AN ASSESSMENT OF CENTRAL RURAL ELECTRIC COOPERATIVE SERVICES AS PERCEIVED BY MEMBERS IN A SEVEN-COUNTY SERVICE AREA OF NORTH CENTRAL OKLAHOMA

By

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TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	1
	Statement of the Problem	3
	Rationale	4
	Purpose of the Study	4
	Objectives of the Study	4
	Scope of the Study	5
	Definitions	5
II.	REVIEW OF LITERATURE	7
	Rural Electric Cooperatives	7
	Central Rural Electric Cooperative	8
	Services Currently Provided by CREC	11
	Additional Service Provided by Other Electric Cooperatives	14
	Deregulation in Other States	16
	Legislation Effecting Deregulation in Oklahoma	16
	Summary	17
III.	DESIGN AND PROCEDURE	19
	Population	20
	Sample	20
	Institutional Review Board	22
	Development of the Instrument	22
	Collection of Data	24
	Analysis of Data	24
IV.	FINDINGS	28
	Demographics	29
	Perceived Interest in Potential Services	35
	Member/Respondents' Priorities for Potential Services	40
	Member Ratings of Current Services	42

Chapter Page

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS....44

Problem Statement....44
Rationale....45
Purpose of the Study....46
Specific Objectives....46
Design and Conduct of the Study....47
Major Findings of the Study....48
Conclusions....51
Recommendations....53
Recommendations for Further Research....53

REFERENCES....55

APPENDIXES....57

APPENDIX A– COVER LETTER....58
APPENDIX B– SURVEY INSTRUMENT....60
APPENDIX C– INSTITUTIONAL REVIEW BOARD APPROVAL....63
APPENDIX D– RESPONDENTS' COMMENTS....65

LIST OF TABLES

Table		Page
I.	A Distribution of Assigned Numerical Values and Real Limits	21
II.	A Distribution Of CREC Member/Respondents By Age	26
III.	A Distribution Of CREC Member/Respondents By Gender	27
IV.	A Distribution Of CREC Member/Respondents By Head Of Household Or Spouse	27
V.	A Distribution Of CREC Member/Respondents By Type of Housing	28
VI.	A Distribution Of CREC Member/Respondents By Type Of Proprietorship	28
VII.	A Distribution Of CREC Member/Respondents By Years Of Membership	29
VIII.	A Distribution Of CREC Member/Respondents' Perceived Level Of Interest By Area Of Potential Service	30
IX.	A Summary of CREC Member/Respondents' Perceived Level Of Interest In Potential Services	30
X.	A Comparison Of Home Owners And Renters' Levels Of Perceived Interest By Area Of Potential Service	33
XI.	A Comparison Of CREC Members' Levels Of Perceived Interest Based On Years Of Cooperative Membership By Area Of Potential Service	35

Table		Page

Table		Page
XII.	A Summary of CREC Member/Respondents' Rating Of Potential Services	37
XIII.	A Summary of CREC Member/Respondents' Rating Of Current Services	38

Figure		Page
1.	A Distribution [illegible]	9

FIGURE

Figure Page

1. A Distribution of Assigned Numerical Values and Real Limits.....9

CHAPTER I

INTRODUCTION

In April 1997, the Oklahoma legislature passed landmark legislation concerning Oklahoma's electric utility industry. Authored by Senator Kevin Easley, Senate Bill 500 calls for customer choice of an electric provider in the year 2002. The facilities (poles, transformer, etc.) will belong to the current provider, but the consumer will be able to choose who delivers the actual electric energy to their home or business.

In Oklahoma, customers have not previously been afforded the opportunity to choose who provides them with electrical service. Electrical service has always come from the company who services the territory where the home or business is located. The promise of customer choice is an exciting opportunity for Oklahoma citizens. It is also an exciting time for electric power companies in Oklahoma, especially the rural electric cooperatives.

Oklahoma's rural electric cooperatives (RECs) took a proactive stance when it was evident that deregulation would be coming down the pike. Acknowledging the reality of the issue, RECs decided to try to have a voice in shaping the legislation that could ultimately determine their fate. Many people were dedicated to spending countless hours persuading and discussing the details of SB 500 with legislators, committees, groups, and their customers. Although the legislation wasn't exactly what the RECs

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would have produced themselves, they were satisfied with the possibilities of which SB 500 may deliver July 1, 2002 (Crabbe 1998).

With the dawn of deregulation fast approaching, Central Rural Electric Cooperative (CREC) realized that it was important to determine what will influence consumers to choose CREC as their electric provider in 2002. Consumers may or may not choose their provider based solely on price. It could be the quality of service or even convenience that causes a consumer to pick a particular company. It's likely that most companies will have competitive pricing and most will be able to provide dependable service. CREC believes that some other element will help a company, a cooperative, distinguish itself from the competition.

Rural electric cooperatives have always strived to provide their member/consumers with more than just electricity. Electric co-ops offer a number of programs and services that compliment the electrical service they deliver. These services are not only beneficial to the consumer, but distinguish the cooperative from other companies that exist solely to make a profit from their electric revenues.

CREC currently offers over 15 services which set it apart from the competition. If it can be found that consumers appreciate the convenience of other services such as home security monitoring and long distance billing being coupled with their electric bill each month, then CREC and other RECs will possess information from which decisions can be made with regard to a specific direction to pursue. The same idea applies to determining what services are not currently being provided, but could. If CREC was aware of the services consumers prefer, they could provide those and better position the cooperative for a more competitive future for the year 2002 and beyond.

Statement of the Problem

Oklahoma consumers have typically received electricity from whichever supplier served the area they lived in. Residents have not been offered a choice of electric supplier. The federal government has indicated that eventually all states will be mandated to let consumers choose who supplies their electrical power. However, those states who are already offering customer choice when the it becomes a national issue will be allowed to continue with their state's policy and not be forced to comply with the national policy.

Seeing this as an opportunity, Oklahoma has begun to implement regulations for customer choice of electrical supplier in Oklahoma. In the next few years, electrical companies in our state will be forced into a competitive market.

Rural electric cooperatives are electric companies, but they do more. Cooperatives seek to provide services that compliment the electrical service they provide. The competitive market opportunity makes it crucial for rural electric cooperatives to know what services they provide are considered most beneficial to their member consumers. It also is important for the cooperatives to know what services they should provide that they do not now provide. Knowing these answers will help the cooperatives better compete when deregulation is reality in Oklahoma.

Rationale

As Oklahoma's electric utility power structure changes, it is vital that the Central Rural Electric Cooperative (CREC) management team be apprised of the programs and services which best serve the needs and preferences of their member/consumers. Therefore, it is essential that a study be conducted to appraise current and future service preferences as perceived by the electric cooperative members.

Purpose of the Study

The purpose of this study was to determine current and future service preferences provided by CREC as perceived by cooperative members in a seven-county service area of north central Oklahoma.

Objectives of the Study

The objectives of the study were:

1. To determine selected demographic characteristics of cooperative members in CREC's service territory in a seven-county area of north central Oklahoma.
2. To determine the perceived interest regarding potential service preferences offered by CREC.

3. To determine the importance of potential service preferences provided by CREC as perceived by cooperative members.
4. To determine the importance of current services provided by CREC as perceived by cooperative members.

Scope of the Study

The scope of this study includes current CREC members in a seven-county service area of north central Oklahoma.

Definitions

The following definitions were presented because their relevance to this study.

Competition – Competitors of rural electric cooperatives known as investor-owned utilities (Public Service of Oklahoma and Oklahoma Gas and Electric) and municipal systems.

Deregulation – Customer choice of electric supplier, to be effective in the year 2002 in Oklahoma.

Heads of Household – Determined by individuals responding to the study indicating they were the "head of household."

Member – A member/consumer of a rural electric system may be a farm, ranch, private home, local business, school, church, hospital, or other meter on the rural electric line.

Municipal Systems – An electric system that is owned and operated by the city it serves.

Retail Wheeling - Used synonymously with the term of deregulation.

Rural Electric Cooperative – A utility formed following the establishment of REA in 1935 for the purpose of providing central station electricity to unserved persons in rural areas. Chief characteristic is that the user of the service is also an owner, or member.

Senate Bill 500 – Signed in to law April 25, 1997. Allows for customer choice of electric supplier in the year 2002.

