

Case Study: Strategic Cost Management and Electric Cooperatives

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## Abstract

The problem to be addressed in this study is to determine how SCM tools or techniques are utilized by the executive staff at electric cooperatives in Florida to formulate financial strategies to improve the cooperative's overall competitive advantage. The purpose of this qualitative case study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management. The study examined a sample of 15 participants represented 13 of the 14 electric cooperatives and completed a Qualtrics semi-structured survey to better understanding of how SCM tools or techniques are utilized by the executive staff at electric cooperatives in Florida. The results of the study indicated that there is an effort to utilize various accounting tools and to identify PEUs that may impact the organization; however, it is clear that a majority of participants had not heard of SCM. The two most widely used tools according to the survey were Benchmarking and activity-based costing/management. The current study revealed four implications to include more specifics within financial documents, the need to use BI tools, the need to make use of strategic decision-making tools and techniques, and the need to provide a better understanding of how strategic decision-making frameworks may address and reduce the impact of PEUs. The findings of this qualitative research assist in expanding existing research regarding the use of SCM in the not-for-profit industry. The current findings encourage recommendations for electric cooperatives to utilize Business Intelligence tools, improve financial policies, and ensuring that financial practices and policies align strategically with overall financial goals. Ultimately, the survey data and financial policies provided information that these electric cooperatives have utilize SCM tools and that similar PEUs were a driving force regarding their financial decision-making process

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## Chapter 1: Introduction

Floridian electric utilities are in the midst of the state residents and legislature deciding whether or not to deregulate the industry, which could change the way these organizations operate and make financial decisions. The topic of deregulation and retail customer choice is a concern for electric cooperatives and over the years they have launched aggressive advertising campaigns against it (Collier, 1997; Greer, 2003). In addition to deregulation, electric utilities across the country are also facing increased competition from disruptive technologies like rooftop solar and other renewable energy programs (Graffy & Kihm, 2014). The basis for the financial viability of all rural electric cooperatives has been that they operate over well-defined service territories and are often considered natural monopolies (Collier, 1997; Graffy & Kihm, 2014). Deregulation and new disruptive technologies are direct threats to those service territories and will create an increase in competition that electric cooperatives are not accustomed. The primary drivers for deregulation are often conveyed as both lower costs and lower prices of electricity for customers (Gultom, 2019). Increased competition and controlling costs due to deregulation and other disruptive technologies will be important financial factors for electric cooperatives, which have seen residential electricity sales decrease by 2%, irrigation sales decreased 6.3%, and overall electricity demand decrease by about one-half of one percent in 2017 (National Rural Electric Cooperative Association [NRECA], 2017).

Drivers such as deregulation, economic instabilities, increased competition, and increasing customer expectations have led businesses like electric cooperatives to focus on financial decision making that aim to lower overall costs (Jafari, 2014; Michael, 2013; Collier, 1997). The aforementioned information underscores the importance for organization, including electric cooperatives, to use strategic processes to make better financial decisions and this is

exactly where strategic cost management would be a benefit. The terms strategic cost management (SCM) or strategic management accounting (SMA), as it is referred to in other portions of the world, are used interchangeably with current research (Ramljak & Rogošić, 2012; Dmitrović-Šaponja & Suljović, 2017). Strategic Cost Management is set of tools and techniques that businesses utilize in order to formulate strategies that assist in solidifying their competitive advantages (Souza & Rasia, 2012). Michael (2013), suggests that SCM differs from traditional management accounting by addressing cost reductions instead of adjusting for cost containment. The emergence of SCM results from a blending of three underlying themes that have been identified within strategic management literature, the three themes are: value chain analysis, strategic positioning analysis, and cost driver analysis (Shank, 1989). Organizations may find that SCM could be utilized to reduce costs while increasing value and revenue if management uses cost information for decision-making (Kumar & Nagpal, 2011).

