's focus to approaching the market for their products and services, measured on a 1 (not a focus) to 5 (major focus) scale. Possible response categories were superior quality, superior service, product differentiation, innovation, customized product/service offerings, and low price.

The mean rating for each cluster on using low price as an approach to market was below 3.0 (Table 4). This indicates that Leaders, Emerging Leaders, and Underachievers prefer any of the other five approaches to market relative to

focusing on low price. Furthermore, respondents indicated that their principle means of attracting customers to their products and services center on superior service and superior quality.

Of the three variables where cluster means differ statistically, Leaders show a tendency to focus on innovation relative to Emerging Leaders and Underachievers (Table 4). A firm approaching the market with an innovation strategy is likely to have a culture which supports innovation. And, such an innovation culture would be open to a new strategy like CRM, making the required investments easier to support, and the required organizational adjustments more "business as usual" relative to those firms where innovation is not as important.

Table 4: Cluster Means for Approach to Market

	Overall Mean	Leaders	Emerging Leaders	Under achievers	F-test	p-value
n (%)		121(52%)	42 (18%)	70 (30%)		
Superior Quality	4.53	4.54	4.56	4.49	0.17	0.844
Superior Service	4.44	4.45	4.72	4.26	6.10	0.003***
Product Differentiation	4.13	4.22	4.17	3.96	1.92	0.149
Innovation	4.12	4.25	4.12	3.89	3.28	0.039**
Customized Product/Service Offerings	3.81	3.91	4.16	3.42	8.89	0.000***
Low Price	2.13	2.23	2.07	1.98	1.32	0.269

Note A: A 1 to 5 rating scales was used, where 1 = Not a Focus and 5 = A Major Focus
Note B: *** 1% significance level, ** 5% significance level, and * 10% significance level

Emerging Leaders show a strong preference for using a superior service, followed by customizing products/service offerings when approaching the market with their products and services. Underachievers have the lowest mean ratings for all six approaches to the market. This indicates that Underachievers have a lower level of commitment to any of the approaches to market, when compared to Leaders and Emerging Leaders. This lack of commitment and clarity may also help explain their lack of CRM success.

Cluster Profiles for Customer Data Collected/Accessed

Respondents were asked to indicate the percentage of customer (end-user) information their operating units collected or had access to. For each of the ten areas, respondents could indicate that they don't collect the information, or indicate the percentage of their customer base such information was collected for (possible

responses were don't collect, 50% or less, 51% or more). Summary cross tabulation results for each analysis between the percentage of an operating unit's customer (end-user) data collected or has access to by cluster membership are displayed in Table 5.

Table 5: Summary Results for Types of Data Collected by Cluster Membership Cross Tabulations

	Pearson's Chi-square	df	p-value
Name and Address	1.25	4	0.87
Phone Number	3.44	4	0.49
Email Address	2.98	4	0.56
Contact History (i.e., date, time, and method of contact)	7.63	4	0.11
Sales Data (i.e., number of items purchased, amount of purchases, etc.)	3.03	4	0.55
Location/source of purchase for each transaction (i.e., direct sales, retailer, on-line, etc.)	3.04	4	0.55
Product specification data for each item purchased (i.e., parts number, serial numbers, application rates, etc.)	1.57	4	0.81
Complaint Data	0.88	4	0.93
Cost of Service	10.36	4	0.04**
CLV	9.48	4	0.05**

Note: *** 1% significance level, ** 5% significance level, and * 10% significance level

Only two cross tabulations were statistically significant. This statistical significance indicates a dependence relationship between the cost of service by cluster membership and customer lifetime value (CLV) by cluster membership.

A majority of respondents indicated that their operating unit does not collect or have access to cost of service information. This result is not unexpected, for cost of service data is a more sophisticated type of data than a customer's name and address or email address. As such, it is likely that the collection of such data is resource (i.e., money, people, and technology) consuming. Leaders clearly distinguished themselves in collecting, or having access to, cost of service customer data, relative to either Emerging Leaders or Underachievers.

The implications from the failure of Emerging Leaders and Underachievers to not collect or have access to customer cost of service information are clear -- it denies these agribusinesses the opportunity to monitor the cost of servicing a customer and assess whether or not they are expending too much or too little resources on specific customers. Conversely, the collection or access to such information places Leaders in a relatively better position to determine how resources are to be allocated to

individual customers and could enhance their operating unit's profitability or ability to achieve CRM performance goals.

To calculate a customer lifetime value (CLV), firms need four pieces of information: potential revenue stream, cost stream, discount rate, and the number of years a customer is expected to continue to do business with an entity. Almost 60% of respondents indicated that their operating units do not collect or have access to CLV information for their customer base. Given that most agribusiness operating units do not collect cost of service information, it is not surprising to see an even larger percentage of respondents indicate that their operating units do not collect or have access to CLV data.

Cluster Profiles for Uses of Customer Data

Respondents were asked to indicate the extent to which they agreed with how customer data was used by the operating unit. For this set of questions, a 1 to 5 scale offered the following responses: strongly disagree, disagree, neutral, agree, and strongly agree. Leaders have the highest mean ratings for evaluating marketing strategies for products/services and segmenting customers based on the value each customer has to the firm (Table 6).