Senate Bill 888 – Signed into law June 10, 1998. Seeks to work out details of SB 500.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter was to present an overview of related research and literature that identified factors relevant to this study. The review was divided into seven major areas and a summary to provide clarity and organization. The areas included: (1) rural electric cooperatives, (2) Central Rural Electric Cooperative (CREC), (3) services currently provided by CREC, (4) additional services provided by other cooperatives, (5) effects of deregulation in other states, (6) legislation initiating deregulation in Oklahoma, and (7) summary.

To the knowledge of the author, no other studies have been conducted that relate to service programming and the deregulation of Oklahoma's electrical industry.

Rural Electric Cooperatives

When Franklin D. Roosevelt discovered he was paying 18 cents per kilowatt hour for electricity at his Warm Springs, Georgia cottage, he was shocked. It was about four times the rate he was paying at his home in Hyde Park, New York. This realization triggered a study of the electrical power industry and particularly the rural areas. As

President of the United States in 1935, Roosevelt created the Rural Electrification Administration. From these humble beginnings, rural electrification has grown into one of the most successful self-help programs ever enacted by the United States Government (Yuliang 1995).

The United States has approximately 1,000 rural electric cooperatives that combine to make-up the nation's largest utility network and the task of the rural electric cooperatives is far from complete. These cooperatives serve over 34 million people in 47 states (Stanek 2000). Technological change is constantly increasing the electrical demand for REC members. More and more new consumers, seeking to escape urban congestion, are moving to the country and using dependable electrical power supplied by rural electrical cooperatives.

Central Rural Electric Cooperative

Central Rural Electric Cooperative, Inc. is a not-for-profit electrical distribution cooperative owned by its member consumers. CREC was organized under the provision of the United States Rural Electrification Act and incorporated November 17, 1938 under the regulatory laws and statutes of the State of Oklahoma.

CREC serves approximately 15,000 meters, just over 12,000 of those being residential. The cooperative has over 3,800 miles of distribution line that distributes electrical power to over 17,500 locations. The service area covers over 2,000 square miles and extends 19 miles east, 30 miles west, 18 miles north, and 40 miles south of

Stillwater, Oklahoma. CREC's service area includes portions of Garfield, Lincoln, Logan, Noble, Oklahoma, Pawnee, and Payne counties (CREC Website 2000).

When CREC was initially organized, it was called Central State Rural Electric Cooperative. "State" was officially dropped from the name in 1939.

CREC began as a stock corporation founded by ten local men. Those men included O.D. Kinzie, Cushing; Herman Shroeder, Stillwater; Roy J. Remington, Stroud; S.P. Vollmer, Stillwater; Earl Hullet, Perkins; Henry Vobornik, Prague; Charles Clinard, McCloud; H.W. Waldman, Chandler; Charlie Fisher, Fallis; and Harold Ammerman, Stroud.

Five of the ten founders served as the Board of Trustees until the first annual meeting in February 1939. They borrowed $85,000 from the newly created Rural Electrification Administration, currently referred to as Rural Utilities Service (RUS), to construct a rural distribution system to provide electrical service to 141 farms and homes. Nineteen ninety-eight marked the 60th anniversary rural Oklahomans have had this benefit. Before REA was created, only about 10 percent of the rural population nationwide had electricity.

Today, CREC has assets in excess of $53 million and employs approximately 80 people. Every consumer member of CREC is an owner of the cooperative.

The Cooperative pays gross-receipt taxes annually to local school districts based on the number of miles of line in each district. CREC paid over $410,000 in gross-receipt taxes in 1999. (Stanek 2000).

CREC is divided into nine districts. Board members are elected to three-year terms, representing the membership of the nine districts. The current board members are as listed:

Jack Pritchard - President - Stillwater

Raymond Nettles - Vice President - Perkins

James Williams - Secretary - Morrison

Dale Weathers - Member - Stillwater

R.A. Stults - Member - Luther

Clyde Habben - Member - Luther

Louise Ethridge - Member - Stroud

Dean Mackey - Member - Mulhall

C.D. Mihura - Member - Stillwater

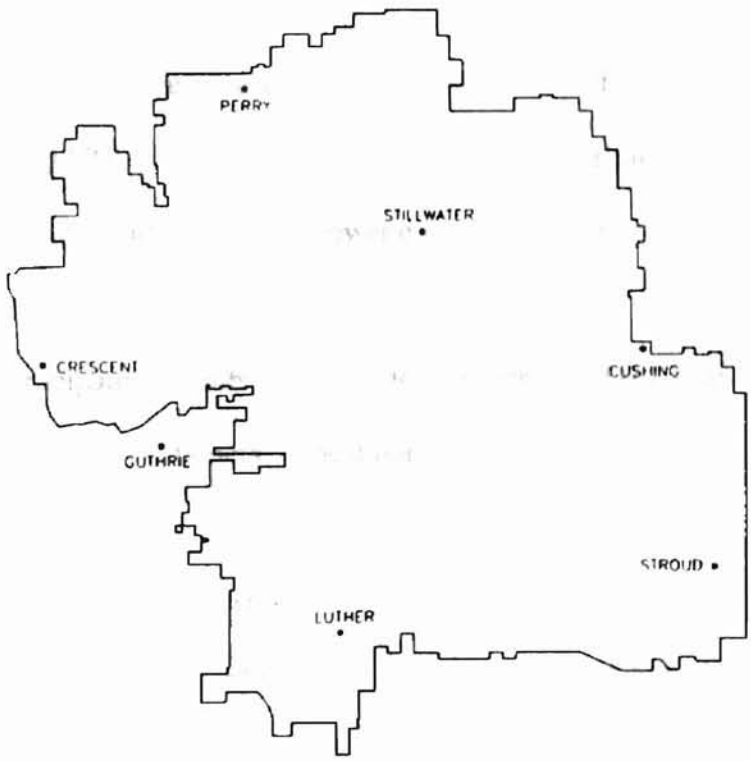

Figure 1. A Map of CREC's Service Area

Services Currently Provided by CREC

Rural electric cooperatives pride themselves in providing more than electricity to their member consumers (Crabbe 1998). Central Rural Electric Cooperative (CREC) offers over 15 services in addition to electrical service to its members. The following is a summary of these programs.

Average Monthly Payment (AMP) is a plan for residential members that is designed to avoid high seasonal billings by allowing the member to make an average monthly payment instead of the current bill.

CREC's Automatic Funds Transfer (AFT) is one way to ensure that your electric bill is paid automatically through your bank. The AFT program was created to save time, money, and worry.

Furthermore, CREC has invested in technology to hold the line on electricity cost increases. Called ADAPT, Automated Distribution and Peak Trimming, this system allows CREC to automatically reduce its power consumption during times of peak electric usage. As a cooperative, when CREC saves money on its power bill, members benefit as well. Participating members allow CREC to install ADAPT devices on their water heaters, central air conditioners, or heat pumps, and receive a special lower electric rate each month.

"There's no need to worry whether your home has enough attic insulation, weather-stripping, caulking, or other energy-saving measures," (Green 2000). A free home energy audit by a certified energy auditor is available from CREC.

A home energy audit is a thorough evaluation of your home's energy efficiency. The auditor will also measure the insulation in the attic and check for air leaks around windows and doors. The free audit takes about an hour.

Cash rebates are offered to members who install approved, energy-efficient electric equipment. Some of the qualifying equipment includes electric water heaters, air-source heat pumps, and ground-source heat pumps.

If a member installs a new water heater and participates in the ADAPT load management program, the water heater is free. If the member chooses not to ADAPT, the member still receives a $100 cash rebate. In addition, there is currently a $75 wiring allowance when a gas water heater is replaced with an electric model.

For the convenience of CREC members, CREC stocks a wide range of water heaters. In addition to the standard six, 10, 20, 30, 40, and 50 gallon models, CREC stocks slim-line and space-saving lowboy models. Water heaters range from six to 82 gallons and delivery is currently available for $20.

CREC offers Energy Efficient Improvement (EEI) Loans at seven percent APR to members who are improving their home's efficiency. Qualifying energy-saving measures include heat pumps, weather-stripping, storm windows and doors, floor, attic and wall insulation and more. Money can be borrowed to make improvements and the member has up to five years to repay the loan.

Security lighting provides for safety and prevention of crime and is inexpensive to operate. CREC provides members with opportunities to purchase either Mercury Vapor or High Pressure Sodium Lights. High Pressure Sodium Lights may also be rented.