Recent research on SCM has addressed the financial, manufacturing, and agricultural industries (Michael, 2013; Cooper & Slagmulder, 1998; Souza & Rasia, 2012; Pavlatos, 2018; Nasieku & Githinji, 2016). Electric cooperatives are not-for-profit service-related organizations facing competition, economic uncertainty, increasing political scrutiny, and increasing regulatory compliance (Graffy & Kihm, 2014; Cooper, 2008; Weisman, 2017). Furthermore, electric utilities are facing advancements in smart grid technology and distribution generation that are changing the energy market in a drastic way regarding competition (Headrick, 2015). Electric Cooperatives cover 75 percent of the landmass of the United States of America and typically serve power to rural communities of which the families earn about 27 percent less than those in urban areas (Wilson, Plummer, Fischlein, & Smith, 2008). Along with municipal utilities, these two entities provide 15 percent of the electricity utilized in the United States of America

(Wilson, Plummer, Fischlein, & Smith, 2008). The aforementioned changes in the energy sector are forcing electric utilities to rethink their decision-making processes in a way in which will dynamically change their current one-way retail value chain model (Headrick, 2015).

The intent of this research study is to diminish the deficit in knowledge by determining the use of strategic cost management tools and techniques by electric cooperatives in the state of Florida. Over 40 million members across the country rely on electric cooperatives to provide safe, affordable, and reliable services (NRECA, 2017). Increased reliance on affordable and reliable electricity has led to many technological advancements that have forever changed the way we work and live. Moreover, the landscape in which electric cooperatives operate has changed to the point where they have moved from primarily serving farmsteads to serving essentially every type of consumer imaginable. The notion of how important electric cooperative are to their communities is highlighted by the research of Yadoo & Cruickshank (2010), which suggest that there is an abundance of research that emphasize the importance of rural electrification regarding both human and economic development. The negative impact of rising electric costs due to an electric cooperative's inability to adapt to a more competitive market to the people, businesses, and communities they serve within the US could be considerable. In the end, organizations like electric cooperatives must make an attempt to be competitive in the areas of cost, quality customer services and flexibility in which any cost reduction effort will contribute to an improved strategic position (Kumar & Nagpal, 2011).

### **Statement of the Problem**

The problem to be addressed in this study is to determine how SCM tools or techniques are utilized by the executive staff at electric cooperatives in Florida to formulate financial strategies to improve the cooperative's overall competitive advantage. Well over 40 million

electric cooperative members across the country rely on their electric cooperative to provide safe, affordable, and reliable services (NRECA, 2017). The safety, reliability, and the affordability of residential power could be negatively impacted if effective financial strategies are not formulated by electric cooperatives, which have already seen residential electricity sales decrease by 2%, irrigation sales decreased 6.3%, and overall electricity demand decrease by about one-half of one percent in 2017 (NRECA, 2017). Historical research has shown that other industries have utilize SCM in an effective manner to be more competitive in the areas of cost, quality customer services, and improve the strategic position of their company (Michael, 2013; Cooper & Slagmulder, 1998; Souza & Rasia, 2012; Pavlatos, 2018; Nasieku & Githinji, 2016). Research shows that there is a gap existing in academic and professional literature regarding cost management in relation to financial performance within rural electric cooperatives (Corrigan & Rixon, 2017; Claggett Jr, Hollas, & Stansell, 1995). Furthermore, Corrigan & Rixon (2017) have suggested that research applied specifically to rural electric cooperatives has not sufficiently been considered in the academic literature. Research by Jones (2014) suggested that further research involving qualitative studies should be completed regarding the organizational performance of rural electric cooperatives. Pavlatos (2018), also suggests further research on SCM should be conducted on service industries and look to incorporate other important variables like organizational culture and technology as well as to see whether the heterogeneity of the sample changes the overall results. Lastly, Pavlatos and Kostakis (2018) suggest that further research examine how management characteristics and historical financial performance impact the use of SMA.

## **Purpose of the Study**

The purpose of this qualitative case study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management. The proposed exploratory research design will utilize a web-based survey method to collect data from at least 2 (people) from each of the 15 Florida electric cooperatives selected to participate in this study. The web-based survey will be conducted using Qualtrics, which is a software application for designing, distributing, and analyzing surveys. The small sampling size is within the typical range for case study research using purposive sampling as the participants share similar heterogeneous characteristics such as similar backgrounds and experiences (Farrugia, 2019; van Rijnsoever, 2017). The use of a web-based survey method can be useful as it may reduce access limitations reducing sample issues and provide a platform for a rich exchange of information, especially in populations that have access to the internet and see it as an accepted form of communications (Parsons, 2007). In addition to the Qualtrics' web-based survey, participants will be asked to provide documents regarding financial policy and procedures that the organizations use to guide financial decisions. Various computer applications such as Microsoft Word, Excel, and Computer-Assisted Qualitative Data Analysis (CAQDAS) programs like NVIVO will be utilized to facilitate interviews, data storage, coding, data retrieval, data comparisons, and overall data modeling for the case study. The study may contribute to the current body of knowledge regarding the utilization of SCM techniques being implemented in a non-competitive and monopolistic industry.

