

BORROWER PERCEPTIONS OF ADDITIONAL
LENDER SERVICES: AN OKLAHOMA AGCREDIT
EXAMPLE

By

JENNA BRYANT

Bachelor of Science in Agricultural Economics

University of Kentucky

Lexington, Kentucky

2021

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
May, 2023

BORROWER PERCEPTIONS OF ADDITIONAL LENDER SERVICES: AN
OKLAHOMA AGCREDIT EXAMPLE

Thesis Approved:

Dr. Eric DeVuyst

Thesis Adviser

Dr. Rodney Jones

Dr. Courtney Bir

Name: JENNA BRYANT

Date of Degree: MAY, 2023

Title of Study: BORROWER PERCEPTIONS OF ADDITIONAL LENDER
SERVICES: AN OKLAHOMA AGCREDIT EXAMPLE

Major Field: AGRICULTURAL ECONOMICS

Abstract: Customer retention and attraction are common concerns in the financial service industry but are acute concerns for farm credit associations, given competition from commercial banks. Not only do agricultural lenders face restricted territories, but they also have a considerably smaller borrowing population when compared to commercial banks. Oklahoma AgCredit is considering creating additional services to increase the number of business interactions they have with their member-borrowers. They hope adding additional services, such as crop and livestock insurance, will retain current customers and attract new clients. The goal is here to evaluate borrowers' expected responses to the added service.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
II. REVIEW OF LITERATURE.....	3
III. METHODOLOGY	5
Survey Methodology.....	5
Calculation Methodology.....	7
IV. RESULTS	12
V. IMPLICATIONS	16
VI. CONCLUSION.....	19
REFERENCES	20
APPENDICES	21

LIST OF TABLES

Table	Page
1.....	6
2.....	12
3.....	14
4.....	15

CHAPTER I

INTRODUCTION

Customer retention and attraction are common concerns in the financial service industry. This is an acute concern for farm credit associations, given competition from commercial banks.

Oklahoma AgCredit is an example of a farm credit association considering diversifying its services to increase contact points with borrowers to better customer retention and attract new customers. Oklahoma AgCredit currently provides loans worth more than \$1.8 billion to approximately 6,538 member-borrowers (Oklahoma AgCredit 2022). Their lending territory is limited to 60 counties in central and eastern Oklahoma. The growth and maintenance of their customer base is restricted by this constraint (Zeka and Burk 2022). Since the potential customer base is restricted, Oklahoma AgCredit is considering adding services for their clients, specifically an internal crop and livestock insurance agency. By adding more points of business interactions with their member-borrowers, they hope to retain current clients and attract new clients by adding the convenience of a “one-stop” experience for lending and crop/livestock insurance.

In partnership with Oklahoma State University, Oklahoma AgCredit surveyed current and previous borrowers. The survey asked borrowers about their borrowing habits and the likelihood of utilizing an internal insurance agency. In addition, the survey was distributed beyond Oklahoma AgCredit clients to reach potential customers with no previous borrowing history. Using survey results, the expected impact of an internal crop and livestock insurance

agency on customer retention and the predicted additional loan volume from current, previous, and potential customers were modeled. The survey includes questions regarding the likelihood of customers using this service and the expected crop and livestock policy sales volume. Survey results were used to determine the combination of retained customers and increased loan volume required to break even on an internal crop and livestock insurance agency within three years. The results will be shared with Oklahoma AgCredit, and generalizations to the agricultural lending industry regarding increasing customer retention and attraction will be made.

CHAPTER II

LITERATURE REVIEW

Customer behavior in the finance industry is characterized by inertia brought on by a lack of interest in financial services, and it is reinforced by complex products (Knights et al. 1994). Knights et al. suggest that this indifference means that, despite poor customer service, customers are still reluctant to switch providers (1994). How, then, do financial lenders combat this inertia to retain current customers and attract new customers?

There are several strategies recommended for boosting customer retention. One strategy is product extras or additional services. Product extras create a total service system that provides customers with additional benefits related to what they initially purchased (Rosenberg and Czepiel 1984). By creating a total consumption system, lenders attract new customers by offering benefits their current providers do not. By adding additional services, a financial lender increases points of contact with an existing customer, increasing reluctance to switch.