At the request of members, CREC began providing home security systems in 1997. CREC has joined Cimarron Electric Cooperative in Kingfisher to offer this service. The cooperative offers two systems with their own unique features and the monthly monitoring fee is conveniently added to your monthly electric bill.

CREC sponsors five youth programs for area students. Youth Tour seems to be the most popular program. It is offered to high school juniors and the contest awards two expense-paid trips to Washington, D.C., two trips to Farmland Industries' Leadership Conference, and $100 to other finalists.

YouthPower Energy Camp is a summer camp for eighth graders. It is held in the Arbuckle Mountains near Davis at Camp Goddard. While at the camp, students take part in activities that help them realize the importance of cooperation, teamwork, leadership skills, and safety. The students also learn about the cooperative way of business establishing their own co-op for the week. "Bucket rides" and climbing an electric pole are also highlights of the experience.

Targeted to second graders, Be Safety Smart stresses the importance of electrical safety. The presentation includes a video and safety discussion and students also receive a safety coloring book, sticker, and certificate at the conclusion.

Price Tags of Leadership is designed to help high school students become aware of the importance of leadership skills. The program is conducted by Dr. Jack Pritchard, a retired agricultural education professor at OSU and a CREC board member. Dr. Pritchard's unique way of addressing young people involves the students and makes this an interactive experience.

In 1999, a new program entitled Youth Leadership Experience was initiated. The one-day leadership workshop is conducted by Kendra Stanek and summer interns from Farmland Industries. During the program, students explore communication, teamwork, goal setting, and personal development.

CREC data shows many members are interested in satellite television. That's why they offer Rural TV Programming packages for C-Band users.

Safety is a priority at the cooperative. CREC conducts electrical safety programs that can be presented to schools, social, or civic groups.

Funding is available to are fire departments from CREC through the Rural Fire Grant Program. The co-op offers an 80-20 matching grant program (up to $500) to help area fire departments purchase fire fighting equipment. By upgrading fire fighting capabilities with new equipment, departments can lower their ISO rating, which will allow homeowners to lower their insurance premiums (Stanek 2000).

Additional Services Provided By Other Cooperatives

The realization of a deregulated utility market has prompted many electric suppliers to look at providing services other than just electricity. As a result, a number of new programs are being explored. The following is a review of some of the services being offered by other cooperatives, but that CREC has not yet sponsored. It is a good possibility that CREC may too offer many of these same services.

Northeast Oklahoma Electric Cooperative, headquartered in Vinita, handles sales, installation, and service of two-way communication equipment, as well as providing

paging service. Retail sales of TVs, VCRs, cordless telephones, and home entertainment sound systems are also new territory into which Northeast Electric has ventured. Northeast Electric Cooperative is also a Stihl and Husqvarna authorized sales and service dealer, providing saws, leaf blowers, grass trimmers, pole pruners, and more.

Several co-ops have jumped on the information super highway and have become internet service providers. This has been beneficial to rural areas where service has not been previously affordable.

For members who have sensitive electronic equipment in their homes and businesses, a variety of surge protection devices are available through some rural electric cooperatives. Most services include whole-home surge protection with the option to lease or buy the equipment.

Long distance telephone service and cooperative-sponsored credit cards are a few other programs RECs are providing to their members.

Some cooperatives are offering contract services for hire. A few of the more popular involve right-of-way clearing and electrical contracting for home wiring, heat pump installations, etc.

Operation Round-Up is a program where co-op members volunteer to round their electric bills up to the nearest dollar each month. Rounded-up funds are then placed into a benevolence trust account and overseen by a board of directors separate from the co-op's board of directors. Funds that accumulate in the foundation are distributed to individuals and organizations, with proven worthiness of the funds. Operation Round-Up funds may be used to assist ambulance services, hospitals, volunteer fire departments,

natural disaster victims, etc. However, CREC membership was previously approached with this idea and little support was shown.

Deregulation in Other States

Oklahoma was one of the first seven states to pass legislation concerning retail wheeling. As of January 2000, 22 states have enacted restructuring legislation including California (9/96), Maine (5/97), Massachusetts (11/97), Montana (5/97), New Hampshire (5/96), Oklahoma (4/97), Pennsylvania (12/96), Rhode Island (8/96); Connecticut and West Virginia (4/98), Arizona (5/98), New Jersey (2/99), Virginia (4/98, 2/99), New Mexico, Maryland, and Delaware (3/99), Arkansas (4/99), Nevada (7/97, 5/99), Texas (6/99), Ohio (7/99), Illinois (11/97, 6/99), and Oregon (7/99). The District of Columbia's City Council enacted retail choice legislation in December 1999.

Twenty states have active legislative and/or regulatory processes underway to study restructuring and propose implementing legislation. Five states have undertaken little preliminary activity to date (NRECA Retail Wheeling Report 2000).

Legislation Effecting Deregulation in Oklahoma

The purpose of SB 500 is to restructure the electric utility industry by allowing competition in the electrical generation market to retail consumers through open, equal, and comparable access to all transmission and distribution systems while avoiding

duplication of distribution facilities. Such direct access to the generation market is to be accomplished by July 1, 2002 (Bill Summary 1997).

SB 888 was passed June 10, 1998. This bill addresses specific issues not defined by SB500. One provision of SB888 declares a moratorium on condemnation of rural electric cooperative facilities by municipal electric systems (Bill Summary 1998). Other provisions in the bill include a transition step to prevent wasteful duplication of electrical line and service equipment by electric suppliers. SB 888 also expands the ban on switching customers during the interim period to all electric suppliers, including municipal systems and the Grand River Dam Authority. It further clarifies a ban on municipal expansion of electric facilities outside the cities' corporate limits if a city does not choose to participate in the provision of retail wheeling (Stanek 1998).

Speculation is that legislation seeking to resolve even more details of deregulation in Oklahoma will continue to be introduced until it actually becomes law.

Summary

Rural Electric Cooperatives were founded during President Franklin Roosevelt's administration in 1935 to provide electricity to the people in rural America. Central Rural Electric Cooperative is a distribution cooperative founded in 1938 to provide electric service to 141 farms in north central Oklahoma. Today, CREC delivers service to more than 17,500 meters with over 3,700 miles of distribution line in parts of seven counties in north central Oklahoma (Stanek 2000).

Rural electric cooperatives throughout the United States strive to provide more than just electricity to their consumers. CREC already offers over 15 programs and services that compliment the electrical service that it provides, and more are on the horizon. The promise of "retail wheeling" in Oklahoma has encouraged rural electric co-ops to seek additional programs beneficial to its members. By providing a variety of services to consumers, RECs hope to become indispensable to their members.

Not all cooperatives offer the same programs across the United States. CREC, as a part of the nation's largest utility network, would benefit from studying the advantages and disadvantage of other co-ops' experience in providing additional services.

A variety of activities are taking place in all 50 states. Some states are more progressive than others and are seeking to implement their own legislation. Oklahoma is one of those states. Yet, there are many states choosing to sit back and watch what happens to their neighbors and possibly even electing to let federal legislation to eventually force them into retail wheeling.

Senate Bills 500 and 888 are the key pieces of legislation providing the opportunity for customer choice in choosing electric providers in Oklahoma. SB 500 was authored by Senator Kevin Easley and Representative Jim Glover. It was titled "Electric Restructuring Act of 1997" and was passed April 25, 1997. SB 888 followed in 1998 and sought to further clarify ideas included in SB 500. Electrical restructuring is a complicated issue and introduction of new legislation is expected each year until the law is put into effect (Sperry 1998).

CHAPTER III

DESIGN AND PROCEDURE

The purpose of this chapter was to describe the methodology utilized in conducting the research. The procedures were, for the most part, prescribed by the intent and purpose of the study, which was to determine members' perceptions of services provided and possibly provided in the future by Central Rural Electric Cooperative (CREC).

Specific objectives, established to provide direction for conducting the study, included:

1. To determine selected demographic characteristics of cooperative members in CREC's service territory in a seven-county area of north central Oklahoma.
2. To determine the perceived interest regarding potential service preferences offered by CREC.
3. To determine the importance of potential service preferences provided by CREC as perceived by cooperative members.
4. To determine the importance of current services provided by CREC as perceived by cooperative members.