## **Conceptual Framework**

The conceptual framework being utilized in this exploratory study was introduced by Kalkhouran, Rasid, Sofian, and Nedaei (2015) to assess the usage of strategic management

accounting in small and medium enterprises. The proposed framework by Kalkhouran et al. (2015), highlighted three factors as having a significant effect on the use of advanced management accounting principles: perceived environmental uncertainty, advanced manufacturing technology, and CEO characteristics. Collier (1997), has suggested that electric cooperatives that do not apply best business practices will not be able to survive in a more competitive environment, which the CEO's characteristics will play a large role in how the organization applies various business practices. Furthermore, electric cooperatives have plenty of perceived environmental uncertainties that stem from financial difficulties, increasing costs, increasingly competitive environments, and changes in technology (Headrick, 2015; Graffy & Kihm, 2014; Cooper, 2008). SCM provides the tools and techniques to assist organizations to operate more efficiently and better adapt to the environment in order to improve their financial position and ensure their survival, which is evaluated through the framework as advanced manufacturing technology (Souza & Rasia, 2012; Dmitrović-Šaponja & Suljović, 2017; Michael, 2013; Kumar & Nagpal, 2011). Each of the three aforementioned factors within this framework will assist in assessing and answering the overarching question being investigated by this exploratory case study, which is "How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?".

The conceptual framework proposed by Kalkhouran et al (2015), utilizes both contingency theory and upper echelon theory. Each of the aforementioned theories assist in explaining the relationships between leadership characteristics and the adoption of strategic management accounting practices. According to Hoffman-Miller (2019), Fred Fiedler was the first to research and describe contingency theory back in the late 1960s. The work by Fiedler on contingency theory not only emphasized the importance regarding a leader's personality, but also

rates leaders based on how they respond to various variables (Hoffman-Miller, 2019).

According to Chaganti (2013), upper echelon theory was a product of researchers Hambrick and Mason in 1984. Upper echelon theory has been a very well tested theory with consistent results (Chaganti, 2013). Upper echelon theory has been used in research on both small and large organizations and in a wide range of situations, which speak to the overall flexibility and application of this theory (Chaganti, 2013).

### **Nature of the Study**

The methodology and selected research design will incorporate a qualitative case study research method will explore the use of SCM within electric cooperatives within the state of Florida. Using the case study design, the researcher can be flexible and can use a sample size is both small and purposeful (Butina, Campbell, & Miller, 2015; Yin, 2016). Also, case studies assist researchers describe, understand, and explain their research problems (Baškarada, 2014). Additionally, case studies are flexible enough to allow for both confirmatory and explanatory findings (Baškarada, 2014).

The proposed qualitative case study will utilize a web-based survey to examine the utilization or lack of utilization of SCM by electric cooperatives within the state of Florida. The web-based survey is useful, because it allows the participants to respond when they have time to address the research questions, is very cost effective, the data can be exported directly into analysis software, and have fewer data entry errors (Parsons, 2007). The web-based survey will consist of multiple open-ended questions consistent with unstructured interviews designed to be flexible and generate rich data (Baškarada, 2014). The study will focus on identifying and organizing the interview data into key themes in order to present a coherent representation of the use of SCM within the organizations being surveyed.

The study will use purposive sampling, which is one of the most common sampling techniques (Marshall, 1996; Farrugia, 2019). Specifically, a key informant sample will be used since the target audience for the study will be financial officers within electric cooperatives (Marshall, 1996). This case study sample design is useful due to the specific industry and small region of the United States where the research participants are located (Trotter II, 2012). Both Marshall (1996) and Sandelowski (1996) suggest that the size of sampling within qualitative research may vary if the research questions are adequately answered. Qualitative samples also tend to be relatively small, which will align very well with the specified group identified for this study (Trotter II, 2012; Yin, 2016).