Another retainment strategy is emphasizing long-term customer relationships (Rosenberg and Czepiel 1984). The long-term relationship between customer and company is essential in financial firm profitability. The longer a customer stays with a lender, the more interest the institution accrues. Customers who remain with the firm are more likely to expand their relationships to other products, and therefore are more likely to recommend the lender (Reichheld and Kenny 1990). It is thought that this combination of added products and

relationship-emphasizing strategies improve customer retention and attracts new customers.

CHAPTER III

METHODOLOGY

Survey Methodology

The survey instrument, approved by Oklahoma State University IRB, IRB-22-325, was distributed to current and previous borrowers of Oklahoma AgCredit. A convenience sample of Oklahoma agricultural producers was obtained by distributing a survey via email to Oklahoma AgCredit member-borrowers who opened an account between 2019 and 2022. The snowball method was used to obtain non-Oklahoma AgCredit client respondents. Snowball sampling is a nonprobability method of sampling that relies on referrals from initially surveyed respondents (Johnson 2014). In this case, the survey was shared on several University-associated Facebook pages and reshared by the pages' followers. The survey link was shared in a press release from Oklahoma State's Agricultural Communication Services. The press release was published by several Oklahoma-based agriculture news websites, newsletters, and other sources. The survey link was also distributed by Oklahoma State Extension agents following presentations and meetings. Oklahoma AgCredit is considering adding an internal crop and livestock insurance service. This survey aims to gather basic financial information, producer expectations of future borrowing habits, and anticipated utilization of a crop and livestock insurance agency internal to an ag lending agency. The survey was distributed from September 26th, 2022, to November 15th, 2022. Respondents under 18 were screened from the survey after the initial demographic

questions. Respondents who indicated they were neither crop nor livestock producers were also screened. A total of 109 responses were recorded, 92 of which were completed by either crop or livestock producers who were over the age of 18 and reported their production base as located in an Oklahoma county.

Respondents were asked demographic questions, including age, county, producer type, and their interactions with Oklahoma AgCredit. Table 1 summarizes the demographic response data.

Table 1. Respondent Summary by Borrower Category

	Current Borrowers	Previous Borrowers	Potential Borrowers	Total
Total Respondents	48	14	30	92
Crop Producers	5	4	3	12
Livestock Producers	27	4	16	47
Crop & Livestock Producers	16	6	11	33
Average Age	50	60	50	53
Average Outstanding Loan Volume	\$ 459,761	\$ 414,286	\$ 185,300	\$353,116

Respondents were asked to provide their current outstanding agricultural loan balance, how likely they are to continue borrowing over the next three years, and how much additional money they anticipate borrowing over the next three years. These questions were then repeated under the scenario of an internal crop and livestock insurance service available through Oklahoma AgCredit. Finally, respondents were asked how likely they were to utilize an internal crop and livestock insurance service. If that likelihood was greater than 0%, they were asked how many head or acres they would insure from a list of Oklahoma's most common livestock and crop enterprises. The survey is provided in appendix A.

Calculation Methodology

Oklahoma AgCredit plans to evaluate the impact an internal crop and livestock insurance agency would have on its customer retention and attraction rates. To do so, expected changes are calculated for three different subsamples. The first subsample are current customers, or respondents who currently have open accounts with Oklahoma AgCredit. This subsample is referenced as J_{cc} . Previous customers are respondents who indicated they have borrowed from Oklahoma AgCredit in the past, but do not currently, and are referenced as J_{pc} . The final subsample are potential customers, respondents who have no borrowing history with Oklahoma AgCredit, referenced as J_{nc} . To measure the expected impact of an added crop and livestock insurance service, several loan volume changes are calculated. For each calculation, two scenarios are presented. The baseline scenario is that Oklahoma AgCredit ex-ante status quo. The counterfactual scenario is adding an internal crop and livestock insurance service.

To evaluate the impact an added insurance service would have on customer retention, the change in expected borrowing for current customers is calculated. It is as follows in Equation 1.

(1) Change in Expected Borrowing for Current Customers

$$= \left(\frac{(\sum_{j_{cc}} Pr_{j_{cc}} * LoanVol_{j_{cc}} | Cf - \sum_{j_{cc}} Pr_{j_{cc}} * LoanVol_{j_{cc}} | Bl)}{J_{cc}} * population \right)$$

Where J_{cc} is the number of current customer respondents, and population is the number of active member-borrowers Oklahoma AgCredit serves as of December 2022. Pr is the likelihood the respondent will continue borrowing from Oklahoma AgCredit over the next three years, and LoanVol is the expected amount of money the respondent anticipates borrowing over the next three years. Cf if the counterfactual scenario, and Bl is the baseline scenario. To obtain these values, current customers were asked the following questions.