The study procedures involved 1) determining the study population; 2) developing an instrument for data collection; 3) developing procedures for data collection; and 4) selecting methods for data analysis.

Population

The population of this study included 12,129 CREC residential members in a seven-county service area of north central Oklahoma. Participants were identified by utilizing a current (September 1999) database of CREC members.

Sample

CREC provides electrical service to 12,129 consumer/members residing in parts of seven counties, which includes Payne, Lincoln, Logan, Oklahoma, Noble, Pawnee, and Garfield counties. Using a 95 percent confidence level and Krejcie and Morgan's (1970) table for determining the appropriate size of a randomly selected sample, the required sample size was determined to be 375. Therefore, 450 survey instruments were mailed in attempt to acquire the 374 needed responses for a representative sample with a 95 percent confidence level. However, in reality, only 214 surveys were returned. Out of the 214 total respondents, two provided insufficient information for a legitimate return rate of 212 out of 450 for a 47.1 percent response. A return of 212 useable responses provided an

approximate confidence interval value of .85. Krejcie and Morgan's (1970) formula for determining the sample was presented as follows:

$$S = \frac{x2\ NP\ (1\text{-}P)}{D2\ (N\text{-}1) + X2P\ (1\text{-}P)}$$, in which

S = required sample size

N = the given population size

P = population proportion that for table construction has been assumed to be .50, as this magnitude yields the maximum possible sample size required D = the degree of accuracy as reflected by the amount of error that can be tolerated in the fluctuation of a sample proportion p about the population proportion P-the value for d being .05 in the calculations for entries in the table, a quantity equal to +- 1.96 σp

X2 = table value of chi square for one degree of freedom relative to the desired level of confidence, which was3.841 for the .95 confidence level represented by entries in the table (p607-610).

Numbers were assigned to each CREC member consumer in the database and a random number generator was used to select the member consumers (sample) to participate in the study.

Institutional Review Board

Federal regulations and Oklahoma State University policy require and approval of all research studies that involve human subjects before investigators can begin their research. The Oklahoma State University Office of University Research Services and the Institutional Review Board conduct this review to protect the rights and welfare of human subjects involved in biomedical and behavioral research. In compliance with the aforementioned policy, this study received the proper surveillance and was granted permission to continue and assigned the approval number AG-99-025.

Development of the Instrument

The questionnaire was developed with assistance from Central Rural Electric Cooperative administrators and members of the graduate committee. The survey instrument consisted of four parts with 24 questions. Part one of the instrument contained six demographic itēms addressing age, gender, head of household, type of residence, type of proprietorship, and length of time (years) the individual has been a CREC member. Nominal and interval scales were utilized in part one to ascertain the data.

Part two consisted of 16 questions addressing potential services and perceived levels of consumer interest in such services. Among the 16 items addressed, items seven to twenty-two required responses on a four-point Likert-type scale with values ranging from zero to three. The categories of interest included "very interested, "interested", "somewhat interested", and "not interested."

Part three had two sections containing 30 items addressing consumer priorities of services CREC currently provided and priorities of possible future services which may be offered by CREC. Respondents were asked to rate services currently provided and possible future services one to five with a rating of one being the highest priority and five their lowest priority.

Among the 16 survey items addressing consumer interest, seven to twenty-two required responses on a four-point Likert-type scale. Numerical values were assigned and real limits established in order to determine differences in levels of interest and dispersion among the selected member consumers. In part two of the instrument, the numerical values allocated to the four categories of interest were are "very interested", "interested", "somewhat interested", and "not interested". The real limits established by category of interest included: 3.0 to 2.51 for "very interested", 2.5 to 1.51 for "interested", 1.5 to .51 for "somewhat interested", and 0 to .5 for "not interested."

TABLE 1

A Distribution Of Assigned Numerical Values And
Real Limits By Categories Of Agreement

Categories	Numerical Value	Real Limits
Very Interested	3	2.51 – 3.00
Interested	2	1.51 – 2.50
Somewhat Interested	1	.51 – 1.50
Not Interested	0	0 .50

Collection of Data

Survey instruments were mailed September 17, 1999 to a random sample of 450 potential participants. The subjects were asked to respond to a mailed questionnaire during a ten-day period. A second survey was mailed to the non-respondents September 29, 1999. No further follow-up was conducted. Two hundred twelve useable surveys were returned for a 47.1 percent response rate.

Analysis of Data

The study sample (n=375) of Central Rural Electric Cooperative (CREC) member consumers all had the opportunity to participate in the study; therefore, descriptive statistics were used to describe information/data in terms of the aggregate as well as specific elements. The descriptive statistics used to treat the data in this study included frequency distributions, percentages, arithmetic means, ranges, standard deviations, and overall ratings.

Hoshmand (1988) in his treatment of descriptive statistics stated:

> The data can be presented in a frequency distribution, which involves group data that can be easily visualized. Frequency distribution gives both the values for the observation and their frequency of occurrence (p. 18).

Data can also be presented using relative frequency. When frequency distributions are converted to relative frequencies or

percentages, we are simply dividing the frequency of a class interval by the total number of observations or measurements under study (p. 23).

The relative frequency is then multiplied by 100 to determine the corresponding percentage value. In addition, "The most familiar average is the mean or arithmetic mean symbolized as x. It is found by adding all the values of a group of items and dividing the sum by the total number of items (p. 24)."

According to Runyon and Haber (1971), "...we may represent the mean for frequency distribution as follows:

$$X = \frac{\Sigma fX}{N} \quad \text{(p. 58)}$$

The measures of dispersion in this study primarily involve the range and standard deviation.

Runyon and Haber (1971) stated, "the range is by far the simplest and most straightforward measure of dispersion. It consists of the scale distance between the largest and smallest score" (p. 70).

Runyon and Haber (1971) further stressed:

The standard deviation, based on the squaring of these deviation scores, is of immense value in three different respects. (1) The standard deviation reflects dispersion of scores so that the variability of different distributions may be compared in terms of the standard deviation *(s)*. (2) The standard deviation permits the *precise* interpretation of scores within a distribution. (3) The standard deviation, like the mean, is a member of

> mathematical system which permits its use in more advanced statistical consideration (p. 73).

To interpret the standard deviation, Runyon and Haber (1971) emphasized:

> An understanding of the meaning of the standard deviation hinges on knowledge of the relationship between the standard deviation and the normal distribution. Thus, in order to be able to interpret standard deviations, it is necessary to explore the relationship between the raw scores, the standard deviation, and the normal distribution (p. 77).

The only inferential statistic used in this study involved utilizing the t-test to determine significant difference among the mean scores addressing CREC member/consumers' interest in the possibility of future services. The two areas addressed in this study included one of which divided itself into two independent groups; that being home owners and renters, while the other group involved years of cooperative membership in CREC which included members with a membership tenure of 20 years or less and those who have been CREC members for 21 years or more. Statistical significance was established at alpha=.05.

The use of the t-test as explained by Popham (1973) revealed "a method to determine just how great the difference between two means must be for it to be judged significant or a significant departure from differences which might be expected from chance alone" (p. 124-125). Runyon and Haber (1971) emphasizing the differences between two means comprising two independent samples stipulated:

> Most behavioral research involves the comparison of two or more samples to determine whether or not these samples might have reasonably been drawn from the same population. If the means of two samples differ, must we conclude that these samples were drawn from two different populations (p. 194).

Whereas Snedecor and Cochran (1967) in addressing the issue of groups of unequal size, stressed "unequal numbers are common in comparisons made from survey data" (p. 104). They further stated "in planned experiments, equal numbers are preferable, being simpler to analyze and more efficient, but equality is sometimes impossible or inconvenient to attain" (p. 104). However, there are occasions when the sample for a particular group is much smaller in size relative to the overall population which is designed to compare attitudes and perceptions among members of a particular group such as member/consumers of a rural electric cooperative.

CHAPTER IV

FINDINGS

The purpose of this chapter was to report the results of the study. The purpose of this study was to determine current and future service preferences provided by CREC as perceived by cooperative members in a seven-county service area of north central Oklahoma.

The scope of the study included CREC members in a seven-county service area of north central Oklahoma, while the population consisted of 12,129 CREC residential member/consumers identified by utilizing a database of CREC members. A random sample of 375 CREC members was selected using a 95 percent confidence interval and Krejcie and Morgan's (1970) table for determining sample size. However, of the 450 questionnaires mailed to acquire 375 responses, 214 were returned. Out of the 214, two were returned with insufficient information. A total of 212 completed questionnaires were used to represent the defined population with a 47.1 percent response rate. Therefore, finding and results of this study was based on 212 responses.