Table 6: Cluster Mean Ratings for Uses of Customer Data

	Overall Mean	Leaders	Emerging Leaders	Under achievers	F-test	p-value
n (%)		121 (52%)	42 (18%)	70 (30%)		
Evaluate marketing strategies for products/services	3.69	3.83	3.69	3.44	3.33	0.038**
Customize products/services for customers	3.61	3.72	3.98	3.19	9.28	0.000***
Segment customers based on the value each customer has to our firm	3.52	3.62	3.50	3.36	1.08	0.340
Analyze emerging trends (i.e., product/services usage trends, technologies)	3.51	3.60	3.74	3.23	3.98	0.020**
Analyze competitor influence on our customers	3.3	3.41	3.57	2.94	6.75	0.001***
Analyze customer response to promotions	2.81	2.79	3.05	2.70	1.13	0.324

Note A: A 1 to 5 scale was used, where 1 = Strongly Disagree and 5 = Strongly Agree
Note B: *** 1% significance level, ** 5% significance level, and * 10% significance level
Note C: All mean values, except overall means, were calculated using the harmonic mean. See Appendix 1 for the formula used to calculate the harmonic mean.

For Leaders, five of the six uses of customer data had a mean above 3.0, indicating agreement for using customer data to analyze emerging trends, analyzing competitor influence on an operating unit's customer base, evaluating marketing strategies for products/services, customizing products/services for customers and finally, for segmenting customers based on the value each customer has to the firm.

Emerging Leaders have the highest mean ratings for analyzing customer response to promotions, analyzing emerging trends, analyzing competitor influence on an operating unit's customer base, and customizing products/services for customers. This result indicates that Emerging Leaders are quite aggressive in the use of customer data they obtain, giving additional credence to the notion that they are poised to join Leaders as superior performers. Their use of customer data is also likely to be a contributing factor in meeting and/or exceeding their operating units' performance expectations, since using/analyzing customer data potentially aids an operating unit in understanding their customer base and provides insights into which product/service offerings to make available to customers or which tactics to use to develop and maintain customer relationships.

Underachievers again remain true to form: their mean rating for each of the six uses for customer data was the lowest among the three clusters
.

Cluster Profiles for Tactics Used to Develop and Maintain Customer Relationships

Respondents were given 16 activities that could be used to develop or maintain customer relationships and asked to indicate their operating unit's usage or non-usage of these activities. Possible responses were use currently, planning to use in next 3 years, don't use nor plan to use/don't know. Table 7 displays summary cross tabulation results for each tactic by cluster membership. Of the 16 tactics used to develop and maintain customer relationships, only three tactics have a dependent relationship with cluster membership, or vice versa. These tactics are personalized emails, price discounts based on the amounts purchased, and trips, gifts, etc.

Currently, Leaders rank first overall in employing personalized emails to develop and maintain customer relationships. Underachievers and Emerging Leaders follow a distant second and third, respectively. However, with respect to their future intentions, Underachievers rank first overall in planning to use personalized emails within the next three years, followed by Leaders. Thus, one should see a majority (75% or more) of operating units using personalized emails in the very near future. This approach also provides some evidence that the customers of these operating units have email addresses and most likely are computer savvy.

Approximately 75% of respondents indicated that their operating unit currently uses price discounts on the amount purchased to develop and maintain customer

relationships. Respondents currently using price discounts on the amount purchased are most likely to be of two types: Leaders or Underachievers. Emerging Leaders are the least likely to use this tactic currently, nor are they likely to use this tactic within the next three years.

The use of price discounts contrasts with an earlier conclusion about using low price to approach the market for an operating unit's products/services. This result appears to suggest that operating units are in fact competing on price. However, it may also be the case that respondents may not view price discounts based on the amount purchased as competing on price, but instead "justify these discounts on the grounds that large orders reduce selling expenses and may shift some of the costs for storage, transportation, and financing to buyers. The law allows quantity discounts provided they apply on the same basis to all customers" (Boone and Kurtz, page 724, 1999). Furthermore, few respondents see this tactic as being a future growth area.

Overall, approximately 52% of respondents indicated that they don't use nor plan to use/don't know if they will use trips, gifts, etc. as a tactic to develop and maintain customer relationships with their operating units' customers. However, about 41% of respondents indicated that their operating units currently employ the use of trips, gifts, etc. for customers to develop and maintain customer relations. Respondents that currently use trips, gifts, etc. to

Table 7: Summary Cross Tabulation Results between Tactics Used to Develop and Maintain Customer Relationships and Cluster Membership

	Pearson's Chi-square	df	p-value
Reward/frequent buyer programs	2.36	4	0.669
Personal selling/sales force	0.64	4	0.959
Newsletter which contains suggestions tips or hints for product usage and/or testimonials	2.86	4	0.582
Pre-pay/early pay discounts on purchases	4.27	4	0.370
Websites	4.63	4	0.327
Special/restricted access to content on website	1.89	4	0.756
Rebates on purchases	4.24	4	0.373
Direct mail	5.61	4	0.230
Personalized emails	11.82	4	0.019**
Customer call center/telemarketing	3.19	4	0.527
Price discounts based on the amounts purchases	8.81	4	0.066*
Trips, gifts, etc.	9.30	4	0.054*
Informational meetings (i.e. customer breakfasts, lunches, or dinners, field days, guest speakers)	3.02	4	0.554

Table 7 (Continued)

Complaint resolution policies/procedures	2.56	4	0.633
Inventory stock protection for unused products (i.e., your operating unit will buy back unused inventory/stock from customers)	0.94	4	0.919
Product bundling (i.e., products and/or services sold together rather than sold individually)	4.70	4	0.319

Note: *** 1% significance level, ** 5% significance level, and * 10% significance level

develop and maintain customer relationships are likely to be of two types: Leaders and Underachievers. Furthermore, respondents do not see this tactic to be a future growth area among respondents.