2.4 What is the likelihood you will continue borrowing from Oklahoma AgCredit over the next three years? Multiple Choice Response from 0%-100%.

2.5 If Oklahoma AgCredit adds a livestock and crop insurance service, what is the likelihood you will continue borrowing from Oklahoma AgCredit over the next three years? Multiple Choice Response from 0%-100%.

2.6 Over the next three years, how much total additional money do you expect to borrow from Oklahoma AgCredit? Multiple choice response from \$0 to \$2,000,000+. See appendix for all available answer choices.

2.7 If Oklahoma AgCredit adds a livestock and crop insurance service, how much total additional money do you expect to borrow from Oklahoma AgCredit over the next three years? Multiple choice response from \$0 to \$2,000,000+. See appendix for all available answer choices.

To capture the expected impact on customer attraction, equations 2 and 3 calculate the expected new loan volume per person from previous and potential borrowers, respectively. The equations are written as follows.

(2) Expected New Loan Volume from Previous Borrowers

$$= \frac{\sum_{jpc} (Expected\ New\ Borrowing_{i_{pc}} | Cf - Expected\ New\ Borrowing_{j_{pc}} | Bl)}{J_{pc}}$$

Where the expected amount of new borrowing given the baseline scenario is subtracted from that of the counterfactual. J_{pc} is the number of previous customer respondents, and expected new borrowing comes from the following questions.

2.8 Over the next three years, how much total money do you expect to borrow from Oklahoma AgCredit?

2.10 If Oklahoma AgCredit adds a crop and livestock insurance service, how much total money do you expect to borrow from Oklahoma AgCredit over the next three years?

(3) Expected New Loan Volume from Potential Borrowers

$$= \frac{\sum_{J_{nc}}(\text{Expected New Borrowing}_{j_{nc}}|Cf - \text{Expected New Borrowing}_{j_{nc}}|Bl)}{J_{nc}}$$

Where J_{nc} is the number of potential customer respondents, and expected new borrowing comes from questions 2.8 and 2.10, listed above. See appendix for answer choices.

Finally, expected service utilization and expected enterprise coverage are calculated as a gauge of respondent interest.

$$(4) \text{ Expected Service Utilization by Current Customers} = \sum_{j_{cc}} \left(\frac{Pr_{j_{cc}}}{j_{cc}} \right) * \text{population}$$

$$\text{Expected Service Utilization by Previous Customers} = \sum_{j_{pc}} \left(\frac{Pr_{j_{pc}}}{j_{pc}} \right)$$

$$\text{Expected Service Utilization by Potential Customers} = \sum_{j_{nc}} \left(\frac{Pr_{j_{nc}}}{j_{nc}} \right)$$

Where J_{cc} , J_{pc} , and J_{nc} are the current, previous, and potential respondent subsamples, respectively. Population is the number of active member-borrowers Oklahoma AgCredit serves as of December 2022. Pr_j is the likelihood a respondent will utilize an insurance service internal to Oklahoma AgCredit. These values come from survey question 2.9.

2.9 What is the likelihood that you would insure your crops and/or livestock through Oklahoma AgCredit if they added an internal crop and livestock insurance service?

Equation 7 estimates expected coverage of livestock and crop enterprises common in Oklahoma. Expected coverage is reported by subsample.

$$(5) \text{ Expected Head of Livestock Covered by Current Customers} =$$

$$= (\text{average herd} * \text{probability of response} * \text{population})$$

$$\text{Expected Acreage of Crop Enterprises Covered by Current Customers} =$$

$$= (\text{average acreage} * \text{probability of response} * \text{population})$$

Expected Head of Livestock Enterprises Covered by Previous Customers =

$$= (\textit{average head} * \textit{probability of response})$$

Expected Acreage of Crop Enterprises Covered by Previous Customers =

$$= (\textit{average acreage} * \textit{probability of response})$$

Expected Head of Livestock Enterprises Covered by Potential Customers =

$$= (\textit{average head} * \textit{probability of response})$$

Expected Acreage of Crop Enterprises Covered by Potential Customers =

$$= (\textit{average acreage} * \textit{probability of response})$$

Where the average herd or acreage is the average response of the number of head or acres covered per enterprise. Probability of response is the ratio of responses per enterprise given the total number of survey responses. Population is the number of active member-borrowers Oklahoma AgCredit serves as of December 2022. Only current customer expectations are multiplied by population, as the population of previous and potential customers is unknown. Therefore, the expected coverage from previous and potential customers is reported on a per borrower basis. The data comes from the following questions. See the appendix for herd and acreage amount response options.