The results of the study were divided into three sections. The three sections corresponded to the objectives of the study: (1) to determine selected demographic characteristics of cooperative members in CREC's service territory in a seven-county area of north central Oklahoma, (2) to determine perceived interest regarding potential

service preferences offered by CREC, (3) to determine the perceived importance of potential service preferences provided by CREC as perceived by cooperative members, and (4) to determine the importance of current services provided by CREC as perceived by cooperative members.

Demographics

The data shown in Table 2 revealed no respondents in the 20 years or less category, while there were 13 (6.19%) Central Rural Electric Cooperative (CREC) member/respondents in the 81 years and older group. Most of the CREC member/respondents by age were concentrated in four groups. The 31 to 40 year group included 34 (16.19%) member/respondents, while the largest group involved 48 (22.86%) CREC member/respondents in the 41 to 50 age category. Furthermore, the 61 to 70 year age group compromised the second largest group, 43 (20.48%) CREC member/respondents, while 40 (19.05%) respondents were in the 51 to 60 year age range. The four largest groups involved 165 (78.57%) of the 210 CREC member/respondents. However, the two largest groups, the 41 to 50 and 61 to 70 age groups compromised 91 (43.33%) of the 210 CREC study respondents.

TABLE 2

A Distribution of CREC Member/Respondents By Age

Age	Frequency (n=210)	Percentage (%)
20 or less		
21 to 30	12	5.71
31 to 40	34	16.19
41 to 50	48	22.86
51 to 60	40	19.05
61 to 70	43	20.48
71 to 80	20	9.52
81 and over	13	6.19
Total	210	100.00

The consideration of gender in Table 3 disclosed 115 (54.76%) male CREC member/respondents, while 95 (45.24%) study participants were female.

TABLE 3

A Distribution Of CREC Member/Respondents By Gender

Gender	Frequency (n=210)	Percentage (%)
Male	115	54.76
Female	90	45.24
Total	210	100.00

Data addressing the issue of respondents' participation, either spouses or the head of the household, in Table 4 revealed the major group participating involved 149 (70.95%) CREC member/respondents who were heads of households and 61 (29.05%) spouses.

TABLE 4

A Distribution Of CREC Member/Respondents By Head Of Household Or Spouse

"Head" or Spouse	Frequency (n=210)	Percentage (%)
Head of Household	149	70.95
Spouse	61	29.05
Total	210	100.00

The data in Table 5 indicated 146 (69.52%) CREC member/respondents had established their residence in "site-built" housing, while 64 (30.48%) of the 210 respondents resided in "modular/manufactured" housing.

TABLE 5

A Distribution Of CREC Member/Respondents By Type Of Housing

Type of Housing	Frequency (n=210)	Percentage (%)
Site-built Home	146	69.52
Modular or Manufactured Home	64	30.48
Total	210	100.00

Distribution of CREC member/respondents by type of proprietorship in Table 6 revealed 194 (94.26%) were sole proprietors classifying themselves as "home owners", while 12 (5.74%) indicated they "rented" their primary residence.

TABLE 6

A Distribution Of CREC Member/Respondents By Type of Proprietorship

Type of Proprietorship	Frequency (n=210)	Percentage (%)
Home Owner	197	94.26
Renter	12	5.74
Total	210	100.00

The distribution of CREC member/respondents by years of membership in Table 7 revealed the largest group of member/respondents in this study included 49 (23.44%)

who were in the "less than five year" category of cooperative membership, while the smallest group, seven (3.35%), involved those who had been co-op members "more than 50 years." By far, the largest concentration of CREC cooperative membership included 170 (81.34%) study respondents who ranged from "less than five years" to 30 years of co-op membership. In addition, the two largest groups of co-op members involved 96 members or over one-fourth of the respondents in this study.

TABLE 7

A Distribution Of CREC Member/Respondents By Years Of Membership

Years of Membership	Frequency (n=210)	Percentage (%)
Less than 5	49	23.44
5 to 10	35	16.75
11 to 20	47	22.49
21 to 30	39	18.66
31 to 40	16	7.66
41 to 50	16	7.66
51 years or more	7	3.35
Total	210	100.00

Table 8 shows the frequency of responses indicating how interested the member/respondents were in potential services. "Rural Trash Service" received the highest number of "interested" responses, which included 77 (37%) of the 210 possible.

"Credit Card" and "Paging Service" were worth noting with 156 (74%) and 157 (75%) "not interested" responses respectively. " Computer Sales" also had a high return of "not interested" responses, 138 (66%). "Credit Cards", "Paging Service", and "Computer Sales" each also had an extremely low response in the "very interested" category, that being 13 (6%) for "Paging Service", 11 (5%) for "Computer Sales", and only nine (4%) for "Credit Card."

TABLE 8

A Distribution Of CREC Member/Respondents Perceived Level Of Interest By Area Of Potential Service

Potential Service	Very Int.		Interested		Somewhat Int.		Not Interested	
	n	%	n	%	n	%	n	%
Rural Trash Service	77	36.66	42	20.00	29	13.81	62	29.52
ISP	29	13.80	32	15.24	41	19.52	108	51.43
Surge Protection	43	20.48	45	21.43	55	26.19	67	31.90
Long Dis. Service	37	17.62	36	17.14	45	21.43	92	43.81
Paging Service	13	6.19	11	5.24	29	13.81	157	74.76
Retail App. Sales	34	16.19	46	21.90	32	15.24	98	46.67
Retail Equip. Sales	23	10.95	47	22.38	41	19.52	99	47.14
Propane Sales	30	14.29	41	19.52	29	13.81	110	52.38
Credit Card	9	4.29	15	7.14	30	14.29	156	74.29
Cellular Phones	16	7.62	29	13.81	42	20.00	123	58.57
Lic. Elect. Service	36	17.14	54	25.71	36	17.14	84	40.00
Smoke Detectors	27	12.86	47	22.38	43	20.48	93	44.29
CO2 Detectors	26	12.38	50	23.81	46	21.90	88	41.90
Generators	38	18.10	45	21	40	19.05	87	41.43
Computer Sales	11	5.24	28	13.33	33	15.71	138	65.71
App. Warranties	20	9.52	31	14.76	29	13.81	130	6-1.902

Perceived Interest In Potential Services

The data shown in Table 9 indicated "Rural Trash Service" with a mean score of 1.68 was rated the highest of the 16 potential services surveyed. Member/respondents rated "Rural Trash Service" as the only potential service in which they were "interested." Calculated mean scores revealed member/respondents were only "somewhat interested" in 13 of the remaining 15 areas surveyed, while two areas of potential services were in the "not interested" category. Specifically, the "top five" of potential Central Rural Electric Cooperative services by mean score included "Rural Trash Service"- 1.68, the only area rated in the interested category; "Lightning and Surge Protection"- 1.33 in the "somewhat interested" category; "Licensed Electrician Service"- 1.24, "somewhat interested" category; "Back-up Generator Sales"- 1.12, "somewhat interested"; and "Carbon Monoxide Detector Sales"- 1.12, "somewhat interested". It was apparent from the data in Table 9 there was less variation in the member participant responses for "Carbon Monoxide Detector Sales" among the top five areas surveyed with a standard deviation of 1.08. "Rural Trash Service" had the highest standard deviation of any of the top five areas with a standard deviation score of 1.23. "Long Distance Phone Service" had the highest standard deviation of any of the 16 areas surveyed with a standard deviation score of 1.44 while "Credit Card" had the lowest standard deviation among all areas with 0.79.