Cluster Profiles for Information Technology Infrastructure

Respondents were asked to indicate the extent to which they agreed with eight questions assessing their operating unit's information technology infrastructure. The scale 1 to 5 offered the following responses: strongly disagree, disagree, neutral, agree, and strongly agree. There

Table 8: Cluster Mean Ratings for Information Technology Infrastructure

	Overall Mean	Leaders	Emerging Leaders	Under achievers	F-test	p-value
n (%)		121(52%)	42 (18%)	70 (30%)		
A good information infrastructure (i.e., e-mail, intranet, internet, etc.)	3.69	3.80	3.79	3.45	2.71	0.069*
A good telecommunications infrastructure (i.e., telephone and video conferencing)	3.48	3.50	3.63	3.35	1.02	0.363
Information technology that allows for one-to-one communications with current customers	3.41	3.36	3.64	3.34	1.27	0.283
An information system that is integrated across several functional areas (i.e. marketing, finance, customer service, manufacturing, research, etc.)	3.27	3.28	3.50	3.10	1.74	0.178
Information technology to acquire customer related data in a centralized database	3.25	3.13	3.60	3.19	2.38	0.095*

Table 8 (Continued)

The ability to consolidate all acquired customer related data in a centralized database	3.23	3.22	3.38	3.21	0.34	0.715
Data sharing technologies that enable data access between information systems	3.04	3.02	3.24	2.96	0.79	0.454
The necessary infrastructure to capture customer data from al customer interaction points	2.92	2.83	3.24	2.88	2.116	0.123

Note A: A 1 to 5 rating scale was used, where 1 = Strongly Disagree and 5 = Strongly Agree
Note B: *** 1% significance level, ** 5% significance level, and * 10% significance level
Note C: All mean values, except overall means, were calculated using the harmonic mean.
See Appendix 1 for the formula used to calculate the harmonic mean.

was no statistical difference in 6 of the 8 variables used to assess information technology infrastructure (Table 8). This suggests that across the clusters, parity among operating units largely exists with respect to information technology infrastructure. Furthermore, it suggests that respondents feel that their information systems are adequate to "get the job done," but not superior, and do little to explain differences in CRM performance across the clusters. Emerging Leaders have the highest rated means for all variables except information infrastructure (i.e., e-mail, intranet, internet, etc.), with each variable rated above 3.0. With respect to variables that have statistically significant differences between mean ratings, Emerging Leaders clearly distanced themselves from Leaders and Underachievers in having information technology to acquire customer related data in a centralized database. This may permit Emerging Leaders easier access to more data, which offers the potential to increase productivity.

Despite lower ratings, six of the eight mean ratings for Underachievers are statistically no different than the mean ratings given by Leaders and Emerging Leaders. This suggests that differences in information technology investment/capability do not explain the performance issues this group faces. In the 'people-process-technology' triad, it is people and process which should be the primary focus of Underachieving firms.

Cluster Profiles for Information System/Database Challenges

To assess obstacles to making the best use of customer information in information systems/databases, respondents were asked to rate fourteen areas that were (potential) current challenges facing their operating unit. A scale of 1 (no challenge) to 5 (a major challenge) was employed. Overall, respondents indicated that their most significant challenges to making the best use of customer data in information systems/databases was (overall mean ratings of 3.0 or above) how to effectively use

and collect data, followed by software technology (Table 9). Interestingly, respondents indicated that top management was supportive of their efforts to making the best use of customer data in their information system/database.

Leaders and Emerging Leaders generally did not consider lack of strategic focus and incomplete customer data to be a challenge, or remained neutral on the matter (mean rating of 3.0). Underachievers, on the other hand, considered these issues challenges. Clearly, Underachievers considered lack of strategic focus a challenge; it was also one of the highest mean ratings overall for any cluster and is consistent with their struggle to clearly identify a clear approach to their market (Table 4).

Table 9: Cluster Mean Ratings for Making the Best Use of Customer Data in Information System/Database

	Overall Mean	Leaders	Emerging Leaders	Under achievers	F-test	p-value
n (%)		121 (52%)	42 (18%)	70 (30%)		
How to effectively use the data	3.44	3.47	3.29	3.46	0.47	0.624
How to effectively collect data	3.42	3.37	3.29	3.60	1.49	0.228
Software technology	3.23	3.25	3.08	3.27	0.45	0.639
Lack of strategic focus	3.17	3.00	2.95	3.60	7.50	0.001***
Incomplete customer data	3.08	3.00	2.83	3.37	3.43	0.034**
Cost of initial investment	2.92	2.88	3.24	2.79	1.88	0.155
Lack of internal ownership	2.90	2.67	2.90	3.30	5.72	0.004***
Maintenance cost	2.89	2.97	2.83	2.80	0.59	0.553
Lack of employee incentives to share customer data across the operating unit	2.81	2.81	2.69	2.87	0.27	0.765
Hardware technology	2.72	2.83	2.56	2.61	1.28	0.279
Inaccurate data (i.e., data entered incorrectly)	2.71	2.64	2.38	3.02	4.98	0.008***
Overwhelmed about where to start	2.00	2.59	2.73	2.84	1.14	0.322
Data is not current	2.60	2.55	2.57	2.71	0.50	0.609
Lack of top management support	2.58	2.41	2.36	2.99	5.48	0.005***

Note A: A 1 to 5 rating scale was used, where 1 = No Challenge and 5 = A Major Challenge.
Note B: *** 1% significance level, ** 5% significance level, and * 10% significance level
Note C: All mean values, except overall means, were calculated using the harmonic mean. See Appendix 1 for the formula used to calculate the harmonic mean.