2.9 What is the likelihood that you would insure your crops and/or livestock through Oklahoma AgCredit if they added an internal crop and livestock insurance service?

2.11 How many head would you expect to insure through Oklahoma AgCredit if they were to add an internal crop and livestock insurance service? Stocker cattle, fed cattle, meat goats, dairy goats, sheep, other.

2.12 How many head would you expect to insure through Oklahoma AgCredit if they were to add an internal crop and livestock insurance service? Swine, chickens/broilers.

2.13 How many acres do you expect to insure if Oklahoma AgCredit adds an internal crop and livestock insurance service? Forage, hay, wheat, cotton, corn, soybeans, sorghum, peanuts, pecans, rye, canola, oats, other.

Confidence intervals are calculated for each equation at the confidence level for which they reach statistical significance. For equations 1 through 3, the standard error of differences formula was used, and the confidence intervals were two-sided. The standard error was multiplied by the student's t-score¹ that corresponded to the appropriate subsample size and significance level. Confidence intervals for equation 5 are found using the student's t-score at the highest level of significance. One-sided positive confidence intervals are used to restrict nonsensical negative herd or acreage amounts.

¹ Student's t-score was used for equations 1-4 and 6 to account for sample sizes less than 50. Z scores were used for equations 5 and 7 as sample sizes were larger.

CHAPTER IV

RESULTS

This survey and subsequent analysis revealed that further surveying is needed to accurately capture this additional service's impact. Table 2 summarizes the expected impact.

Table 2. Result Summary

	Average Value	Standard Deviation	Level of statistical significance	Confidence Interval
Expected Change in Current Customer Loan Volume	-4.38%	6.31%	50%	(-8.67%, -0.08%)
Additional Loan Volume- Current	-\$83,869.57	\$ 174,072.21	n/a	
Additional Loan Volume- Previous	\$ 34,964.29	\$ 40,113.35	60%	(\$66, \$69,863)
New Loan Volume	\$ 83,212.98	\$ 27,883.46	99%	(\$6,366, \$160,060)
Expected Change in Total Loan Volume	\$ 14,193.16	\$ 115,516.33	n/a	
Expected Utilization by Current Borrowers	42.71%	34.44%	70%	(6.54%, 78.87%)
Expected Utilization by Previous Borrowers	40%	24.49%	80%	(8.08%, 71.92%)
Expected Utilization by Potential Borrowers	38%	30.27%	70%	(6.22%, 69.78%)

Several of the computed values were not significant at the 95% level. It is important to note that while less than 95% significance is of concern to researchers, an investment steering committee

may be interested in the results with a lower degree of significance, dependent on the risk tolerance level of their firm. Therefore, the results in Table 2 are discussed at much lower levels of significance than typically accepted. Current borrowers indicated they would be 4.38% less likely to continue borrowing if an insurance service was added. However, the confidence interval for Equation 1 indicated that this result was not statistically significant until the 50% level. This result is likely too insignificant, even for the firm's decision-makers. Current borrowers indicated they would borrow approximately \$84,000 less under the counterfactual scenario, which is statistically insignificant. This decrease may result from a flaw in the survey design, discussed further in implications. However, several current borrowers own crop and livestock insurance businesses. According to Zeka (2023), Ok AgCredit has received negative feedback from several borrowers who are not supportive of their agricultural lender potentially competing with their businesses. It is possible that the survey picked up this concern, even if it is insignificant.