TABLE 9

A Summary Of CREC Member/Respondents' Perceived Level Of Interest In Potential Services

Potential Service	Mean Score	Standard Deviation	Category of Interest
Rural Trash Service	1.68	1.23	Interested
Lightning & Surge Protection	1.33	1.12	Somewhat Interested
Licensed Elect. Service	1.24	1.16	Somewhat Interested
Back-up Generator Sales	1.18	1.15	Somewhat Interested
CO2 Detector Sales	1.12	1.08	Somewhat Interested
Long Dist. Phone Service	1.11	1.44	Somewhat Interested
Retail Appliance Sales	1.08	1.14	Somewhat Interested
Smoke Detector Sales	1.06	1.08	Somewhat Interested
Retail Equipment Sales	1.00	1.06	Somewhat Interested
Propane Sales	0.96	1.13	Somewhat Interested
Internet Service Provider	0.94	1.11	Somewhat Interested
Cellular Phone Sales or Lease	0.75	1.00	Somewhat Interested
Home App. Warranties	0.72	1.04	Somewhat Interested
Computer Sales	0.61	0.93	Somewhat Interested
Paging Service	0.45	0.87	Not Interested
Credit Card	0.41	0.79	Not Interested

In comparing home owners to renters, Table 10 showed there was an observable difference in mean scores with regard to "Paging Service" with renters having a mean score of 1.10 versus home owners with a mean score of .40. The calculated t-value concerning the two mean scores was .05. However, no significant difference was determined at the .05 level of probability. Renters responses revealed a mean score of 1.80 compared to home owners with a 1.10 mean score concerning "Long Distance

Phone Service," while a mean score of 1.00 for renters and .56 for home owners was observed for "Computer Sales." Mean scores of 1.30 for renters compared to .69 for home owners was observed regarding "Home Appliance Warranty Programs."

TABLE 10

A Comparison Of Home Owners And Renters' Levels Of Perceived Interest By Area Of Potential Service

Potential Service	Type of Proprietorship	Mean Score	T-Value
Rural Trash Service	Home Owners	1.63	0.52
	Renters	1.90	
Internet Service Provider	Home Owners	.92	0.97
	Renters	.90	
Lightning/Surge Protection	Home Owners	1.30	0.99
	Renters	1.30	
Long Distance	Home Owners	1.10	0.09
	Renters	1.80	
Paging Service	Home Owners	.40	0.05
	Renters	1.10	
Retail App. Sales	Home Owners	1.06	0.27
	Renters	1.50	
Retail Equip. Sales	Home Owners	.95	0.11
	Renters	1.50	
Propane Sales	Home Owners	.94	0.74
	Renters	1.10	
Credit Card	Home Owners	.41	0.31
	Renters	.80	

TABLE 10 (Continued)

Potential Service	Type of Proprietorship	Mean Score	T-Value
Cellular Phones	Home Owners	.68	0.10
	Renters	1.30	
Lic. Elect. Service	Home Owners	1.19	0.56
	Renters	1.40	
Smoke Detector Sales	Home Owners	1.01	0.33
	Renters	1.40	
CO2 Detector Sales	Home Owners	1.06	0.05
	Renters	1.30	
Back-up Generators	Home Owners	.40	0.05
	Renters	1.10	
Computer Sales	Home Owners	.56	0.26
	Renters	1.00	
App. Warranties	Home Owners	.69	0.18
	Renters	1.30	

A comparison of respondents by years of CREC membership as shown in Table 11 revealed those with 20 years or less membership had mean scores noticeably higher regarding their interest in "Internet Service Provider" versus a mean score of .51 for those with 21 years or more of cooperative membership. Similar results were observed regarding "Retail Equipment Sales" with a mean score of 1.15 versus for those with 21 years or more CREC membership, while those with 20 years or less membership had a mean score of .67. "Credit Cards" also brought out noticeable differences among those

with 20 or less years of membership compared to CREC members with 21 years or more membership with mean scores of .61 and .12 respectively.

TABLE 11

A Comparison Of CREC Members' Levels Of Perceived Interest Based On Years Of Cooperative Membership By Area Of Potential Service

Potential Service	Type of Proprietorship	Mean Score	T-Value
Rural Trash Service	20years or less	1.85	0
	21 years or more	1.28	
Internet Service Provider	20years or less	1.15	0
	21 years or more	.51	
Lightning/Surge Protection	20years or less	1.36	0.33
	21 years or more	1.19	
Long Distance	20years or less	1.13	0.91
	21 years or more	1.15	
Paging Service	20years or less	.46	0.46
	21 years or more	.37	
Retail App. Sales	20years or less	1.14	0.27
	21 years or more	.96	
Retail Equip. Sales	20years or less	1.15	0
	21 years or more	.67	
Propane Sales	20years or less	1.07	0.04
	21 years or more	.74	
Credit Card	20years or less	.61	0
	21 years or more	.12	

TABLE 11 (Continued)

Potential Service	Type of Proprietorship	Mean Score	T-Value
Cellular Phones	20years or less	.79	0.11
	21 years or more	.56	
Lic. Elect. Service	20years or less	1.26	0.35
	21 years or more	1.10	
Smoke Detector Sales	20years or less	1.11	0.15
	21 years or more	.88	
CO2 Detector Sales	20years or less	1.18	0.06
	21 years or more	.88	
Back-up Generators	20years or less	1.24	0.12
	21 years or more	.99	
Computer Sales	20years or less	.70	0.01
	21 years or more	.37	
App. Warranties	20years or less	.84	0.02
	21 years or more	.50	

Member/Respondents' Priorities For Potential Services

The data summarized in Table 12 revealed CREC member/respondents' priorities concerning potential services by mean score and overall rating. "Rural Trash Service" had the lowest mean score- 2.96 and an overall rating first, while "Lightning and Surge Protection" rated second overall with a mean score of 3.45. The remainder of the top five were as follows: third- "Licensed Electrician Service" with a mean score of 3.68; fourth- "Back-up Generator Sales", 3.8; and fifth- "Carbon Monoxide Detector Sales", 3.81.

"Paging Service" and "Credit Card" had the lowest priorities among the member/respondents surveyed with ratings of 15th and 16th respectively. "Propane Sales", "Retail Appliance Sales", and "Retail Equipment Sales" were in the mid-range group with mean scores of 3.96, 3.98, and 3.98 and ratings of eighth and ninth in respective order.

TABLE 12

A Summary Of CREC Member/Respondents' Rating Of Potential Services

Potential Service	Mean Score	Overall Rating
Rural Trash Service	2.96	1
Lightning & Surge Protection	3.45	2
Licensed Elect. Service	3.68	3
Back-up Generator Sales	3.80	4
CO2 Detector Sales	3.81	5
Long Dist. Phone Service	3.84	6
Retail Appliance Sales	3.90	7
Smoke Detector Sales	3.96	8
Retail Equipment Sales	3.98	9
Propane Sales	3.98	10
Internet Service Provider	4.03	11
Cellular Phone Sales or Lease	4.24	12
Home App. Warranties	4.34	13
Computer Sales	4.37	14
Paging Service	4.59	15
Credit Card	4.60	16

Member/Respondent Ratings of Current Services

A summary of the data shown in Table 13 indicated Central Rural Electric Cooperative (CREC) member/respondents ratings and priorities for current services being provided. It was apparent with the lowest mean scores of 2.98 and 2.99 respectively that "Average Monthly Billing" and "Security Lighting" were rated first and second overall. "Cash Rebates", "Water Heater Sales", and "Be Safety Smart" rounded out the remainder of the top five by study participants. "Rural TV Programming" and "ERC Low Interest Loans" were in the middle of the possible responses with mean scores of 3.74 and 3.75 in respective order and overall ratings of eighth and ninth. "Youth Tour" had a mean score of 3.81 and overall priority rating among respondents of 13th, while "Automatic Funds Transfer" finished a distant last with a mean score of 4.00 among current services provided by CREC.

TABLE 13

A Summary Of CREC Member/Respondents' Rating Of Current Services

Current Service	Mean Score	Overall Rating
Average Monthly Billing	2.98	1
Security Lighting	2.99	2
Cash Rebates	3.04	3
Water Heater Sales	3.39	4
Be Safety Smart	3.57	5
Home Energy Audits	3.57	5
ADAPT Load Management	3.62	6

TABLE 13 (Continued)

Current Service	Mean Score	Overall Rating
Rural TV Programming	3.74	7
ERC Low Interest Loans	3.75	8
Energy Camp	3.77	9
Youth Leadership Experience	3.78	10
Home Security Systems	3.78	10
Youth Tour	3.81	11
Automatic Funds Transfer	4.00	12

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter was to present a summary of the study problem, rationale, design, and conduct of the study and major findings. In addition, the conclusions and recommendations were presented based on the analysis and summary of the collected data as well as the observations and impressions which resulted from the design and conduct of this study.