Finally, firms that are performing well across the 22 CRM performance metrics (Leaders and Emerging Leaders) faced fewer challenges than firms that are not performing well (Underachievers). Underachievers indicated that one of their principle challenges was having incomplete customer data. This lack of complete customer data may explain their lower levels of customer data usage when compared to Leaders and Emerging Leaders, and is most likely a contributing factor in their lower levels of CRM performance.

Summary and Managerial Implications

This research highlighted key differences across three groups of agribusinesses (Leaders, Emerging Leaders, and Underachievers) across six activities/behaviors, CRM performance and CRM challenges, providing a "snapshot" of their respective CRM programs.

Leaders reported the highest level of CRM performance. These firms had the most ambitious CRM objectives. They also collected more sophisticated data on their customers and encountered fewer challenges to making the best use of customer data in information systems/databases when compared to Emerging Leaders or Underachievers. Leaders and Emerging Leaders were shown to be the most aggressive in their uses of customer data and more clear to their approaches to market than Underachievers. In general, parity in the use of information technology infrastructure best describes the operating units of all three groups.

Managers looking to launch a CRM program, or those working to enhance the performance of an existing program, are interested in key success factors of successful programs. Based on this research, the best practices associated with more successful agribusiness CRM programs include: 1) setting ambitious objectives; 2) collecting more sophisticated customer data; 3) aggressive use of customer data for making decisions and supporting marketing programs; 4) clarity of approach to the market; and 5) managing the inevitable challenges to making the best use of customer data in information systems/databases.

If agribusiness managers want to give their operating units the best chance for CRM initiatives to be successful, this research suggests they should set lofty objectives; capture customer data relevant to supporting their strategy; use the data they collect on their customers to better understand their purchasing behavior; and employ a wide array of targeted tactics to develop and maintain customer relationships. Finally, it is important to note that technology infrastructure did not distinguish high performance from low performance. Strategy, people, and process issues are more important to CRM program success than investments in computer systems (hardware and software).

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Appendix 1: Harmonic Mean

When calculating a mean score with unequal sample sizes, the harmonic mean is preferable to the arithmetic mean because the "variance of means is proportional not to n, but to 1/n. The measure that takes this into account is not the arithmetic mean, but the harmonic mean. The harmonic mean of k numbers $(X_1, X_2,..., X_{k)}$ is defined as (Howell, page 233 and 234, 2002):

$$\overline{X}_h = \frac{k}{\Sigma \frac{1}{x_i}}$$

Appendix 2: CRM Questionnaire

Note: A percentage symbol was accidentally included for the response to question 15. As a result, this question was not used in any analysis.

(17) In your opinion, what are your **operating unit's** current challenges with regard to making the best use of customer data in your Information System/Database? *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = No Challenge and 5 = A Major Challenge)*

	No Challenge				A Major Challenge
Maintenance cost	1	2	3	4	5
Hardware technology	1	2	3	4	5
Software technology	1	2	3	4	5
Overwhelmed about where to start	1	2	3	4	5
Lack of internal ownership	1	2	3	4	5
Inaccurate data (i.e., data entered incorrectly)	1	2	3	4	5
Cost of initial investment	1	2	3	4	5
How to effectively use the data	1	2	3	4	5
How to effectively collect the data	1	2	3	4	5
Lack of strategic focus	1	2	3	4	5
Data is not current	1	2	3	4	5
Lack of employee incentives to share customer data across the operating unit	1	2	3	4	5
Lack of top management support	1	2	3	4	5
Incomplete customer data	1	2	3	4	5

(19) Relative to your **operating unit's** expectations, how has your **operating unit**, over the last 3 years, performed with respect to . . . *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Far worse than expected and 5 = Far better than expected)*

	Far worse than expected	Slightly worse than expected	About the same as expected	Slightly better than expected	Far better than expected
Increasing profitability	1	2	3	4	5
Increasing market share	1	2	3	4	5
Gaining an edge over competition in the marketplace	1	2	3	4	5
Increasing customer loyalty	1	2	3	4	5
Differentiating products/services from competitive products/services	1	2	3	4	5
Attracting new customers	1	2	3	4	5
Retaining current customers	1	2	3	4	5
Increasing customer satisfaction for products/services	1	2	3	4	5
Customizing products/services for customers	1	2	3	4	5
Developing new products/services for customers	1	2	3	4	5
Reducing total cost of sales effort	1	2	3	4	5
Providing cross-selling opportunities (i.e., selling other products/brand lines)	1	2	3	4	5
Providing up-selling opportunities (i.e., selling products with higher margins)	1	2	3	4	5
Increasing sales with current customers	1	2	3	4	5
Reducing customer conflict (i.e., billing/invoice problems, product returns/exchanges)	1	2	3	4	5
Achieving mutual trust with customers	1	2	3	4	5
Achieving a reputation for fairness with customers	1	2	3	4	5
Providing value for customers	1	2	3	4	5
Maintaining long-term customer relationships	1	2	3	4	5
Sharing information with customers	1	2	3	4	5
Understanding customer purchasing behavior	1	2	3	4	5
Anticipating customers' emerging needs	1	2	3	4	5