Previous borrowers, or the respondents who had borrowed from Oklahoma AgCredit in the past but do not currently, indicated that they would borrow approximately \$35,000 more with an added insurance service. This result is statistically significant at the 60% level. New loan volume, however, was statistically significant at the 99% level. Potential borrower respondents indicated they would borrow an average additional \$83,000 if an insurance service were added. Equation 4, Expected Change in Total Loan Volume, is calculated based on the results of equations 1-3. However, the result was not significant. Oklahoma AgCredit can expect the interest on \$83,000 per new customer would be applied to costs; however, little can be inferred regarding the change in loan volume contributed by the current or previous customer populations.

Current borrowers indicated they would be 43% likely to utilize an insurance service internal to Oklahoma AgCredit. Previous borrowers indicated they would be 40% likely, and potential borrowers said 38%; however, none of these results were statistically significant at the 95% level. They were significant at the 70% level and, therefore, worth consideration by the

decision-makers for Oklahoma AgCredit. Table 3 details the livestock species survey respondents indicated they would be most likely to insure.

Table 3. Expected Livestock Coverage Volume

	Average Probability	Average Herd	Population Ratio	Expected Coverage	Standard Error of Expected Coverage	Level of statistical significance	Confidence Interval for Expected Coverage
Stockers	25.65%	101	41.30%	271,824	160,308	95%	(7316, 536332)
Fed Cattle	18.59%	74	32.61%	158,475	106,740	90%	(21848, 295103)
Swine	5.11%	121	7.61%	60,405	49,246	80%	(111599, 109652)
Meat Goats	3.59%	32	6.52%	13,502	7,109	95%	(1772, 25233)
Poultry	1.41%	113	4.35%	31,979	25,334	80%	(6645, 57313)

The expected coverage of all species was statistically significant at the 80% level or higher.

Oklahoma AgCredit could speculate that 41.3% of borrowers would insure stocker cattle, 32.61% would insure fed cattle, 7.61% would insure swine, 6.52% would insure meat goats, and 4.35% would insure poultry. The expected coverage for stocker cattle is 271,824 head, 158,475 head of fed cattle, 13,502 goats, and 60,405 swine. In other words, 41% percent of their current borrowers will insure stocker cattle, representing 271,824 head overall or 101 head per borrower. Sheep were excluded due to an insufficient number of observations.

The expected coverage for most crops is statistically significant at the 90% level or higher. Table 4 details the results. The four crops with the highest expected coverage are forage, hay, wheat, and sorghum. 41% of current borrowers will insure an average of 355 acres of forage per member if they add an internal insurance service. Similarly, 37% of borrowers will insure an average of 215 acres of hay per borrower. 17.4% of borrowers will insure an average of 401 acres of wheat each, and 9.8% of borrowers will insure an average of 260 acres of sorghum. The

expected coverage for oats was not statistically significant, and rye was excluded due to an insufficient number of observations.

Table 4. Expected Crop Coverage Volume

	Average Probability	Average Acreage	Population Ratio	Expected Coverage	Standard Error of Expected Coverage	Level of statistical significance	Confidence Interval for Expected Coverage
Forage	23.15%	355	41.30%	959,380	670,241	90%	(101471, 1817289)
Hay	21.63%	215	36.96%	518,776	320,804	90%	(108147, 929405)
Wheat	10.98%	401	17.39%	456,239	343,925	90%	(16014, 896463)
Sorghum	5.76%	260	9.78%	166,293	93,967	95%	(11247, 321338)
Pecans	2.93%	28	5.43%	9,949	2,913	99%	(3162, 16736)
Cotton	1.85%	507	3.26%	108,019	67,693	90%	(21371, 194667)
Corn	1.20%	393	3.26%	83,857	29,729	99%	(14589, 153125)
Soy	2.17%	693	3.26%	147,816	44,946	99%	(43092, 252539)
Oats	2.07%	70	2.17%	9,949	9,796	n/a	

CHAPTER V

IMPLICATIONS

Further studies are needed to draw accurate implications and generalizations regarding the effect an internal crop and livestock insurance service would have on an agricultural lending agency's customer retention and attraction. A larger sample size is needed as most results were not significant enough at the research level. However, several results were significant at a lower confidence level that is still of interest to decision makers. While additional loan volume from previous customers was not significant at the 95% level, it was significant at the 60% level. Dependent on their risk tolerance, a farm credit association may decide this is a sufficient level of confidence to make an investment. To start, farm credit associations should seek access to a broader percentage of their borrower populations to survey for further analysis. However, there are limitations on what customer data can be pulled from a lending agency's customer relationship management database. To retrieve contact information, specific parameters must be met to abide by private information regulations. Oklahoma AgCredit could only retrieve customer contact data from borrowers who opened an account between 2019 and 2022, as any information before this year was subject to stricter private information restrictions.