Data analysis is an important aspect of qualitative research and one that requires transparency and clear communications in order to be justifiable and overcome bias (Yin, 2016; Auerbach & Silverstein, 2003). Data analysis within this study will utilize Computer Assisted Qualitative Data Analysis (CAQDAS) programs like NVIVO, data triangulation methods, web-based survey, documentation, and maintain a clear chain of evidence in order to mitigate threats including, but not limited to: reactivity, validity, trustworthiness, and bias within the case study (Yin, 2016; Auerbach & Silverstein, 2003; Odoh & Chinedum, 2014; Onwuegbuzie & Leech, 2007; Sinkovics, Penz, & Ghauri, 2008). Utilizing triangulation methods to analyze the both web-based survey and collected documentation assist in identifying corroborating or conflicting ideas or data (Gibson & Brown, 2009; Onwuegbuzie & Leech, 2007; Yin, 2016). Methodical Triangulation will be used since between-method triangulation can be used to collect data through reactive procedures such as interviews and non-reactive procedures such as policies or procedures (Flick, 2004). Furthermore, methodical triangulation in general will assist in increasing research validity (Baškarada, 2014).



## Research Questions

The overarching questions to be investigated by this exploratory case study are:

**RQ 1.** How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?

**RQ2.** How are SCM tools or techniques being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage?

## Significance of the Study

The results of this study may assist managers within electric cooperatives and researchers to better understand the practical application of strategic decision-making tools like SCM in the formulation of financial strategies aimed at improving overall competitive advantage.

Results would also highlight any differences between the strategic decision-making processes between organizations within the same industry. This study may also provide background information for future research regarding strategic management and the overall financial decision-making approach within an industry that has benefited from the lack of competition due to being a natural monopoly. Afterall, Electric cooperatives are monopolistic service providers that are noticing an increase in competition due to new consumer technologies and policy changes, which are increasing their overall costs and require new sets of strategies in order for them to continue providing an affordable product (Headrick, 2015; Graffy & Kihm, 2014; Cooper, 2008; Collier, 1997; Satchwell & Cappers, 2018).

## Definitions of Key Terms

**Electric cooperatives.** Member owned and democratically controlled organization working toward common economic, social, and cultural goals (ICA, 2019),

**National Rural Electric Cooperative Association (NRECA).** The National Rural Electric Cooperative Association (NRECA) is the national trade association that provides services such as regulatory representation, medical insurance, financial services, training programs, business consulting, and a monthly magazine to its member cooperatives (NRECA, 2017). NRECA provides the aforementioned services to over 830 electric cooperatives operating in 47 states within the U.S. (NRECA, 2017).

**Strategic Cost Management (SCM).** According to Kumar and Nagpal (2011), SCM incorporates both cost management and revenue management, which provides methods to improve productivity, maximize profit, and improve customer satisfaction.

### Summary

The research design and selected methodology will incorporate a qualitative case study research method. The proposed qualitative exploratory case study will utilize a web-based survey to examine the utilization or lack of utilization of SCM by electric cooperatives within the state of Florida. Previous research suggests that there are multiple financial concerns that loom over the entire electric utility industry and it is important to understand what, if any, strategic decision-making tools are being used to help navigate these competitive changes. Relevant research regarding SCM is becoming increasingly important primarily due to the changing financial, environmental, and regulatory environments that the decision makers within the utility need to address. Purposive sampling will be used as the target audience for the study will be the financial officers within electric cooperatives. Specifically, the sample design will consist of financial officers from a specific industry and small region of the United States. Data analysis will be carried out utilizing Computer Assisted Qualitative Data Analysis (CAQDAS) programs, data triangulation methods, web-based survey, documentation, and maintain a clear chain of

evidence in order in order to overcome any threats or bias's related to qualitative research.

Lastly, triangulation methods will be used to analyze the both web-based survey and collected documentation to assist in identifying corroborating or conflicting ideas or data.