(20) Have you attended the "Strategic Customer Relationship Management" program offered by the Center for Food and Agricultural Business at Purdue University? …………………………… ☐ Yes ☐ No

(21) What is your position within the company? *(Check one)*
- ☐ President/CEO/Owner
- ☐ Corporate Marketing (VP Marketing, Director of Marketing)
- ☐ Sales Management (VP Sales, Director of Sales, Regional Sales Manager, etc.)
- ☐ Database Manager/Administrator
- ☐ General Manager
- ☐ Marketing (Product Manager, Advertising Manager, Marketing Manager, etc.)
- ☐ Other _____

Thank you for completing this questionnaire. Your effort and assistance on this research project are greatly appreciated!

Customer Relationship Management Survey

Purdue University and the Center for Food and Agricultural Business ask for your help with a very important research project that focuses on how you manage customer relationships. If you have any questions, please contact: Dr. Jay Akridge, Center for Food and Agricultural Business (765) 494-4247, email: akridge@purdue.edu. Please return this questionnaire in the postage-paid, business reply envelope by March 15, 2004.

(1) Your **firm** is best described as a: *(Check all that apply)*
- ☐ Manufacturer (produces products for resale)
- ☐ Distributor/wholesaler (sells primarily to dealers)
- ☐ Dealer/retailer (sells primarily to end-users)
- ☐ Other (Please specify)_____

(2) In 2003, your **firm's** total annual gross sales (in U.S. dollars) were: *(Check one)*
- ☐ Less than 10 million
- ☐ 10 million – 49 million
- ☐ 50 million – 99 million
- ☐ 100 million – 499 million
- ☐ 500 million – 999 million
- ☐ 1 billion or more

(3) Your **firm** is: *(Check one)*
- ☐ A cooperative
- ☐ Privately-owned (non-cooperative/independent)
- ☐ Publicly-owned (non-cooperative)
- ☐ Joint venture of a private/public firm and cooperative

(4) Please check the box below that most accurately describes the **operating unit** you are responding for:
- ☐ Total Firm/Parent Company
- ☐ Agriculture Division/Operating Unit
- ☐ Geographic (Regional) Division/Operating Unit
- ☐ Product Division/Operating Unit
- ☐ Other *(Please specify)*_____

NOTE: *For the remainder of this questionnaire, please answer all of the following questions with regard to the operating unit you selected in question 4.*

(5) The primary geographic scope of your **operating unit's** distribution of products/services is: *(Check one)*
- ☐ Local (not statewide)
- ☐ Statewide
- ☐ Regional (multiple states in the U.S.)
- ☐ National (U.S. only)
- ☐ North America (U.S. Canada, and Mexico)
- ☐ International (outside North America)

(6) In 2003, your **operating unit's** total annual gross sales (in U.S. dollars) were: *(Check one)*
- ☐ Less than 10 million
- ☐ 10 million – 49 million
- ☐ 50 million – 99 million
- ☐ 100 million – 499 million
- ☐ 500 million – 999 million
- ☐ 1 billion or more

(7) Your **operating unit's** primary business interest(s) are: *(Check all that apply* **AND** *circle your primary business interest)*
- ☐ Crop Protection Chemicals
- ☐ Seed
- ☐ Fertilizer
- ☐ Crop Capital Equipment
- ☐ Animal Health
- ☐ Feed/Animal Nutrition
- ☐ Livestock Capital Equipment
- ☐ Consulting
- ☐ Lending/Financing
- ☐ Trade Association/Trade Press
- ☐ Government Agency
- ☐ Crop Handling/Processing
- ☐ Livestock Marketing/Processing
- ☐ Other *(Please specify)*_____

(8) With respect to your **operating unit's** distribution channels, approximately what percentage of the sales for your operating unit move to market in the following ways? *(Total should add to 100%)*

Direct to end-users…………….. [____ %]

One level between end-users and my **operating unit**……… [____ %]

Two levels or more between end-users and my **operating unit**……………… [____ %]

=100 %

(9) Please indicate the extent to which your **operating unit's** approach to the market is focused on … *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Not a Focus and 5 = Major Focus)*

	Not a Focus				Major Focus
Low price	1	2	3	4	5
Superior quality	1	2	3	4	5
Innovation	1	2	3	4	5
Superior service	1	2	3	4	5
Product differentiation	1	2	3	4	5
Customized product/service offerings	1	2	3	4	5

(10) For your **operating unit,** how important are each of the following items to you in your customer relationship management strategies?
(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Not Important and 5 = Very Important)

