

12-2017

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Hailey Paulsen

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Assessing the Current Efficiencies of Farm Credit of Western Arkansas

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Abstract

Farm Credit is a unique banking structure, as it is a cooperative which pays patronage dividends to its members. As such, the rates for loans (nominal interest rates) that Farm Credit offers can be slightly higher than larger commercial banks because the patronage payment can offset some, all or more of interest rate difference, which results in an effective rate. Farm Credit, like other globally evolving industries, must continuously look for ways to differentiate themselves to compete for new customers and retain existing ones. Thus, this study sets out to survey the members of Western Farm Credit of Arkansas to 1) obtain a sense of how competitive Farm Credit is amongst its competition in terms of rate, patronage, and other factors that retain existing customers and compete for new customers, 2) elicit employee opinions on the changing needs of Farm Credit's customers, and 3) generate discussion about where future resources could be allocated to increase Farm Credit's competitiveness. The primary goal of this study was to help Farm Credit of Western Arkansas better assess the needs of their employees and customers, as changing technology allows for better efficiency in the banking sector. The survey included 72 out of 116 employees of Western Farm Credit. From the results, we can conclude that employees think that adopting electronic banking (e-notary, e-sign loan documents, and e-files) will be desired by both current and future customers. It was found that Farm Credit employees believe that current customers value patronage payments more than potential future customers. Conversely, it was discovered that potential future customers will value lower rates more than patronage dividends. These findings suggest that this dichotomous demand can be remedied if Farm Credit could advertise more effectively to potential future customers to explain what an "effective rate" is and its associated benefits. That is, more thoroughly communicate why a higher nominal interest rate with patronage payments could be more desirable than a lower

nominal rate without patronage payments. Other recommendations via this analysis included: market and advertise more to obtain new customers, consider e-sign loan documents, and train all employees on the online banking software.

Introduction

Banks, like other globally evolving industries, must continuously look for ways to differentiate themselves to compete for new customers and retain existing ones (Kwan, 1997). Cost reduction, in terms of transaction costs and supplies, is a major motivator in the banking world when attempting to improve efficiency, specifically with regards to non-traditional banks or cooperative banks that are not depositories, meaning they do not store currency deposits on site. An example of a non-traditional bank is Farm Credit, a Cooperative, an organization that is owned and ran by its members who share the profits, who is currently going through a process of increasing the adoption of new technologies in the form of paperless banking in an effort in increase efficiency.

The Farm Credit System (FCS) was established by the Federal Farm Loan Act in 1916 as a United States government backed financial entity, although the FCS operated as a farmer-owned cooperative. The 1916 Act created 12 district-level Federal Land Banks and included local-level associations to provide long-term credit to farmers for land purchases. Prior to 1916, President Theodore Roosevelt appointed the Country Life Commission to assist with the difficulties facing rural banking customers (Farm Credit Administration, 2016). Rural American bank customers in the early 1900's were subject to high interest rates and short terms on agricultural real-estate loans hindering agricultural and rural investment. Furthermore, federal law did not allow banks to make loans with terms greater than 5 years, which for firms in the agricultural sector, made traditional loans difficult to repay. From 1916 to 1933, Federal

legislation responded to the changing economic conditions (pre-and post-depression) by creating various Acts that affected the structure and operation of the FCS. This included the Agricultural Credit Act of 1923, which added 12 district-level Federal Intermediate Credit Banks to the FCS to provide funding to cooperatives, commercial banks, and other lending institutions so that these institutions would provide short-tier credit to farmers. The Federal Intermediate Credit Banks were in the same locations as the Federal Land Banks (Federal Reserve Bulletin, 1923), which were in Springfield, MA, Baltimore, MD, Columbia, SC, Louisville, KY, New Orleans, LA, St. Louis, MO, St. Paul, MN, Omaha, NE, Wichita, KS, Houston, TX, Sacramento, CA, and Spokane, WA (Lee, et al., 1980). The Agricultural Marketing Act of 1929, which helped stabilize prices and financing after the onset of the great depression. And the Emergency Farm Mortgage Act of 1933, which cut interest rates and recapitalized the Federal Land Banks, in response to the depression (Farm Credit Administration, 2016). In 1933, Congress still considered short-term farm lending by commercial banks and cooperatives inadequate. The Farm Credit Act of 1933 created two new cooperative credit systems for farmers by establishing local-level Production Credit Associations and 12 district-level Banks for Cooperatives. Production Credit Associations provided short-and-intermediate term loans to farmers and were associated with the 12 Federal Intermediate Credit Banks. The Banks for Cooperatives provided credit to cooperatives (Farm Credit Administration, 2016) and were in the same locations as the Federal Land Banks and Federal Intermediate Credit Banks. Moreover, a Central Bank for Cooperatives was established and located in Denver, CO (Lee, et al., 1980). These cooperative financial institutions, stated above, established the basis of the Farm Credit System until the mid-1980s. Following a general economic recession of the early 1980s and during an agricultural economic recession that had begun in the early 1980s. Congress restructured and changed the operation of

the Farm Credit System with the Farm Credit Amendments Act of 1985 and the Agricultural Credit Act of 1987. The changes to the system included: 1) making the regulator of the FCS, the Farm Credit Administration, an independent agency of the government with regulatory powers comparable to commercial bank regulators; 2) a government-guaranteed line of credit to the financially stressed FCS institutions; 3) created the Farm Credit System Insurance Fund (FCSIF) to insure the payment of principal and interest on securities issued by the Farm Credit System banks (FCSIC, 2017); and 4) established the Federal Farm Credit Banks Funding Corporation (FFCBFC) (Farm Credit Administration, 2016). Additionally, the original 37 banks and more than 1,000 lending associations were combined through a series of required and voluntary mergers to 4 Farm Credit Banks, which include AgriBank (St. Paul, MN), CoBank (Denver, CO), Farm Credit Bank of Texas (Austin, TX), and Ag First Farm Credit Bank (Columbia, SC), and 69 local lending associations as of October 1, 2017 (Farm Credit Administration, 2016 and 2017). With the creation of FCSIF, FFCBFC, and the merger from 37 district banks to 4, the Farm Credit System could better financially rebound after the farm recession of the 1980s.