Problem Statement

Oklahoma energy consumers have typically received electrical power from the supplier serving the area in which they lived. Hitherto, Oklahoma residents have not been offered a choice in choosing their electricity supplier. However, current federal regulations mandate that consumers in all states be allowed the opportunity to choose their electrical power supplier.

Seeing this as an opportunity, Oklahoma utility companies have moved to implement standards and regulations for customer choice and governance among

electrical power companies operating within the state. Furthermore, electrical power suppliers in Oklahoma face the prospect of a market in a much more competitive environment than at any time in their recent history. By nature, rural electric cooperatives are organized business firms who supply electrical power. However, most electrical cooperatives strive to provide their member/owners with more than just electricity. A competitive market is imperative for rural electric cooperatives to maintain oversight of members' service preferences. An informed management team regarding member preferences will allow rural electric cooperatives to be better able to compete when deregulation of electrical utilities becomes reality in Oklahoma.

Rationale

As Oklahoma's electric utility power structure changes, it is vital that Central Rural Electric Cooperative (CREC) be apprised of the programs and services which best serve the needs and preferences of their member/consumers. Therefore, it is essential that a study be conducted to appraise current and future service preferences as perceived by the electric cooperative members.

Purpose of the Study

The purpose of this study was to determine current and future service preferences provided by CREC as perceived by cooperative members in a seven-county service area of north central Oklahoma.

Specific Objectives

1. To determine selected demographic characteristics of cooperative members in CREC's service territory in a seven-county area of north central Oklahoma.
2. To determine the perceived interest regarding potential service preferences offered by CREC.
3. To determine the importance of potential service preferences provided by CREC as perceived by cooperative members.
4. To determine the importance of current services provided by CREC as perceived by cooperative members.

Design and Conduct of the Study

A four-part survey instrument was developed to ascertain 1) demographic characteristics of the member/respondents, 2) the member/respondents perceived interest in potential services provided by CREC, 3) member/respondents perceived rating of potential CREC services, and 4) member/respondents perceived ratings of current CREC services.

Part one of the survey instrument consisted of six items utilizing nominal and interval scales to address the demographic characteristics of CREC cooperative members. Part two included 16 items which involved the use of a "Likert-type" scale included "Very Interested, "Interested", "Somewhat Interested", and "Not Interested." Part three of the instrument involved rating the top five potential services proposed by CREC from one to five from a list of 16 selected services. Part four of the survey dealt with rating the top five services from one to five among the 14 currently provided by CREC. Ordinal scales were used to acquire the respondents' opinion in both parts three and four.

The four-part, 62-item survey instrument was mailed to a sample of 450 consumer/members out of a total population of 12,129 CREC residential cooperative members. However, only 212 CREC members participated in the study for a 47.1 percent response rate. Rather than the sample being determined on the basis of a 95 percent confidence interval; the sample in this study was established on the premise of an 85 percent confidence interval.

The statistical treatment of the data in this study involved the use of descriptive statistics and the t-test. The t-test was used to determine statistical significance among

"home-owners" and "renters" and study respondents with "20 years or less" versus "21 years or more" of cooperative membership.

A follow-up of non-respondents was not conducted on the direction of the administration at Central Rural Electric Cooperative (CREC).

Major Findings of the Study

Demographics of Respondents

Over 78 percent of the respondents were 41 years of age and over. More than 36 percent of the study respondents were 61 years of age or greater, while more than 15 percent were 71 years of age or older.

Almost 55 percent of the respondents in this study were male, while slightly over 45 percent were female. In addition, almost 71 percent of the respondents considered themselves to be "the head of the household", while slightly more than 29 percent identified themselves as spouses.

Over 69 percent of the study respondents indicated establishing residence in "site-built" housing, while somewhat less than 31 percent stated their established residence was in "modular or manufactured" housing. Furthermore, more than 94 percent of the member/respondents in this study classified themselves as "home owners" or sole proprietors, while slightly less than six percent indicated they were "renters."

The distribution of CREC member/respondents by years of continuous membership revealed that over 23 percent of the current membership had less than five

years experience as a cooperative member, while more than 62 percent of the membership had been a cooperative member for 20 years or less. However, over 37 percent had been members of Central Rural Electric Cooperative (CREC) 21 years or longer. In addition, slightly over 11 percent had been members 41 years or more.

Perceived Interest in Potential Service

It was rather surprising that the member/respondents indicated they were "interested" in only one of the 16 possible potential services surveyed. "Rural Trash Service" was rated highest with a mean score of 1.68 among 16 of the potential services which member/respondents had the opportunity to consider. In addition to the members' interests in "Rural Trash Service" as a potential service, "Lightning and Surge Protection", "Licensed Electrician Service", "Back-up Generator Sales", and "Carbon Monoxide Detectors" were among the top five potential services with mean scores of 1.33, 1.24, 1.18, and 1.12, respectively. However, the membership indicated they were only "somewhat interested" in these particular services. CREC member/respondents as a whole showed an "interest" in only "Rural Trash service", while revealing "somewhat of an interest" in 13 of the remaining 15 potential services. Cooperative members indicated they were "not interested" in "Paging Service" and "Credit Cards." In comparing home owners to renters, there was an observable difference in their interests with regard to "Paging Service," however no significant difference was determined at the .05 level of probability.

Member/Respondents' Ratings of Potential Services

"Rural Trash Service" was rated first overall with a mean score of 2.96. "Lightning and Surge Protection", "Licensed Electrician Service", "Back-up Generator Sales", and "Carbon Monoxide Detectors" received overall rating of second through fifth, respectively. It was interesting to observe the consistency of the respondents in how they rated potential services as compared to their levels of perceived interest of the respondents in "Rural Trash Service" and their overall rating indicating it as their highest priority. In addition, study respondents stated rather emphatically they were "not interested" in "Paging Service" and "Credit Cards"; likewise priority ratings of potential services indicated they rated 15th and 16th, respectively.

Member/Respondents' Ratings of Current Services

"Average Monthly Billing" and "Security Lighting" were the current services member/respondents seem to perceive as their highest rated priorities with overall ratings of first and second and mean scores of 2.98 and 2.99, respectively. "Cash Rebates", "Water Heater Sales", and "Be Safety Smart" rounded out the top five member ratings. Furthermore, the member/respondents revealed that "Youth Tour" and "Automatic Funds Transfer" were low priorities among current services provided with overall ratings in the indicated order of 13th and 14th.

Conclusions

Examination and interpretations of the major finding s provided the author opportunity to derive the following conclusions:

1. In serving a largely rural area where the principle occupation of many is associated with being agriculture and in a state where the average age of farmers is 55+ years (Census of Agriculture 1997), it stands to reason the population from which you gather would reflect the population of the largest body. Therefore, it was apparent from the study that age of the member/respondents served by Central Rural Electric Cooperative (CREC) was similar to the population of the rural area it serves.
2. It was evident from the findings that the member/respondents in this study had established residence and habitation in "site-built housing." Furthermore, it was also apparent that respondents living in more permanent housing seem to be more interested in potential services which increased the value and safety of their homes and the occupants.
3. It was readily apparent from the findings that CREC member/respondents in this study classified themselves as "home owners." Furthermore, it was evident from the study that "home owners/sole proprietors" seem to perceive potential services in terms of both tangible and intangible value as well as those affording both short-term and lŏng-term advantages.
4. It was obvious from the findings that the distribution of members developed into two large groups; those who have been cooperative members 20 years and less and the older group with 21 years or more as CREC members. However, those who have

been co-op members 20 years or less do make up the largest proportion of the respondents in this study. In comparing the two groups, it was apparent that their interest in the 16 potential services was of an observable difference, particularly "Credit Cards", "Rural Trash Service". "Internet Service Provider", and "Retail Equipment Sales."

5. Observation of the findings revealed that "Rural Trash Service" seemed to be the only potential service in which Central Rural Electric Cooperative (CREC) members in north central Oklahoma had an interest. It was rather surprising they didn't show more of an interest in "Lightning and Surge Protection" and "Carbon Monoxide Detector Sales." However, there was no question to the members' definite lack of interest in "Paging Service" and "Credit Card." Furthermore, it was concluded that some members may not be aware of the value of potential services.
6. It was apparent from the findings that CREC members consistently rated services in a similar manner as their perceived levels of interest with "Rural Trash Service" being a high priority followed by "Lightning and Surge Protection", "Licensed Electrician Service", "Back-up Generator Sales", and "Carbon Monoxide Detector Sales."
7. It was rather obvious that "Average Monthly Billing" and "Security Lighting" were definite priorities among CREC members. "Cash Rebates" were also an important priority among the current CREC services provided. Both "Youth Tour" and "Automatic Funds Transfer" were rather low priorities among CREC member/respondents. It was further observed that CREC members seemed to be fairly well satisfied with current services.