## Chapter 2: Literature Review

The goal of this literature review is to summarize the historical past of electric cooperatives and their impact on the communities for which they serve, while also providing background as to the importance of strategic decision-making tools like strategic cost management. A review of current scholarly research and peer-reviewed sources regarding strategic cost management and electric cooperative performance, profitability, and financial viability provide the foundation for this proposed qualitative case study. Various aspects of electric cooperatives have been reviewed in order to provide a detailed picture of how electric cooperatives operate, their business environment, and how they are managed. The literature reviewed also provided the framework that will be utilized to assess the usage of Strategic Cost Management, which is a conceptual framework based off research by Kalkhouran, Rasid, Sofian, and Nedaei (2015). Kalkhouran et al (2015) developed their conceptual framework to assess the use of Strategic Management Accounting in Small and Medium Enterprises.

This literature review on the context of assessing the utilization of Strategic Cost Management (SCM) tools and techniques within electric cooperatives throughout Florida focused on research regarding strategic management, management accounting, traditional cost management, SCM tools and techniques, contingency theory and upper echelon theory, electric cooperatives, and threats to the financial success of electric cooperatives. The literature review has been separated into three sections, which will emphasize information regarding electric cooperatives, SCM, and the theories used within the conceptual framework of this study. The first section introduces electric cooperatives and the changes occurring within their industry. The second section focuses on research regarding SCM tools and techniques. The last section of

the literature review focuses on research regarding both contingency theory and upper echelons theory as they relate to the conceptual framework utilized by this study.

Research has shown how beneficial electric cooperatives have been regarding their impact on our nation's growth and economic success (Yadoo & Cruickshank, 2010; NRECA, 2017; Paredes, Loveridge, 2018). Jeter, Thomas, and Wells (2018) suggest the following regarding the current state of rural electric cooperatives:

They came to prominence in the heady days of the New Deal as a way to bring electric power to rural America. The choice to distribute power through Rural Electric Cooperatives was more political than economic, dictated mostly by the political battles that shaped the electrical industry in that era. While many advocates of rural improvement embraced cooperatives as a form uniquely suited not only to bring power to rural Americans but also to train them in habits of democratic participation, RECs fell short of their hopes. From the beginning, RECs were plagued by the problems created by the separation of ownership and control, and as shown, they have carried those problems into the present day. In the twenty-first century, RECs are still marked by powerful management and apathetic owners, which enables a range of dysfunctions in their operations. (p. 448)

SCM and Strategic Management Accounting are the result of a transformation of aspects of strategic management, management accounting, and traditional cost management (Ibrahim, 2006; El-Dyasty, 2007). The role of strategic management regarding business strategy and decision-making was well observed in research by Abosede, Obasan, and Alese (2016). Abosede et al (2016), suggest the following regarding strategic management and its role within an enterprise:

strategic management provides overall direction to the enterprise and involves specifying the organization's objectives, developing long-term policies and plans designed to achieve these objectives, and then allocating resources to implement the plans...More so, it assists firms to make effective decisions and strategies by staying alert to the threats and opportunities in an uncertain and dynamic environment. (p. 316)

While management accounting is a broad field of study, it does have a common set of tools that include performance assessment, budget management and cost management (Zhou, Zhao, and Zhao, 2018). Zhou et al (2018), further suggests that "Enterprises need to transform from financial accounting to management accounting" (p. 309). In summarizing the benefits of management accounting, Zhou et al (2018) suggested the following:

Management accounting is an important part of modern enterprise management science. It plays an important role in effectively strengthening internal management and improving the economic efficiency of enterprises. It plays an important role in improving the financial management capabilities of SMEs and the level of business decision-making, and it can also improve the core competitiveness of SMEs...In summary, the transformation of corporate financial accounting to management accounting is an inevitable trend. The market competition is becoming fiercer and fiercer. (p. 312)

The aforementioned research has shown benefits of both strategic management and management accounting regarding financial performance (Abosedo et al 2016; Zhou et al, 2018). As with the transitions within strategic management and management accounting, a similar transition has occurred between the views on traditional cost management and strategic cost management. Regarding this transition, El-Dyasty (2007) suggests the following:

Traditional cost systems, those concentrate only on measuring and controlling products/ services cost, are not sufficient to deal with new economic and technological developments. Therefore, companies shifted to strategic cost management as a powerful tool to attain competitive advantage and to maximize earnings in short run and in long run as well. (p. 2)