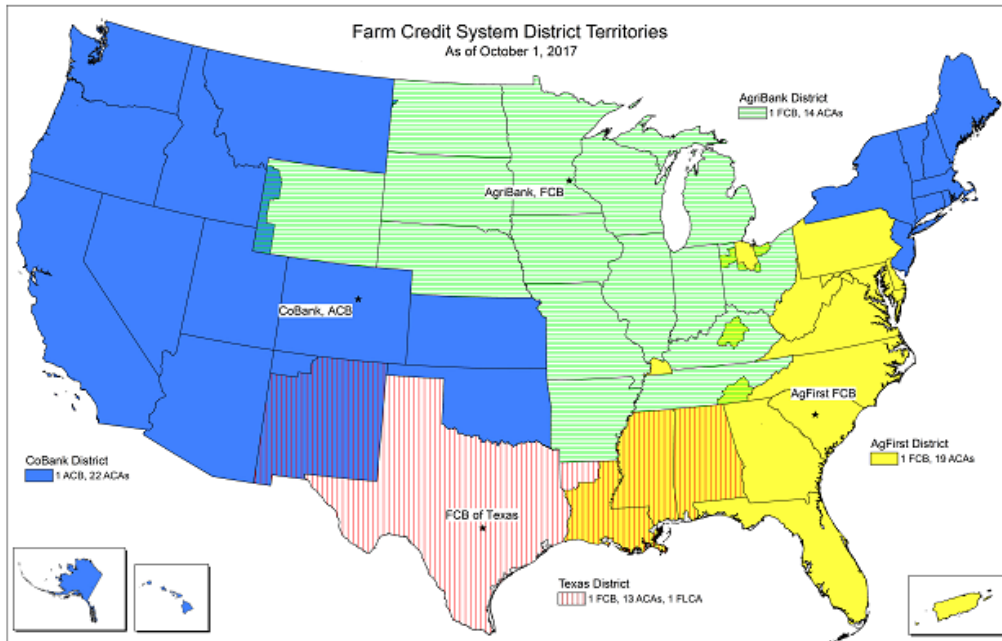


Figure 1: Farm Credit District Territories
 Source: Farm Credit Administration, 2017

Arkansas has four Farm Credit Associations and their corresponding territories are shown in Figure 2: AgHeritage Farm Credit Services in light green, Farm Credit Midsouth in orange, Delta Agricultural Credit Association in dark green, and Farm Credit of Western Arkansas in yellow. These associations all use the AgriBank for their source of funds. In 2017, Farm Credit of Western Arkansas has 22 branch offices and 116 employees serving over 5,700 customers, which includes 41 counties in the western half of Arkansas.

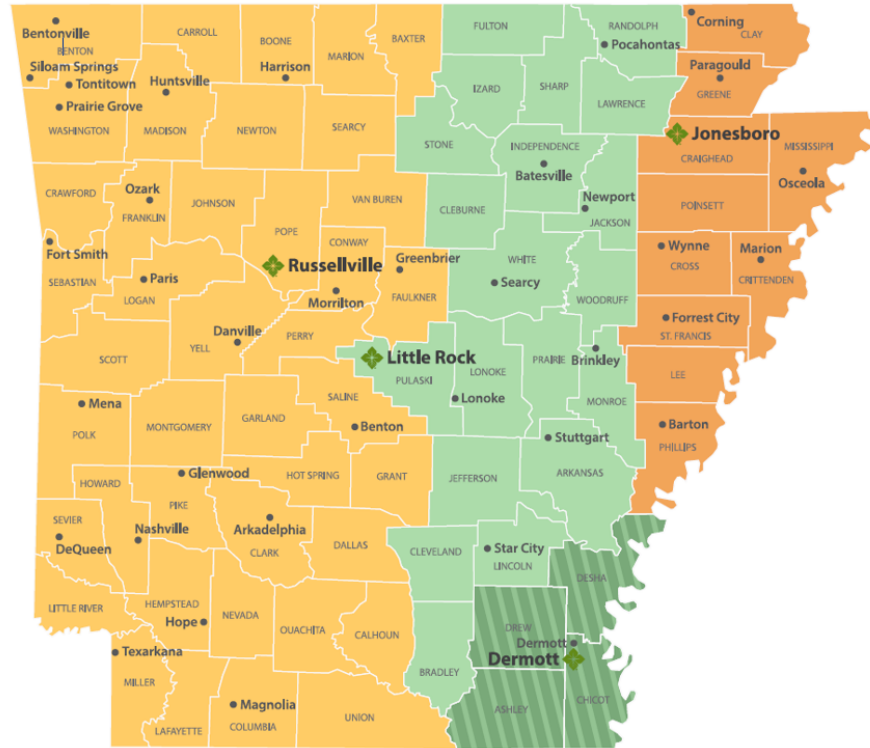


Figure 2: Western Arkansas Locations
 Source: Farm Credit of Western Arkansas, 2017

Given the recent rise in on-line banking and other internet based options, Farm Credit, like other banking institutions, has had to adjust both their operational and marketing strategies to keep up with consumer demand and ever-evolving competition. The FCS is proud to be “relationship oriented” and located in rural communities. While FCS provides a face-to-face relationship, it is adopting new technologies to provide services to customers in a more cost effective manner. Customers tend to enjoy the friendly advice, short approval process, ability to meet with a loan officer face-to-face, and timely turn around. Patronage, a dividend check to the members of the association, is another advantage that customers enjoy.