When distributed via the snowball method, the survey reached more previous and potential borrowers than anticipated. However, more responses are needed to capture a large enough sample size to make accurate deductions regarding the entire population of Oklahoma

agricultural producers. Utilizing the National Agricultural Statistical Service was not financially feasible at the time of the study. Should further surveying be done, researchers should identify additional ways to spread the survey to a broader audience within Oklahoma.

The survey instrument also needs refinement. The loan volume questions need to be written using anchor and adjustment. The baseline and counterfactual questions should be viewed simultaneously to decrease the amount of guessing done by the respondent. The apparent decrease in average borrowing by current customers over the next three years is likely from respondents being unable to view what balance they selected under the ex-ante scenario when selecting a balance for the ex-post scenario. Without an anchor point, the respondent's guesses and responses are inaccurate, leading to an expected decrease in customer retention.

However, some inferences can be drawn regarding customer attraction. There were several statistically significant results regarding the potential borrower population and the overall insurance utilization responses. The statistically significant increase in new volume indicates that new customers could be drawn in if farm credit associations considered creating additional benefits for their members, such as internal crop and livestock insurance. If an agricultural lender decides to expand its services, it should consider approaching a small insurance agency with either a partnership or acquisition agreement. This study indicates that expanded services are of more interest to potential customers. An existing insurance agency would bring customers with them, providing a new audience that the lending agency may not have had access to previously.

Furthermore, the expected break-even analysis of this project could not be completed as cost information was difficult to obtain accurately. Agricultural insurance agencies were likely unwilling to share information regarding agent compensation, fees, and training cost because the project was viewed as competition for producer business within the state. Considering purchasing an existing book of insurance business rather than starting a new service would likely make it

easier for the farm credit association to analyze costs and mitigate the initial startup costs, allowing for a faster break-even point.

CHAPTER VI

CONCLUSIONS

While adding a crop and livestock insurance service appears valuable in customer attraction, no recommendation can be made at this time. There are factors to be considered as Oklahoma AgCredit further evaluates this investment opportunity. The anticipated business with potential borrowers should be considered, depending on the risk tolerance of Oklahoma AgCredit's board and officers. However, they should also consider the potential for lost business given that several of their current borrowers are agricultural insurance agents and would be direct competition in addition to potential lost revenue.

Oklahoma AgCredit should further analyze how they wish to measure success in both the short- and long-term, given the difficulty obtaining cost data. What level of lost customer retention are they willing to accept for gained customer attraction? How would they measure these rates beyond the calculations done here? There are also concerns regarding the sample size and the confidence of the results. Further surveying is needed to capture the added service's effects on customer retention accurately. While over 40% of current borrowers indicated they would utilize an agricultural insurance service through Oklahoma AgCredit, there is no data indicating if they already have agricultural insurance. If so, further research is needed to understand what would motivate them to transfer services to a different provider. Therefore, we cannot rely on this indication to override the lost customer retention. However, it does seem that

expanding offered services is a viable pursuit for an agricultural lender if they wish to increase customer attraction.

REFERENCES

- Johnson, T.P. 2014. "Snowball Sampling: Introduction." In *Wiley StatsRef: Statistics Reference Online*. John Wiley & Sons, Ltd. Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118445112.stat05720> [Accessed February 2nd, 2023].
- Knights, D., A. Sturdy, and G. Morgan. 1994. "The Consumer Rules? : An Examination of the Rhetoric and 'Reality' of Marketing in Financial Services." *European Journal of Marketing* 28(3):42–54.
- Oklahoma AgCredit. 2022. "Financing Rural Oklahoma." Available at: <https://www.okagcredit.com/> [Accessed August 31st, 2022].
- ProAg. 2023. "Basics of Crop Insurance." *ProAg*. Available at: <https://www.proag.com/growers/basics-of-crop-insurance/> [Accessed February 1st, 2023].
- Reichheld, F.F., and D.W. Kenny. 1990. "The Hidden Advantages of Customer Retention." *Journal of Retail Banking* 12(4):19.
- Rosenberg, L.J., and J.A. Czepiel. 1984. "A MARKETING APPROACH FOR CUSTOMER RETENTION." *Journal of Consumer Marketing* 1(2):45–51.
- Zeka, P., and J. Burk. 2022. "Goals and Objectives of In-house Insurance Agency."
- Zeka, P. Personal communication. 24-January-2023.