	Not Important				Very Important
	1	2	3	4	5
Increase profitability	1	2	3	4	5
Increase market share	1	2	3	4	5
Gain an edge over competition in the marketplace	1	2	3	4	5
Increase customer loyalty	1	2	3	4	5
Differentiate products/services from competitive products/services	1	2	3	4	5
Attract new customers	1	2	3	4	5
Retain current customers	1	2	3	4	5
Increase customer satisfaction for products/services	1	2	3	4	5
Customize products/services for customers	1	2	3	4	5
Develop new products/services for customers	1	2	3	4	5
Reduce total cost of sales effort	1	2	3	4	5
Provide cross-selling opportunities (i.e., selling other products/brand lines)	1	2	3	4	5
Provide up-selling opportunities (i.e., selling products with higher margins)	1	2	3	4	5
Increase sales with current customers	1	2	3	4	5
Reduce customer conflict (i.e., billing/invoice problems, product returns/exchanges)	1	2	3	4	5
Achieve mutual trust with customers	1	2	3	4	5
Achieve a reputation for fairness with customers	1	2	3	4	5
Provide value for customers	1	2	3	4	5
Maintain long-term customer relationships	1	2	3	4	5
Share information with customers	1	2	3	4	5
Understand customer purchasing behavior	1	2	3	4	5
Anticipate customers' emerging needs	1	2	3	4	5

(11) Which of the following activities does your **operating unit** use to develop and maintain relationships with customers?

	Use Currently	Planning to use in next 3 years	Don't use nor plan to use	Don't Know
Reward/frequent buyer programs	☐	☐	☐	☐
Personal selling/sales force	☐	☐	☐	☐
Newsletter which contains suggestions, tips or hints for product usage and/or testimonials	☐	☐	☐	☐
Pre-pay/early pay discounts on purchases	☐	☐	☐	☐
Websites	☐	☐	☐	☐
Special/restricted access to content on website	☐	☐	☐	☐
Rebates on purchases	☐	☐	☐	☐
Direct mail	☐	☐	☐	☐
Personalized emails	☐	☐	☐	☐
Customer call center/telemarketing	☐	☐	☐	☐
Price discounts based on amount purchased	☐	☐	☐	☐
Trips, gifts, etc.	☐	☐	☐	☐
Informational meetings (i.e. customer breakfasts, lunches, or dinners, field days, guest speakers)	☐	☐	☐	☐
Complaint resolution policies/procedures	☐	☐	☐	☐
Inventory/stock protection for unused products (i.e., your operating unit will buy back unused inventory/stock from customers)	☐	☐	☐	☐
Product bundling (i.e., products and/or services sold together, rather than sold individually)	☐	☐	☐	☐
Other *(Please specify)* _____	☐	☐	☐	☐

(12) At the present time, what percentage of your **operating unit's** customers (end-users) does your **operating unit** collect and/or has access to each customer's . . .

	Don't Collect	25% or Less	26%-50%	51%-75%	More than 75%
Name and address	☐	☐	☐	☐	☐
Phone number	☐	☐	☐	☐	☐
Email address	☐	☐	☐	☐	☐
Contact history (i.e., date, time and method of contact)	☐	☐	☐	☐	☐
Sales data (i.e. number of items purchased, amount of purchases, etc.)	☐	☐	☐	☐	☐
Location/source of purchase for each transaction (i.e., direct sales, retailer, on-line, etc.)	☐	☐	☐	☐	☐
Product specification data for each item purchased (i.e., parts number, serial numbers, application rates, etc.)	☐	☐	☐	☐	☐
Complaint data	☐	☐	☐	☐	☐
Cost of service	☐	☐	☐	☐	☐
Lifetime value of customer	☐	☐	☐	☐	☐

(13) Indicate the extent to which you agree with the following statements. At the present time my **operating unit** effectively uses customer data to . . . *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree)*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Analyze customer response to promotions	1	2	3	4	5
Analyze emerging trends (i.e., product/service usage trends, technologies)	1	2	3	4	5
Analyze competitor influence on our customers	1	2	3	4	5
Evaluate marketing strategies for products/services	1	2	3	4	5
Customize products/services for customers	1	2	3	4	5
Segment customers based on the value each customer has to our firm	1	2	3	4	5

(14) With respect to the information your **operating unit** maintains on your customers, indicate the extent to which you agree with each of the following statements. At the present time, my operating unit possesses . . . *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree)*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A good information system infrastructure (i.e., e-mail, intranet, internet, etc.)	1	2	3	4	5
A good telecommunications infrastructure (i.e., telephone and video conferencing)	1	2	3	4	5
An information system that is integrated across several functional areas (i.e., marketing, finance, customer service, manufacturing, research, etc.)	1	2	3	4	5
The necessary infrastructure to capture customer data from all customer interaction points	1	2	3	4	5
The ability to consolidate all acquired customer related data in a centralized database	1	2	3	4	5
Data sharing technologies that enable data access between information systems	1	2	3	4	5
Information technology to acquire customer related data in a centralized database	1	2	3	4	5
Information technology that allows for one-to-one communications with current customers	1	2	3	4	5

(15) Approximately how many total customers does your **operating unit** have? [_____]

(16) What percentage of your **operating unit's** customers represent 80% of your total operating unit sales volume? [_____ %]

(17) In your opinion, what are your **operating unit's** current challenges with regard to making the best use of customer data in your Information System/Database? *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = No Challenge and 5 = A Major Challenge)*