Given that the banking industry is evolving so rapidly a survey was conducted of the employees of Farm Credit of Western Arkansas in July 2017. The impetuosity of the survey was

to: 1) obtain a sense of how competitive Farm Credit was amongst its competition, 2) elicit employee opinions on the changing needs of Farm Credit's customers and, 3) generate discussion about where future resources should be allocated to increase Farm Credit's competitiveness moving forward. This study is important given that Farm Credit typically serves rural homeowners, part-time farmers, as well as full-time farmers who have traditionally preferred Farm Credit over traditional banks because of relationships, fixed interest rates, patronage, industry knowledge and long-term customer satisfaction. While its customer base is unique, if Farm Credit does not evolve at a quick enough pace with regards to online services, larger financial institutions may crowd out Farm Credit, leaving its customers to use the rates and terms of large commercial banks who are sometimes considered to not cater to the needs of the rural communities.

The primary goal of this study was to help Farm Credit of Western Arkansas better assess the needs of their employees and customers as changing technology allows for better efficiency in the world of banking.

Survey and Methods

During the summer of 2017 a survey was developed at the University of Arkansas in cooperation with senior level management of Farm Credit of Western Arkansas to elicit if the needs were met for customers and Farm Credit's employees regarding paperless banking. The online survey was made available to 116 employees of Farm Credit of Western Arkansas. Seventy-two people responded to the survey for a 62% response rate. Certain survey questions were not asked so that the respondent (employee) would remain anonymous. The only exception was the question "Are you over the age of 18?", which was the only question asked regarding demographics. Other questions had a variety of responses for participants. These responses were

in a Likert scale, multiple choice, ranking, and open response. The entire survey instrument is presented in Appendix 1.

Each survey question (detailed below) was asked to accomplish two specific goals. First, to help assess the views of current Farm Credit employees about Farm Credit's current situation, and second, about the future of Farm Credit. Below, is a description of each question asked and the rationale for including it in the survey.

Do you think going paperless (storage or communication of information in electronic form, rather than on paper) would enhance efficiency at Farm Credit? This question was asked to help senior management understand if Farm Credit employees think going paperless can help each office in terms of efficiency. This is pertinent to Farm Credit as they are currently transitioning into an environment which is continuously becoming more dependent on electronic transactions and signatures. As with any structural change there are some who think it will be a net benefit and others who may prefer to maintain the status quo. This question is thus important because it gives the upper management of Farm Credit a sense of how their employees view this transition through an anonymous outlet.

In your opinion, if Farm Credit went paperless, please rank the following greatest (1) to smallest (4) improvement in Farm Credit's efficiency? In this question the researcher wanted to estimate what Farm Credit employees believed to be most important when it comes to online services. This is important to Farm Credit because it allows employees to express what they feel will have the greatest impact by going paperless. This question not only helps Farm Credit upper management understand what employees want, but it allows them to have an idea on what the customers want as well.

*Since Farm Credit is switching to electronic forms, in **YOUR** opinion rank the following from potential largest (1) to smallest (4) impact:* With this question, Farm Credit of Western Arkansas wanted to see what employees believed was most important when switching to electronic forms. This is pertinent because it allows them to observe where the focus of going paperless will have the greatest impact. Seeing which answer has the greatest impact will help Farm Credit determine if switching to electronic forms is worth the economic and operational struggles.

*Since Farm Credit has recently gone paperless (information in electronic form), please rank **YOUR** anticipated improvements and efficiencies with (1) as highest and (4) as lowest.* In this question the researcher wanted to determine if Farm Credit Employees believed that going paperless could increase efficiency in terms of everyday activities. By learning how the employees think going paperless will help communications and everyday activities, upper management can better assess how to enhance the paperless initiative.

In your opinion, how competitive are Farm Credit's competitors for new customers in terms of: Farm Credit, as well as every other bank, wants to be competitive. This question asked employees if they thought Farm Credit was competitive for *new* customers in terms of sales, interest rate, term, closing costs, and name recognition. This is important to Farm Credit as they are trying to gain more customers, while transitioning to a different technology. Thus, this helps them see what their competitors are competitive in and perhaps where Farm Credit could improve.

In your opinion, who is Farm Credit's greatest competitor in gaining new customers? This question wanted to see who Farm Credit of Western Arkansas' greatest competitors are. This question is important to Farm Credit because it allows senior management to develop a

census of the different competitors in the western half of Arkansas. As with any bank, Farm Credit wants to act and better themselves in the evolving banking market. Furthermore, by identifying which banks pose the largest competition to new customers Farm Credit can analyze what their largest competitors have in common to better position themselves to compete for future customers.

Based on your previous response, Farm Credit's greatest competitor has the following competitive advantages (may select more than one): This question was linked to the previous one and wanted to determine the competitive advantages of the competitor. Observing who employees thought were competitors and their competitive advantages will not only help upper management at Farm Credit analyze the current market, it will also allow them to find ways to be better than those competitors.

Do you value patronage as a strong contributor to Farm Credit's competitiveness? Farm Credit of Western Arkansas believes that patronage is a strong program they have. With this questions, senior management wanted to see if employees agreed or disagreed that patronage contributes to competitiveness. As with any change there are some who think it will be a net benefit and others who may prefer to maintain the status quo. This question is important because patronage is considered as a feature that employees and customers like. With that, there might be some customers that do not see the net benefit of patronage. Moreover, because of the cooperative structure of Farm Credit and the uniqueness of patronage payments it is important to ascertain if the "uniqueness" is simply a method of diversification or if it retains existing and gains new customers.