APPENDICES

Appendix A. Survey Instrument

The following survey questions were presented electronically. Each respondent saw the following message and the first four questions. They were then shown the questions that corresponded to the customer status they selected.

Oklahoma AgCredit Crop and Livestock Insurance Service

Q1.1 Researchers at Oklahoma State University and Oklahoma AgCredit are conducting a survey in an effort to understand the demand for an internal crop and livestock insurance service and to evaluate the usefulness of such a service to Oklahoma AgCredit's customers.

These research procedures have been approved by Oklahoma State's Institutional Review Board. Your participation is strictly voluntary and your response to this survey will be kept completely anonymous. The survey will take approximately 10 minutes. You must be 18 or older to participate. If you have any questions regarding your survey participation, please contact Courtney Bir at courtney.bir@okstate.edu or Scott Hall at OSU IRB irb@okstate.edu - 405-744-3377 - 219

Q1.2 I am

- A Livestock Producer (1)
- A Crop Producer (2)
- Both a Crop and Livestock Producer (3)
- Not involved in Agricultural Production (4)

1.3 I am ___ years old.

- | | |
|--------------|-----------|
| Under 18 (1) | 65-74 (7) |
| 18-24 (2) | 75+ (8) |
| 25-34 (3) | |
| 35-44 (4) | |
| 45-54 (5) | |
| 55-64 (6) | |

Q2.5 Which county in Oklahoma is your primary operation location?

All Oklahoma counties were presented alphabetically, assigned numbers 1-77, and a 78th option, none of the above, was listed last. Respondents who selected none of the above were removed from the survey.

Q2.1 Are you a current customer of Oklahoma AgCredit?

I am a current customer of Oklahoma AgCredit. (1)

I have borrowed from Oklahoma AgCredit in the past, but do not currently. (2)

I have never been a customer of Oklahoma AgCredit. (3)

Q2.2 What is your existing outstanding agricultural loan balance through Oklahoma AgCredit?

\$0 (1)

\$1-\$4,999 (2)

\$5,000-\$9,999 (3)

\$10,000-\$24,999 (4)

\$25,000-\$49,999 (5)

\$50,000-\$99,999 (6)

\$100,000-\$249,999 (7)

\$250,000-\$499,999 (8)

\$500,000-\$999,999 (9)

\$1,000,000-\$1,499,999 (10)

\$1,500,000-\$1,999,999 (11)

\$2,000,000+ (12)

Q2.3 What is your existing outstanding agricultural loan balance, if any?

\$0 (1)

\$1-\$4,999 (2)

\$5,000-\$9,999 (3)

\$10,000-\$24,999 (4)

\$25,000-\$49,999 (5)

\$50,000-\$99,999 (6)

\$100,000-\$249,999 (7)

\$250,000-\$499,999 (8)

\$500,000-\$999,999 (9)

\$1,000,000-\$1,499,999 (10)

\$1,500,000-\$1,999,999 (11)

\$2,000,000+ (12)

Q2.4 What is the likelihood you will continue borrowing from Oklahoma AgCredit over the next three years?

- 0% (1)
- 10% (2)
- 20% (3)
- 30% (4)
- 40% (5)
- 50% (6)
- 60% (7)
- 70% (8)
- 80% (9)
- 90% (10)
- 100% (11)

Q2.5 If Oklahoma AgCredit adds a livestock and crop insurance service, what is the likelihood you will continue borrowing from Oklahoma AgCredit over the next three years?

- 0% (1)
- 10% (2)
- 20% (3)
- 30% (4)
- 40% (5)
- 50% (6)
- 60% (7)
- 70% (8)
- 80% (9)
- 90% (10)
- 100% (11)

Q2.6 Over the next three years, how much total additional money do you expect to borrow from Oklahoma AgCredit?