Recommendations

The subsequent recommendations were based on the findings, inferences, and insight of conducting this study.

1. Observation of the findings indicate a fairly high level of satisfaction with current services overall. However, the bottom three or four in overall rating should probably be reviewed by CREC as to their value and the cooperative's commitment in providing the service and sponsorship.
2. CREC's annual meeting provides an opportune time to educate members as to the value of potential services; therefore it was recommended that CREC make educational programming highlighting potential services a definite priority.
3. Furthermore, it becomes vitally important CREC make every effort to maintain the cooperative's competitive edge among other electric power suppliers. In addition, it was recommended the Board of Directors closely review the findings in regard to satisfaction of members with both current services and the potential for future services to maintain and expand market share.

Recommendations for Further Research

It was the author's opinion that further study concerning the perceptions and attitudes of CREC members be addressed.

1. Additional study should be conducted to identify member interest and attitudes toward both current and potential services on a by county basis to determine the differences in customer satisfaction and services desired among rural and urban members.
2. It would be beneficial to conduct a similar study among the other rural electric cooperatives in Oklahoma. An understanding of how attitudes and perception vary would aid in the development of a marketing effort to better promote the advantages of rural electric cooperatives.

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APPENDIXES

APPENDIX A

COVER LETTER

Central Rural Electric Cooperative

3304 South Boomer Road • P.O. Box 1809 • Stillwater, Oklahoma 74076 • 405-372-2884 • www.centralrec.org

Dear CREC Member:

Central Rural Electric Cooperative strives to provide more than just electricity so that the programs and services we provide will truly benefit you, the consumer. CREC is in the process of surveying a select number of residential members to determine the perceived value of current and desired services to our members in a seven-county area of north central Oklahoma. You have been selected to participate in this survey. As indicated, this survey addresses current and possible future services which CREC may decide to eliminate or choose to provide.

Your participation is voluntary. All responses are confidential and will be reported only in the aggregate, and therefore, no individual responses will be able to be identified in the study report. However, this questionnaire is identified by code for research and follow-up purposes only.

As a member of CREC, your input is vital to the quality of services and benefits which CREC can provide, therefore we are asking you to take a few minutes and respond to this survey. Again, your opinions and ideas are important if we are to provide the best possible service.

For your convenience, a return envelope addressed to CREC is provided for you to return your survey. If you have questions, you may contact me at CREC by calling (405) 372-2884 or (800) 375-2884.

We appreciate your opinion!

Sincerely,

Kendra Stanek
CREC Communications Specialist

APPENDIX B

SURVEY INSTRUMENT

For each question, please check the response that best answers the question.

1. Age:

❑20 years or younger ❑ 21-30 ❑ 31-40 ❑ 41-50 ❑ 51-60 ❑ 61-70 ❑ 71-80 ❑ over 80

2. Gender:

❑ Male ❑ Female

3. Head of the household or the spouse:

❑ Head of Household ❑ Spouse

4. Type of housing:

❑ Site-built Home ❑ Modular or Manufactured Home

5. Type of proprietorship:

❑ Home Owner ❑ Rent

6. Number of years you have been a CREC member:

❑ Less than 5 ❑ 5-10 ❑ 11-20 ❑ 21-30 ❑ 31-40 ❑ 41-50 ❑ More than 50

If CREC provided the following services at a competitive price, how interested would you be? (Please circle only one response.)

	very interested	interested	somewhat interested	not interested
7. Rural trash service	3	2	1	0
8. Internet service provider	3	2	1	0
9. Lightning & surge protection sales or lease	3	2	1	0
10. Long distance phone service	3	2	1	0
11. Paging service	3	2	1	0
12. Retail appliance sales (stoves, refrigerators)	3	2	1	0
13. Retail equipment sales (chainsaws, weedeaters)	3	2	1	0
14. Propane sales	3	2	1	0
15. Credit card	3	2	1	0
16. Cellular phone sales or lease	3	2	1	0
17. Licensed electrician service	3	2	1	0
18. Smoke detector sales	3	2	1	0
19. Carbon monoxide detector sales	3	2	1	0
20. Back-up generator sales	3	2	1	0
21. Computer sales	3	2	1	0
22. Home appliance warranty programs	3	2	1	0

Please answer the remaining two questions located on the opposite side.

A Touchstone Energy® Partner

CENTRAL RURAL ELECTRIC COOPERATIVE

We want to know your opinion.

23. Please **RANK** (1, 2, 3, 4, 5) the following services that CREC may eventually provide in order of importance to you with 1 being your highest priority and 5 being your lowest priority.

___ Rural trash service
___ Internet service provider
___ Lightning & surge protection salses or lease
___ Long distance service
___ Paging service
___ Retail appliance sales
___ Licensed electrician service
___ Smoke detector sales
___ Carbon monoxide detector sales
___ Retail equipment sales
___ Propane sales
___ Credit card
___ Cellular phone service
___ Back-up generator sales
___ Computer sales
___ Home appliance warranty programs
___ Other Please specify_____

24. Please **RANK** (1, 2, 3, 4, 5) the following services that CREC currently provides in order of importance to you with 1 being your highest priority and 5 being your lowest priority.

___ Average monthly billing
___ Cash rebates on electric water heaters and heat pumps
___ Be Safety Smart for 2nd graders
___ Energy Camp for 8th graders
___ Youth Leadership Experience for high school sophomores
___ Youth Tour for high school juniors
___ ADAPT load management
___ Automatic Funds Transfer (payments are bank drafted each month)
___ Water heater sales
___ Home energy audits
___ ERC low interest loans
___ Security lighting
___ Home security systems
___ Rural TV programming
___ Other Please specify_____

Thank You for your participation!

Please return in the postage paid envelope.

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

Date: April 23, 1999 IRB #: AG-99-025

Proposal Title: "AN ASSESSMENT OF CREC SERVICES AS PERCEIVED BY MEMBERS IN A SEVEN-COUNTY AREA IN NORTH CENTRAL OKLAHOMA"

Principal Investigator(s): James White
Kendra Stanek

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Signature:

Carol Olson, Director of University Research Compliance

April 23, 1999
Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

APPENDIX D

RESPONDENTS' COMMENTS

- You need to know costs to evaluate this.
- I see no need to compete when these services are already established.
- It has been our experience that specialization, not diversification offers the best quality service.
- I am retired form SW Bell and many of these services are already provided for me at no cost or a reduced cost.
- I think the educational programs are of great value, but I have no children this age, so they aren't of benefit to me.
- We would like to make credit card payments.
- I would like more information on Rural TV Programming.
- Every new service you provide will hurt another of your members who makes his living from that service.
- Who pays for these new services?
- We always get our repairs done last. You should switch and work from the south up.
- I didn't know CREC sold water heaters.
- Your lineman repair service is excellent. Please keep it so.
- What is Rural TV Programming?
  I am not familiar with all of CREC's services.

VITA

Kendra Snider Stanek

Candidate for the Degree of

Master of Science

Thesis: AN ASSESSMENT OF CENTRAL RURAL ELECTRIC COOPERATIVE SERVICES AS PERCEIVED BY MEMBERS IN A SEVEN-COUNTY SERVICE AREA IN NORTH CENTRAL OKLAHOMA

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Lawton, Oklahoma, January 19, 1972, the daughter of Jerry and Vickie Snider. Married Matt Stanek, August 5, 1995 near Lawton. Daughter Gracen Keely Stanek born on November 1, 1999 in Stillwater, Oklahoma.

Education: Graduated from Central High School, Marlow, Oklahoma, in May, 1990; received the Bachelor of Science degree in Agricultural Communications from Oklahoma State University May 1995; completed the requirements for the Master of Science degree in Agricultural Education at Oklahoma State University, Stillwater, Oklahoma December 2000.

Professional Experience: Communications Specialist, Central Rural Electric Cooperative in Stillwater, Oklahoma, November 1994 to Present.