*Do you think Farm Credit's **current** customers value patronage? Do you think **current/future** customers would prefer lower rates and no patronage?* Current and future

customers were the focus of these questions. Senior management wanted to determine what current and future customers thought about patronage. Commercial banks do not give patronage checks because they are not usually organized as cooperatives and instead only offer an interest rate. This question allows senior management to better analyze patronage and how the demand for it is anticipated to change along with the banking market. This question is pertinent for Farm Credit because they could be at a crossroads of either having to lower rates to gain new customers or keeping patronage to retain existing customers. Ideally, both current and future customers will value either rates or patronage equally so Farm Credit can have a unified strategy moving forward. If there is a dichotomy between what current and future customers demand, in terms of rates and patronage, the upper management of Farm Credit will need to reevaluate their marketing strategy moving forward.

*Please write a number in the box provided. What ____% of **current customers** want to use electronic signatures?* This question wanted to know the opinions of employees when it comes to electronic signatures and *current* customers. In the changing market of banking, there is going to be more of a demand for the online banking software. With this question, Farm Credit can see how current customers are demanding the online sector of the market.

*What ____% of **future customers**, do you think, want to use electronic signatures?* This question wanted to know the opinions of employees when it comes to electronic signatures and *future* customers. As the banking world evolves, future customers are going to demand the online sector of the market. With this question, Farm Credit can determine the demand the perspective customers have now.

I believe my customers would more likely recommend Farm Credit to a friend or colleague if: This question gave scenarios to employees to see if they thought their customers

would recommend potential customers to Farm Credit. Farm Credit can use the responses of this question to better market their products. Thus, this question is important because it allows for Farm Credit employees to input their opinions.

All new hires at Farm Credit should be trained in online banking and All current employees at Farm Credit should be trained in online banking. In these questions, senior management wanted to see how important online banking was to the employees and if everyone should be trained on how to use this tool. By asking this question, employees could express the need for training in the online banking software. This not only helps the employees be more knowledgeable, but it helps the customers whenever they come into the office asking questions.

The sample population was all Farm Credit of Western Arkansas employees at the time of the survey, July 20, 2017. The survey was administered to 116 employees while 72 employees responded. The only demographic collected was age. This Qualtrics survey could only be taken by an employee on a computer or mobile device connected to the internet.

It was hoped that the survey would be a census because all FCS employees were sampled. If all employees had responded, then there would be no need to do statistical inference. However, of the 116 sample, only 72 provided usable responses. That means the statistical inference can be used but, due to the high proportion of responders, 62%, the test statistics should be adjusted using the finite population correction factor (fpc) as given in Snedecor and Cochran (1991). The impact of the fpc is to reduce the standard errors. This has the impact of leading to a higher frequency of rejecting the null hypothesis than would otherwise. In the analysis in the Results section, the test statistics were not adjusted for the fpc. The implication then is that we have not identified all the statistically significant

differences. Nonetheless, all rejections of the null hypotheses we do find valid and more would be found if the adjustment had been active.

Results

The survey outlined above was sent to all 116 Farm Credit of Western Arkansas employees, with 72 employees responding for a response rate of 62%. Figure 3 illustrates the geographical location of where each survey was taken.

The mean responses for *In your opinion, if Farm Credit went paperless, please rank the following greatest (1) to smallest (4) improvement in Farm Credit's efficiency? E-Notary, E-sign loan documents, E-files, and online banking* are located on Table 1a. Besides calculating the simple means of each response, we calculated the p-values between each to test for statistical differences between each pair of means (Table 1). The mean responses of each answer were calculated (Table 1a) and tested for statistical differences and it was found that *E-sign loan documents* is the most important to employees of all the options provided whereas *E-Notary* is least important. It was also determined there were no statistical differences ($P > 0.05$) between *E-files* and *online banking*. *E-sign loan documents* are chosen to be the most important because Farm Credit employees are seeing how the world of banking is evolving, thus current and future customers are going to evolve with the market. Therefore, Farm Credit should evolve as well.

The results for the question *Since Farm Credit is switching to electronic forms, in YOUR opinion rank the following from potential largest (1) to smallest (4) impact: More customers, more efficient, improve customer satisfaction, and improve the speed of processing* are also listed on Table 1. According to the mean responses, employees at Farm Credit of Western Arkansas believe that *improving the speed of processing* is statistically most important relative to *more customers* and *improving customer satisfaction*, while *more customers* is the least important

when switching to electronic forms with regards to adopting electronic forms ($p < 0.05$). This should be of no surprise given that there is little correlation between obtaining new customers via electronic forms. Table 1 indicates that the two options of *more efficient* and *improving the speed of processing* were the only two answers that were not significantly different ($P > 0.05$).

Since Farm Credit has recently gone paperless (information in electronic form), please rank YOUR anticipated improvements and efficiencies with (1) as highest and (4) as lowest: Not having to manually enter items, not having to re-enter items, improve the communication of the organization, and other. Analyzing the means and their statistical difference here (Table 1), no consensus amongst current Farm Credit Employees was found. That is, there were no statistical differences among *not having to manually enter items, not having to re-enter items* or *improving the communication of the organization*, although each of these improvements were more important than the “other” choice of improvement in efficiency. Improving the communication of the organization is significant when going paperless because by doing this it allows loan document specialists and others that need to access branch files the ability to do so from another location. This is also more efficient in terms of loan processing. Not having to manually enter and re-enter items is also significant because by going paperless branch staff will not have to manually type information into the programs Farm Credit uses. They can upload one document to the necessary program and it automatically saves in the correct place, where all the files can be found at once. This not only helps efficiency, but it makes the branch staff’s job easier.