	No Challenge				A Major Challenge
Maintenance cost	1	2	3	4	5
Hardware technology	1	2	3	4	5
Software technology	1	2	3	4	5
Overwhelmed about where to start	1	2	3	4	5
Lack of internal ownership	1	2	3	4	5
Inaccurate data (i.e., data entered incorrectly)	1	2	3	4	5
Cost of initial investment	1	2	3	4	5
How to effectively use the data	1	2	3	4	5
How to effectively collect the data	1	2	3	4	5
Lack of strategic focus	1	2	3	4	5
Data is not current	1	2	3	4	5
Lack of employee incentives to share customer data across the operating unit	1	2	3	4	5
Lack of top management support	1	2	3	4	5
Incomplete customer data	1	2	3	4	5

(19) Relative to your **operating unit's** expectations, how has your **operating unit**, over the last 3 years, performed with respect to . . .
(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Far worse than expected and 5 = Far better than expected)

	Far worse than expected	Slightly worse than expected	About the same as expected	Slightly better than expected	Far better than expected
Increasing profitability	1	2	3	4	5
Increasing market share	1	2	3	4	5
Gaining an edge over competition in the marketplace	1	2	3	4	5
Increasing customer loyalty	1	2	3	4	5
Differentiating products/services from competitive products/services	1	2	3	4	5
Attracting new customers	1	2	3	4	5
Retaining current customers	1	2	3	4	5
Increasing customer satisfaction for products/services	1	2	3	4	5
Customizing products/services for customers	1	2	3	4	5
Developing new products/services for customers	1	2	3	4	5
Reducing total cost of sales effort	1	2	3	4	5
Providing cross-selling opportunities (i.e., selling other products/brand lines)	1	2	3	4	5
Providing up-selling opportunities (i.e., selling products with higher margins)	1	2	3	4	5
Increasing sales with current customers	1	2	3	4	5
Reducing customer conflict (i.e., billing/invoice problems, product returns/exchanges)	1	2	3	4	5
Achieving mutual trust with customers	1	2	3	4	5
Achieving a reputation for fairness with customers	1	2	3	4	5
Providing value for customers	1	2	3	4	5
Maintaining long-term customer relationships	1	2	3	4	5
Sharing information with customers	1	2	3	4	5
Understanding customer purchasing behavior	1	2	3	4	5
Anticipating customers' emerging needs	1	2	3	4	5

(20) Have you attended the "Strategic Customer Relationship Management" program offered by the Center for Food and Agricultural Business at Purdue University? …………………………….   ☐ Yes   ☐ No

(21) What is your position within the company? *(Check one)*
☐ President/CEO/Owner
☐ Corporate Marketing (VP Marketing, Director of Marketing)
☐ Sales Management (VP Sales, Director of Sales, Regional Sales Manager, etc.)
☐ Database Manager/Administrator
☐ General Manager
☐ Marketing (Product Manager, Advertising Manager, Marketing Manager, etc.)
☐ Other _____

Thank you for completing this questionnaire. Your effort and assistance on this research project are greatly appreciated!

Customer Relationship Management Survey

Purdue University and the Center for Food and Agricultural Business ask for your help with a very important research project that focuses on how you manage customer relationships. If you have any questions, please contact: Dr. Jay Akridge, Center for Food and Agricultural Business (765) 494-4247, email: akridge@purdue.edu. Please return this questionnaire in the postage-paid, business reply envelope by March 29, 2004.

(1) Your **firm** is best described as a: *(Check all that apply)*
☐ Manufacturer (produces products for resale)
☐ Distributor/wholesaler (sells primarily to dealers)
☐ Dealer/retailer (sells primarily to end-users)
☐ Other (Please specify)_____

(2) In 2003, your **firm's** total annual gross sales (in U.S. dollars) were: *(Check one)*
☐ Less than 10 million
☐ 10 million – 49 million
☐ 50 million – 99 million
☐ 100 million – 499 million
☐ 500 million – 999 million
☐ 1 billion or more

(3) Your **firm** is: *(Check one)*
☐ A cooperative
☐ Privately-owned (non-cooperative/independent)
☐ Publicly-owned (non-cooperative)
☐ Joint venture of a private/public firm and cooperative

(4) Please check the box below that most accurately describes the **operating unit** you are responding for:
☐ Total Firm/Parent Company
☐ Agriculture Division/Operating Unit
☐ Geographic (Regional) Division/Operating Unit
☐ Product Division/Operating Unit
☐ Other *(Please specify)*_____

NOTE: *For the remainder of this questionnaire, please answer all of the following questions with regard to the **operating unit** you selected in question 4.*

(5) The primary geographic scope of your **operating unit's** distribution of products/services is: *(Check one)*
☐ Local (not statewide)
☐ Statewide
☐ Regional (multiple states in the U.S.)
☐ National (U.S. only)
☐ North America (U.S. Canada, and Mexico)
☐ International (outside North America)

(6) In 2003, your **operating unit's** total annual gross sales (in U.S. dollars) were: *(Check one)*
☐ Less than 10 million
☐ 10 million – 49 million
☐ 50 million – 99 million
☐ 100 million – 499 million
☐ 500 million – 999 million
☐ 1 billion or more

(7) Your **operating unit's** primary business interest(s) are: *(Check all that apply* **AND** *circle your primary business interest)*
☐ Crop Protection Chemicals
☐ Seed
☐ Fertilizer
☐ Crop Capital Equipment
☐ Animal Health
☐ Feed/Animal Nutrition
☐ Livestock Capital Equipment
☐ Consulting
☐ Lending/Financing
☐ Trade Association/Trade Press
☐ Government Agency
☐ Crop Handling/Processing
☐ Livestock Marketing/Processing
☐ Other *(Please specify)*_____