- \$0 (1)
- \$1-\$4,999 (2)
- \$5,000-\$9,999 (3)
- \$10,000-\$24,999 (4)
- \$25,000-\$49,999 (5)
- \$50,000-\$99,999 (6)
- \$100,000-\$249,999 (7)
- \$250,000-\$499,999 (8)
- \$500,000-\$999,999 (9)
- \$1,000,000-\$1,499,999 (10)
- \$1,500,000-\$1,999,999 (11)
- \$2,000,000+ (12)

Q2.7 If Oklahoma AgCredit adds a livestock and crop insurance service, how much total additional money do you expect to borrow from Oklahoma AgCredit over the next three years?

- \$0 (1)
- \$1-\$4,999 (2)
- \$5,000-\$9,999 (3)
- \$10,000-\$24,999 (4)
- \$25,000-\$49,999 (5)
- \$50,000-\$99,999 (6)
- \$100,000-\$249,999 (7)
- \$250,000-\$499,999 (8)
- \$500,000-\$999,999 (9)
- \$1,000,000-\$1,499,999 (10)
- \$1,500,000-\$1,999,999 (11)
- \$2,000,000+ (12)

Q2.8 Over the next three years, how much total money do you expect to borrow from Oklahoma AgCredit?

- \$0 (1)
- \$1-\$4,999 (2)
- \$5,000-\$9,999 (3)
- \$10,000-\$24,999 (4)
- \$25,000-\$49,999 (5)
- \$50,000-\$99,999 (6)
- \$100,000-\$249,999 (7)
- \$250,000-\$499,999 (8)
- \$500,000-\$999,999 (9)
- \$1,000,000-\$1,499,999 (10)
- \$1,500,000-\$1,999,999 (11)
- \$2,000,000+ (12)

Q2.9 What is the likelihood that you would insure your crops and/or livestock through Oklahoma AgCredit if they added an internal crop and livestock insurance service?

- 0% (1)
- 10% (2)
- 20% (3)
- 30% (4)
- 40% (5)
- 50% (6)
- 60% (7)
- 70% (8)
- 80% (9)
- 90% (10)
- 100% (11)

Q2.10 If Oklahoma AgCredit adds a crop and livestock insurance service, how much total money do you expect to borrow from Oklahoma AgCredit over the next three years?

- \$0 (1)
- \$1-\$4,999 (2)
- \$5,000-\$9,999 (3)
- \$10,000-\$24,999 (4)
- \$25,000-\$49,999 (5)
- \$50,000-\$99,999 (6)
- \$100,000-\$249,999 (7)
- \$250,000-\$499,999 (8)
- \$500,000-\$999,999 (9)
- \$1,000,000-\$1,499,999 (10)
- \$1,500,000-\$1,999,999 (11)
- \$2,000,000+ (12)

Q2.11 How many head would you expect to insure through Oklahoma AgCredit if they were to add an internal crop and livestock insurance service?

	0 (1)	1-9 (2)	10-19 (3)	20-49 (4)	50-99 (5)	100-149 (6)	150-200 (9)	201+ (10)
Stocker Cattle (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fed Cattle (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meat Goats (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dairy Goats (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sheep (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2.12 How many head would you expect to insure through Oklahoma AgCredit if they were to add an internal crop and livestock insurance service?

	0 (1)	1-99 (2)	100- 499 (3)	500- 999 (4)	1000- 1999 (5)	2000- 2999 (6)	3000- 4,999 (7)	5000+ (8)
Swine (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chickens/Broilers (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2.13 How many acres do you expect to insure if Oklahoma AgCredit adds an internal crop and livestock insurance service?

	0 (1)	1-40 (2)	41- 80 (3)	81- 160 (4)	161- 240 (5)	241- 480 (6)	481- 640 (7)	641- 800 (8)	801- 960 (9)	961+ (10)
Forage (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hay/Haylage (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wheat (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cotton (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corn (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soybeans (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sorghum (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peanuts (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pecans (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rye (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canola (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oats (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

VITA

Jenna Bryant

Candidate for the Degree of Agricultural Economics

Master of Science

Thesis: BORROWER PERCEPTIONS OF ADDITIONAL LENDER SERVICES: AN
OKLAHOMA AGCREDIT EXAMPLE

Major Field: Agricultural Economics

Biographical:

Education:

Completed the requirements for the Master of Science in Agricultural
Economics at Oklahoma State University, Stillwater, Oklahoma in May 2023.

Completed the requirements for the Bachelor of Science in Agricultural
Economics and Equine Science and Management at University of Kentucky,
Lexington, Kentucky in May 2021.