In your opinion, how competitive are Farm Credit's competitors for new customers in terms of: Interest Rate, Term, Name Recognition, Closing cost, Sales culture/marketing? The mean responses for this question were relatively similar, varying from a high of 0.88 to a low of 0.964, indicating that there was no consensus amongst current Farm Credit employees with

regard to this question. On average, competitors were considered competitive in each area since responses of competitive or somewhat competitive were recorded as a “1” and responses of not competitive were recorded as a “-1” while uncertain responses were recorded as a “0”. Thus, current Farm Credit employees could not come to a census about which one area their major competition had a comparative advantage in. Thus, their competition was competitive in multiple areas and as such was hard to delineate which area was the most competitive. Further research with regards to this question is warranted.

Do you think going paperless would enhance efficiency at Farm Credit? 52% of Farm Credit’s employees agreed that going paperless will increase efficiency while 31% were uncertain (Table 2a). Interestingly, 17% of the employees disagreed with this statement, as shown in *Table 2a*. One hypothesis could be that older employees may be more hesitant to learn new technological systems as the perceived learning curve could be steep. As such, people who are either resistant to change or resistant to technology may account for this relatively large (17) percentage.

In your opinion, who is Farm Credit's greatest competitor in gaining new customers? From the employee’s perspective Arvest bank is Farm Credits greatest competitor in western Arkansas accounting for 32% of all responses. With a total of \$17,311,771,000 in assets and total equity capital of \$1,534,343,000 (Arvest Bank Group, Inc., 2017). They also have a minor-league baseball stadium called “Arvest Ballpark” in northwestern Arkansas which provides widespread publicity. “Other” also had a large response rate with 31%. These “other” responses are more than likely a function of where the Farm Credit employee was from, as shown in *Table 2b*. That is, given the regional differences in banking options across Western Arkansas a Farm

Credit employee may not be competing against large national banks but rather small home town banks.

Based on your previous response, Farm Credit's greatest competitor has the following competitive advantages (may select more than one): Name recognition, location, rate, term, and closing costs. This question is linked to the previous question regarding which bank is perceived to be Farm Credit's largest competition. In *Table 2c*, *name recognition* is the largest driver with regards to competition with 37% of Farm Credits employees saying it was the largest advantage their competition had. *Rate* was the second largest driver of Farm Credits competition with 36% of Farm Credit's employees choosing it. There is likely no statistical difference between rate and name recognition. Big banks, such as Arvest, tend to appeal to this name recognition advantage. Since this question and the previous are connected, this could be why the answer "Arvest" and "Name recognition" were chosen as the top choice to employees. *Rate* also seemed to be a competitive advantage of Farm Credit's competitors. Farm Credit pays patronage such that their initial interest rates can be slightly higher. However, after patronage is paid, the effective interest rate will be lower than the initial interest rate and may be lower than a competitor's interest rate. If a potential customer myopically looks at the initial interest rate and does not factor in patronage, it could be to the detriment of securing potential customers.

Do YOU value patronage as a strong contributor to Farm Credit's competitiveness? and *Do you think Farm Credit's current CUSTOMERS value patronage?* These two questions are asking if employees value patronage and if current customers value patronage. Based off the results in *Table 2d* and *Table 2e*, 99% of employees value patronage, while 100% of employees think current customers value patronage. Thus, the consensus is that patronage both contributes to Farm Credit's competitiveness as well as aid in retaining current customers. Patronage is one

of the ways Farm Credit differentiates itself from its competition and as such it should not be surprising its employees value it in this manner. Given that Farm Credit is a cooperative and is “customer owned” it would stand to reason that its current customers would value patronage. Furthermore, while it was just illustrated that *rate*, in addition to name recognition, was where Farm Credit’s competition had the largest competitive advantage, this question may formalize that the largest advantage Farm Credit has over its competition is the fact they pay patronage.

Do you think current/future customers would prefer lower rates and no patronage? In this question percentages were calculated for answers based on current customers and future customers. *Tables 2f and Table 2g*, indicate 6% of employees agree that current customers wanting lower rates and no patronage, compared to 28% of employees agree future customers who would wanting lower rates and no patronage. This is an interesting finding on several fronts. First, we just showed that current customers, as well as Farm Credit employees, value patronage. This is not surprising given that it is likely that many of the long-standing Farm Credit members joined the cooperative specifically to be a part of a member owned cooperative who paid its owners back in the form of patronage. It could be the fact that older members did not mind paying slightly higher rates so long as they received patronage each year. *Tables 2f and 2g* would seem to indicate that to attract new members to Farm Credit that lowering rates may be more effective in terms of marketing than the continuation of patronage. This finding dictates more research and should be analyzed internally by Farm Credit.

A similar structural shift was found when the question *What ____% of current/future customers want to use electronic signatures?* was asked. Farm Credit employees indicated that 32.85% of current and 48.89% of future customers wanted to use electronic signatures, as shown in *Tables 2h and 2i*. These differences indicate the ever-evolving face of banking and how Farm

Credit, and other banks, will need to evolve with the trends and demands of their current and future customers.

I believe my customers would more likely recommend Farm Credit to a friend or colleague if: we market our patronage more, advertise rates from terms more, market our co-op structure more, and advertise on social media more. In this question, Farm Credit employees chose one answer that was in their mind the largest driver. From *Table 2j*, *advertise rates from terms more* had the highest response rate with 35%, with *we market our patronage more* having a 28% response rate. Interestingly *rates* and *patronage* topped the list. It could be that the older generation of Farm Credit members would recommend patronage while the younger generation would recommend the rates Farm Credit offers. What seems evident from this question and the two proceeding questions it is that *rates* and *patronage* are important. Further research should be conducted to see who and by what factors (age, size of loan, location, etc.) values rates over patronage and visa-versa.

All new hires at Farm Credit should be trained in online banking and All current employees at Farm Credit should be trained in online banking. These two questions emphasize the online banking software which Farm Credit is currently adopting. From the employee's perspective in *Table 2k* and *Table 2l*, current and new hires should be trained in online banking with percentages for new hires of 74% and current employees of 71%. The other 15% of employees disagree, that they should not be trained in online banking. These figures show that Farm Credit's employees see the value in future and current employees being trained in online banking.