(8) With respect to your **operating unit's** distribution channels, approximately what percentage of the sales for your operating unit move to market in the following ways? *(Total should add to 100%)*

Direct to end-users…………….. [____ %]

One level between end-users and my **operating unit**……… [____ %]

Two levels or more between end-users and my **operating unit**………………. [____ %]
=100 %

(9) Please indicate the extent to which your **operating unit's** approach to the market is focused on …
(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Not a Focus and 5 = Major Focus)

	Not a Focus				Major Focus
Low price	1	2	3	4	5
Superior quality	1	2	3	4	5
Innovation	1	2	3	4	5
Superior service	1	2	3	4	5
Product differentiation	1	2	3	4	5
Customized product/service offerings	1	2	3	4	5

(10) For your **operating unit,** how important are each of the following items to you in your customer relationship management strategies?
(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Not Important and 5 = Very Important)

	Not Important				Very Important
	1	2	3	4	5
Increase profitability	1	2	3	4	5
Increase market share	1	2	3	4	5
Gain an edge over competition in the marketplace	1	2	3	4	5
Increase customer loyalty	1	2	3	4	5
Differentiate products/services from competitive products/services	1	2	3	4	5
Attract new customers	1	2	3	4	5
Retain current customers	1	2	3	4	5
Increase customer satisfaction for products/services	1	2	3	4	5
Customize products/services for customers	1	2	3	4	5
Develop new products/services for customers	1	2	3	4	5
Reduce total cost of sales effort	1	2	3	4	5
Provide cross-selling opportunities (i.e., selling other products/brand lines)	1	2	3	4	5
Provide up-selling opportunities (i.e., selling products with higher margins)	1	2	3	4	5
Increase sales with current customers	1	2	3	4	5
Reduce customer conflict (i.e., billing/invoice problems, product returns/exchanges)	1	2	3	4	5
Achieve mutual trust with customers	1	2	3	4	5
Achieve a reputation for fairness with customers	1	2	3	4	5
Provide value for customers	1	2	3	4	5
Maintain long-term customer relationships	1	2	3	4	5
Share information with customers	1	2	3	4	5
Understand customer purchasing behavior	1	2	3	4	5
Anticipate customers' emerging needs	1	2	3	4	5

(11) Which of the following activities does your **operating unit** use to develop and maintain relationships with customers?

	Use Currently	Planning to use in next 3 years	Don't use nor plan to use	Don't Know
Reward/frequent buyer programs	☐	☐	☐	☐
Personal selling/sales force	☐	☐	☐	☐
Newsletter which contains suggestions, tips or hints for product usage and/or testimonials	☐	☐	☐	☐
Pre-pay/early pay discounts on purchases	☐	☐	☐	☐
Websites	☐	☐	☐	☐
Special/restricted access to content on website	☐	☐	☐	☐
Rebates on purchases	☐	☐	☐	☐
Direct mail	☐	☐	☐	☐
Personalized emails	☐	☐	☐	☐
Customer call center/telemarketing	☐	☐	☐	☐
Price discounts based on amount purchased	☐	☐	☐	☐
Trips, gifts, etc.	☐	☐	☐	☐
Informational meetings (i.e. customer breakfasts, lunches, or dinners, field days, guest speakers)	☐	☐	☐	☐
Complaint resolution policies/procedures	☐	☐	☐	☐
Inventory/stock protection for unused products (i.e., your operating unit will buy back unused inventory/stock from customers)	☐	☐	☐	☐
Product bundling (i.e., products and/or services sold together, rather than sold individually)	☐	☐	☐	☐
Other *(Please specify)* _____	☐	☐	☐	☐

(12) At the present time, what percentage of your **operating unit's** customers (end-users) does your **operating unit** collect and/or has access to each customer's . . .

	Don't Collect	25% or Less	26%-50%	51%-75%	More than 75%
Name and address					
Phone number					
Email address					
Contact history (i.e., date, time and method of contact)					
Sales data (i.e. number of items purchased, amount of purchases, etc.)					
Location/source of purchase for each transaction (i.e., direct sales, retailer, on-line, etc.)					
Product specification data for each item purchased (i.e., parts number, serial numbers, application rates, etc.)					
Complaint data					
Cost of service					
Lifetime value of customer					

(13) Indicate the extent to which you agree with the following statements. At the present time my **operating unit** effectively uses customer data to . . . *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree)*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Analyze customer response to promotions	1	2	3	4	5
Analyze emerging trends (i.e., product/service usage trends, technologies)	1	2	3	4	5
Analyze competitor influence on our customers	1	2	3	4	5
Evaluate marketing strategies for products/services	1	2	3	4	5
Customize products/services for customers	1	2	3	4	5
Segment customers based on the value each customer has to our firm	1	2	3	4	5

(14) With respect to the information your **operating unit** maintains on your customers, indicate the extent to which you agree with each of the following statements. At the present time, my operating unit possesses . . . *(Circle your answer as you rate the following on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree)*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A good information system infrastructure (i.e., e-mail, intranet, internet, etc.)	1	2	3	4	5
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Information technology that allows for one-to-one communications with current customers	1	2	3	4	5

(15) Approximately how many total customers does your **operating unit** have? [%]

(16) What percentage of your **operating unit's** customers represent 80% of your total operating unit sales volume? [%]