Conclusions and Recommendations

Like other service based industries the banking sector continuously evolves to keep up with changes in demand and with competition. Banks, like Farm Credit, strive to retain existing customers while attracting new ones. Often the demands from new and existing customers diverge which can pose problems when attempting to develop a strategy to maintain/obtain existing/new customers. In this study, we set out to estimate what the current state of Farm Credit of Western Arkansas is in terms of how competitive they are with regards to retaining existing and attracting new customers. Specifically, we look at the advent and adoption of online banking and its role in competition. In a survey administered to all Farm Credit of Western Arkansas employees, it was found that employees think that: 1) electronic forms (forms that can be completed online) will improve the speed of processing and efficiency and will not only help Farm Credit be more organized but it will also help customer satisfaction, 2) going paperless will improve communication throughout Farm Credit, by doing this Farm Credit can communicate across all of its sectors allowing for efficient processes, 3) Farm Credit's competitors are most competitive in interest rate and name recognition, as a function of big banks, such as Arvest, advertising to make their name and rates more recognized.

Given the results of this survey, the recommendations for Farm Credit of Western Arkansas are: 1) to increase market share they may want to advertise their effective interest rates more broadly. Specifically, to obtain new customers Farm Credit may need to do both advertise *and* educate potential customers what patronage is and how it affects effective interest rate. If Farm Credit can explain to future customers that patronage lowers the *effective* rate, then they may be more successful at competing with banks that have lower initial *nominal* rates. That is, most existing customers understand the value of patronage and are willing to trade higher

nominal rates for a patronage payment at the end of the fiscal year. New customers may only focus on the initial nominal rate and as such simply dismiss Farm Credit without understanding the value of patronage. As such, without the education of future potential customers Farm Credit could lose out on increasing their market share. Thus, more advertising and education of *effective* rates could help Farm Credit maintain their existing customers (who value patronage) and attract new customers (who value lower rates). Future research should be conducted using a contingent valuation method on what the trade-offs between patronage payments and nominal rates in consumer's mind to help position Farm Credit to obtain a larger market share.

Overall Farm Credit should adopt E-Sign Loan Docs because of changing demographics and technology. Moving forward more customers will likely demand online banking making due to its convenience. Farm Credit should also train its current and new employees on online banking software, because their current employees believe they should be able to assist a customer whenever they come in the office asking questions about the online banking software firsthand. Moving forward, Farm Credit would be well advised to administer surveys such as the one in this study to all its branches nationally to obtain a more holistic sense of current and future customer demands.

References

- Arvest Bank Group, Inc. (2017, September 8). Retrieved November 8, 2017, from http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_1095674&per=20170630&rpt=HC&typ=html
- Farm Credit Administration. (2016, December 7). *History for FCA and the FCS*. (2016, December 7). Retrieved October, 2017, from https://www.fca.gov/about/history/historyFCA_FCS.html
- Farm Credit Administration. (2017, October 5). *FCS Directory and Map* [Photograph found in Farm Credit Administration]. Retrieved October 20, 2017, from <https://www.fca.gov/info/directory.html> (Originally photographed 2017, October 5)
- Farm Credit of Western Arkansas. (2017). *Western Arkansas Locations* [Photograph found in Farm Credit of Western Arkansas]. (2017). Retrieved October 20, 2017, from <https://www.myaglender.com/aboutus/Pages/WesternARTerritory.aspx>
- Farm Credit System Insurance Corporation. (2017). Insurance Fund. Retrieved September, 2017, from <https://www.fcsic.gov/insurance-fund/insurance-fund>
- Federal Reserve Bulletin. (1923, March). Retrieved October, 2017, from https://fraser.stlouisfed.org/files/docs/publications/FRB/pages/1920-1924/25802_1920-1924.pdf
- Kwan, S. (1997, February 28). Efficiency of U.S. Banking Firms – An Overview. Economic Letter, Federal Reserve Bank of San Francisco, Retrieved September 12, 2017, from <http://www.frbsf.org/economic-research/publications/economic-letter/1997/february/efficiency-of-us-banking-firms-an-overview/>
- Lee, W.F., Boehlje, M.D., Nelson, A.G. and Murray, W.G. (1980). *Agricultural Finance*. 7th edition, Iowa State University Press, Ames, Iowa.
- Snedecor, G.W. and Cochran, W.G. (1991). *Statistical Methods*. 8th edition, Wiley-Blackwell.

Tables and Figures

| | Q2 | Q3 | Q4 | Q5 |
|------------|-------|-------|-------|-------|
| A-B | 0.000 | 0.000 | 0.772 | 0.033 |
| A-C | 0.000 | 0.000 | 0.683 | 0.849 |
| A-D | 0.000 | 0.000 | 0.002 | 0.015 |
| A-E | - | - | - | 1.00 |
| B-C | 0.049 | 0.001 | 0.495 | 0.101 |
| B-D | 0.072 | 0.439 | 0.002 | 0.775 |
| B-E | - | - | - | 0.045 |
| C-D | 0.854 | 0.000 | 0.000 | 0.036 |
| C-E | - | - | - | 0.837 |
| D-E | - | - | - | 0.022 |

Table 1: Statistical Differences in Means Within Questions

| | Q2 | Q3 | Q4 | Q5 |
|----------|-------|-------|-------|-------|
| A | 3.347 | 3.292 | 2.319 | 0.888 |
| B | 1.972 | 2.069 | 2.361 | 0.722 |
| C | 2.319 | 2.694 | 2.236 | 0.875 |
| D | 2.361 | 1.994 | 3.083 | 0.694 |
| E | X | X | X | 0.888 |

Table 1a: Statistical Means of Responses

Question 2: In your opinion, if Farm Credit went paperless, please rank the following greatest (1) to smallest (4) improvement in Farm Credit's efficiency? A. E-Notary, B. E-Sign Loan Documents, C. E-Files, and D. Online Banking

Question 3: Since Farm Credit is switching to electronic forms, in YOUR opinion rank the following from potential largest (1) to smallest (4) impact: A. More Customers, B. More Efficient, C. Improve customer satisfaction, and D. Improve speed of processing

Question 4: Since Farm Credit has recently gone paperless (information in electronic form), please rank YOUR anticipated improvements and efficiencies with (1) as highest and (4) as lowest. A. Not having to Manually enter items, B. Not having to re-enter items, C. Improve communication of the organization, and D. Other

Question 5: In your opinion, how competitive are Farm Credit's competitors for new customers in terms of: A. Interest Rate, B. Term, C. Name Recognition, D. Closing cost, E. Sales culture/marketing. Where (-1) if Not Competitive, (0) if Uncertain, and (1) if Competitive or Somewhat Competitive.

*Red signifies difference at (P<0.05)

*Definitions of choices (A-E) can be found in Appendix

| Answer | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 37 | 52% |
| Uncertain | 22 | 31% |
| Disagree | 12 | 17% |

Table 2a: Do you think going paperless (storage or communication of information in electronic form, rather than on paper) would enhance efficiency at Farm Credit

| Answer | Number of Responses | Percentage |
|----------------------|---------------------|------------|
| Arvest | 23 | 32% |
| Legacy National Bank | 4 | 6% |
| First National Bank | 5 | 7% |
| Bank of the Ozarks | 7 | 10% |
| First Financial Bank | 8 | 11% |
| Live Oak Bank | 2 | 3% |
| Rabobank | 1 | 1% |
| Other* | 22 | 31% |

Table 2b: In your opinion, who is Farm Credit's greatest competitor in gaining new customers?

*These competitors, number of responses, and percentage of responses are: Diamond Bank (6, 8%), Farmers Bank & Trust (4, 6%), Stone Bank (2, 3%), Texana Bank (2, 3%), First Service Bank (1, 1%), and Bank of Delight (1, 1%). The other respondents checked "other" with no typed in answer (7, 10%).

| Answer | Number of Responses | Percentage |
|------------------|---------------------|------------|
| Name recognition | 45 | 37% |
| Locations | 18 | 15% |
| Rate | 44 | 36% |
| Term | 16 | 13% |
| Closing Costs | 12 | 10% |

Table 2c: Based on your previous response, Farm Credit's greatest competitor has the following competitive advantages (may select more than one):

| Answer | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 71 | 99% |
| Uncertain | 0 | 0% |
| Disagree | 1 | 1% |

Table 2d: Do you value patronage as a strong contributor to Farm Credit’s competitiveness?

| Answer | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 72 | 100% |
| Uncertain | 0 | 0% |
| Disagree | 0 | 0% |

Table 2e: Do you think Farm Credit’s current customers value patronage?

| Answer | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 4 | 6% |
| Uncertain | 32 | 44% |
| Disagree | 36 | 50% |

Table 2f: Do you think current customers would prefer lower rates and no patronage?

| Answer | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 20 | 28% |
| Uncertain | 27 | 38% |
| Disagree | 25 | 35% |

Table 2g: Do you think future customers would prefer lower rates and no patronage?

| | |
|-------|-------|
| mean | 32.85 |
| stdev | 22.76 |
| min | 0 |
| max | 100 |

Table 2h: What ____% of current customers want to use electronic signatures?

| | |
|-------|-------|
| mean | 48.49 |
| stdev | 25.88 |
| min | 1 |
| max | 100 |

Table 2i: What ____% of future customers, do you think, want to use electronic signatures?

| Answer | Number of Responses | Percentage |
|---------------------------------|---------------------|------------|
| We market our patronage more | 20 | 28% |
| Advertise rates from terms more | 25 | 35% |
| Market our co-op structure more | 12 | 17% |
| Advertise on social media more | 14 | 20% |

Table 2j: I believe my customers would more likely recommend Farm Credit to a friend or colleague if:

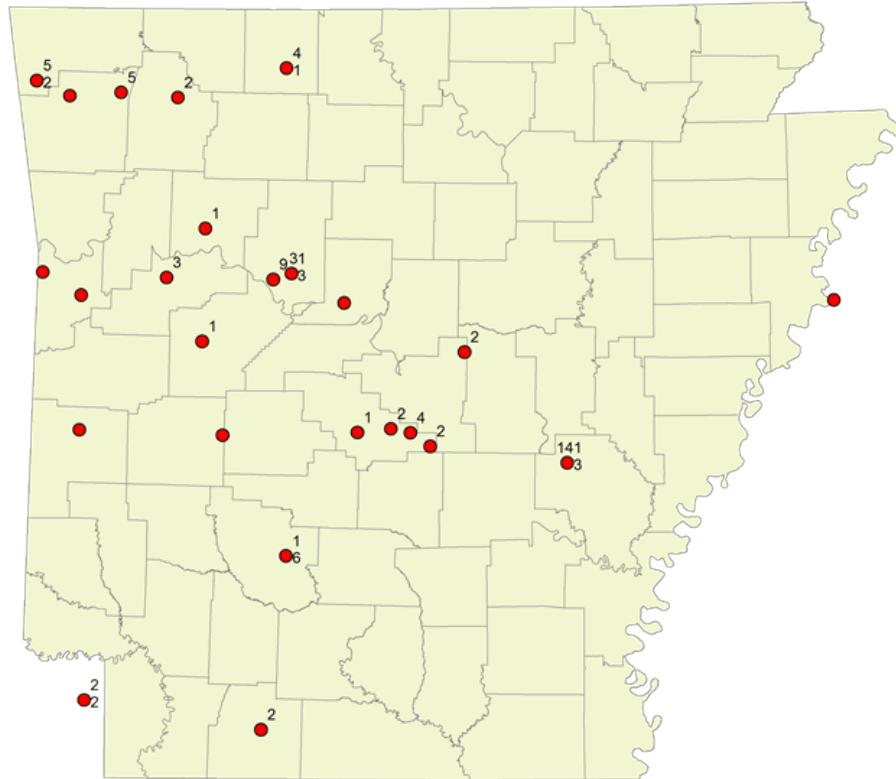
| Name | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 53 | 74% |
| Uncertain | 8 | 11% |
| Disagree | 11 | 15% |

Table 2k: All new hires at Farm Credit should be trained in online banking.

| Name | Number of Responses | Percentage |
|-----------|---------------------|------------|
| Agree | 51 | 71% |
| Uncertain | 10 | 14% |
| Disagree | 11 | 15% |

Table 2l: All current employees at Farm Credit should be trained in online banking.

Figure 3: Location of where each respondent took the Survey.



Appendix- Survey Instrument

Assessing the Current Efficiencies of Farm Credit of Western Arkansas

Start of Block: Default Question Block

My name is Hailey Paulsen and I am currently an Intern in the Northwest Arkansas region. This survey is for my Honors thesis project at the University of Arkansas. By completing this survey, you are helping me help you as a Farm Credit Employee.

Assessing the Current Efficiencies of Farm Credit of Western Arkansas: In the present study, we are interested in how/if Farm Credit of Western Arkansas can become more efficient in the changing world of banking. This survey should require 5-15 minutes to complete. Your opinions are important to us and we hope that you will take the time to give us your insights on your priorities. Risks and Benefits: Your participation will assist in the advancement of knowledge of banking priorities. There are no anticipated risks to participating in this study. Voluntary Participation: Your participation in the research is completely voluntary. Confidentiality: Your responses on the survey will be recorded anonymously. Only basic demographic information (i.e. age, gender, education etc.) will be collected. There is no perfectly identifying questions and as such your responses will be anonymous. Right to Withdraw: You are free to refuse to participate in the research and to stop filling out the survey at any time. If you have questions or concerns about this study, you may contact llnalley@uark.edu or reach him at 1+ (479)-575-6818. For questions or concerns about your rights as a research participant, please contact Ro Windwalker, the University's Compliance Coordinator, at 1+ (479) 575-2208 or by email at irb@uark.edu. Thank you for your participation!

Page Break

Are you over the age of 18?

- Yes
- No (if no then the survey will not be administered)

Skip To: End of Survey If Q22 = No (if no then the survey will not be administered) (2)

Please indicate whether or not you are willing to participate.

- I am willing to participate in this survey.
- I am NOT willing to participate

Skip To: End of Survey If Q23 = I am NOT willing to participate (2)

Page Break



Q1 Do you think going paperless (storage or communication of information in electronic form, rather than on paper) would enhance efficiency at Farm Credit?

| | Strongly disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



Q2 **In your opinion**, if Farm Credit went paperless, please rank the following greatest (1) to smallest (4) improvement in Farm Credit's efficiency?

- _____ E-Notary
- _____ E-Sign Loan Documents
- _____ E-Files
- _____ Online Banking



Page Break

Q3 Since Farm Credit is switching to electronic forms, in **YOUR** opinion rank the following from potential largest (1) to smallest (4) impact:

- _____ More customers
- _____ More efficient
- _____ Improve customer satisfaction
- _____ Improve speed of processing



Q4 Since Farm Credit has recently gone paperless (information in electronic form), please rank **YOUR** anticipated improvements and efficiencies with (1) as highest and (4) as lowest.

- _____ Not having to manually enter items
- _____ Not having to re-enter items
- _____ Improve the communication of the organization
- _____ Other:



Page Break

Q5 In your opinion, how competitive are Farm Credit's competitors for new customers in terms of:

| | Not Competitive | Somewhat Competitive | Competitive | Uncertain |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Interest rate | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Term | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Name recognition | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Closing cost | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sales Culture/Marketing | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q6 In your opinion, who is Farm Credit's greatest competitor in gaining new customers?

- Bancorp South
- Legacy National Bank
- Live Oak Bank
- Arvest
- First Financial Bank
- Rabobank
- First National Bank
- Bank of the Ozarks
- Grand Savings Bank
- Other _____

Q7 Based on your previous response, Farm Credit's greatest competitor has the following competitive advantages (may select more than one):

- Rate
- Term
- Name recognition
- Closing costs
- Locations

Page Break

Q8 Do **you** value patronage as a strong contributor to Farm Credit's competitiveness?

| | Strongly Disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q9 Do you think Farm Credit's **current** customers value patronage?

| | Strongly Disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q10 Do you think **current** customers would prefer lower rates and no patronage?

| | Strongly Disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q11 Do you think **future** customers would prefer lower rates and no patronage?

| | Strongly Disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Page Break



Q12 Recognizing in the State of Arkansas, electronic signatures are not currently accepted however;

Please write a number in the box provided. What ____% of **current customers** want to use electronic signatures?



Q13 Please write a number in the box provided.

What ____% of **future customers**, do you think, want to use electronic signatures?

Page Break

Q14 I believe my customers would more likely recommend Farm Credit to a friend or colleague if:

- We market our Patronage more
- Advertise rates from terms more
- Market our Co-op Structure more
- Advertise on social media more

 Page Break

Q15 All **new hires** at Farm Credit should be trained in online banking.

| | Strongly Disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q16 All **current employees** at Farm Credit should be trained in online banking.

| | Strongly Disagree | Disagree | Uncertain | Agree | Strongly agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Default Question Block