Research by Jones (2014) has identified gaps in research regarding the correlation between leadership style and financial viability. Jones (2014) was researching the financial impact of leadership style within rural electric cooperatives. Leadership style is not the central theme of this study; however, it is one aspect considered under upper echelon theory that may impact how and why leaders make certain strategic decisions. Regarding upper echelon theory, Mason and Hambrick (1984) suggested the following:

According to upper echelons theory, CEOs are typically unable to fully appreciate all the contextual aspects within which their firms operate. Their limited awareness makes it more likely that they will perceive a business situation based on their own characteristics and/or past experience, and then interpret it in their own way. (as cited in Kalkhouran et al, 2015, p. 50)

In addition to the research by Jones (2014), the literature review provides information concerning a gap existing in academic and professional literature regarding cost management in relation to financial performance within rural electric cooperatives (Corrigan & Rixon, 2017; Claggett Jr, Hollas, & Stansell, 1995). This literature review contributes to and attempts to bridge the gaps that have been identified in existing literature. Additionally, Corrigan and Rixon (2017) have suggested that “The academic literature focusing specifically on electric

cooperatives is rather sparse.” (p. 63) Pavlatos and Kostakis (2018) suggested the following regarding the findings in their study:

could become an incentive for future research as follows...a qualitative research could be carried out to investigate further the way how TMT characteristics and historical financial performance affect SMA usage...Lastly, to study the effect of the economic crisis in the adoption of innovative management accounting techniques. (p. 23)

The citations used within the literature review were identified using sources that included scholarly articles, peer-reviewed journals, books, reports, and dissertations. The sources for the website links utilized in the study originated from institutional research sites, peer-review journals, industry related articles, and other research studies. Additionally, various trade associations aligned with electric cooperatives like the National Rural Electric Cooperative Association (NRECA), Touchstone Energy Cooperatives, Inc, American Public Power Association (APPA), and International Cooperative Alliance (ICA). The databases used for searching for relevant material and the aforementioned sources included, but were not limited to ProQuest, ScienceDirect, EBSCOHOST, and SAGE databases.

Furthermore, the search strategy for this study was established utilizing the main themes in Chapter 1 and found throughout the literature review, which were used as a guide for the keywords that were used in databases searches. Keywords included, but were not limited to cost management, management accounting, electric cooperatives, rural electric association, strategic cost management, strategic management accounting, competition, technology, financial performance, and leadership. Google Scholar was also used, along with other search engines as initial leads for information used in this study. The majority of the sources used within this



literary review were published within the last 10 years. Older sources were included in order to provide historical references and the depth of research regarding the topic.

### **Conceptual Framework**

The conceptual framework being utilized in this exploratory case study was introduced by Kalkhouran et al (2015) to assess the usage of Strategic Management Accounting in Small and Medium Enterprises. The name of the framework proposed by Kalkhouran et al (2015) back in 2015 is “A Contingency Model of Strategic Management Accounting Usage in SMEs.” The conceptual framework utilizes both contingency theory and upper echelon theory. The premise of this framework is that contingency theory suggests that a firm’s performance “depends on the suitable fit between the structure (use of strategic management accounting) and context (contingency variables)” (Kalkhouran et al, 2015). The three contingency variables highlighted in the proposed framework by Kalkhouran et al (2015) for having a significant effect on the use of advanced management accounting principles are perceived environmental uncertainty, advanced manufacturing technology, and CEO characteristics.

The first factor in the framework is perceived environmental uncertainty. Kalkhouran et al (2015), points to the research of Tymon, Stout, & Shaw (1998) that suggests that “perceived environmental uncertainty reflects managers’ inability to correctly forecast their external environment”. Examples of perceived environmental uncertainty include: technological changes, process innovations, competition, customers’ needs and preferences, supplier relationships, market demand, industry trends, government policies, and deregulation (Costantini and Zanin, 2017). Costantini and Zanin (2017) suggest that uncertainty impacts strategic planning, budgeting and the performance evaluation processes. Kalkhouran et al (2015) provides an example of how the use of budgets increase during times of uncertainty. Furthermore,

Pavlatos (2018) provides the following findings regarding perceived environmental uncertainty and contingency theory:

The findings provide support for contingency theory's central proposition that firm performance depends on the fit between organizational context and structure. The survey revealed that SCM usage is positively affected by these five contingent factors (PEU, Structure, organizational life cycle stage, strategy size). while SCM usage, in turn, positively affects performance. A significant mediating effect of SMA usage on performance is evident. (p. 229)

The second factor in the framework is advanced manufacturing technology. Although the term manufacturing is implied, the distribution electric cooperatives within this study are service providers; however, technology advancements in their industry also make this aspect of the framework relevant. Specifically, technology advancements in renewable energy and other distributed generations technologies not only provide opportunities for electric cooperatives; however, they are also external threats that could impact electric cooperative financially (Satchwell & Cappers, 2018; Weisman, 2017). Additionally, the business intelligence gained by various sources including software systems employed by electric cooperatives and data provided by the National Rural Utilities Co-operative Finance Corporation allow electric cooperatives to make more informed decisions regarding their financial health. Kalkhouran et al (2015), suggests that leaders tend to utilize management accounting information to make better decisions as their business environment changes and their organization adopts new advanced technologies.

The third factor in the framework is CEO characteristics. Kalkhouran et al (2015), suggests that "highly educated and experienced CEOs are more likely to adopt strategic management accounting techniques". For this study the term CEO may be replaced by other

leadership titles including General Manager (GM) or other c-suite executives, because the term CEO is not generally used in an electric cooperative's leadership structure. Additionally, the financial decision-making may also be guided by information provided by individuals in other senior management positions including the Chief Financial Officer or someone else in a financial leadership position. Upper echelon theory assists in explaining and understanding the relationship between the manner in which top leaders influence organizational performance by the choices they make and how these choices are affected by the leaders' characteristics (Chaganti, 2013).

While all three factors identified in this conceptual framework are identified as "contingency variables" it is important to note that they are all products of research on both contingency theory and upper echelon theory (Kalkhouran et al, 2015). Contingency theory and upper echelon theory assist in explaining the relationships between leadership characteristics and the adoption of strategic management accounting practices (Kalkhouran et al, 2015). Ultimately, research by Otley (1999), Cadez and Guilding (2008), and Hieble (2014) suggest that both contingency and upper echelon theories have been used frequently in management accounting and therefor are grounded in research that make them solid theories for use in the framework proposed by Kalkhouran et al (2015).

Other frameworks similar to the proposed framework by Kalkhouran et al (2015), have used the knowledge management framework and maturity models to identify how well specific systems have been integrated into an organizations business process. Prusak (2001), suggests that while knowledge management has been around in some form or fashion throughout our history, the beginning of the knowledge management was at a conference held in Boston in early 1993. Another proposed framework was created by Chan et al (2009) for evaluating the

implementation of enterprise resource planning systems (ERP) utilizing knowledge management. The knowledge advantage (K-Adv) framework used by Chan et al (2009) focused on information communication technology (ICT) infrastructure, leadership infrastructure, and people infrastructure to create a knowledge advantage concept along with a capability maturity model (CMM) to better understand how well ERP was integrated into business processes. The aforementioned knowledge advantage (K-Adv) framework proposed by Chan et al (2009) explored the implementation of an ERP system for an organization to increase its competitive advantage.

Jones (2014) used another framework to examine the leadership styles and their relation to the financial performance of rural electric cooperatives. The research by Jones (2014) utilized the behavioral theory of leadership as the guiding framework for his research. The behavioral theory of leadership postulates that a leader's characteristics are all factors that contribute to their decision-making process (Jones, 2014). This study was of particular interest, because it provides a plethora of information regarding leadership characteristics and identified how those characteristics shape the decisions made by the leaders within rural electric cooperatives. While the study concluded that leadership styles can impact the financial performance of a rural electric cooperative, it does not delve into the specifics of what tools are used by these leaders that assist them in their decision-making process.

The frameworks proposed by the aforementioned researchers each provide guidance regarding leadership and the financial performance of organizations. Additionally, each framework provided a better understanding of the underlying principles that could be used in research focused on different variables that could impact the implementation of programs, leadership styles, or an organization's financial performance. The cooperatives changing

business environment is an important aspect of this study, which is one of the factors in the framework proposed by Kalkhouran et al (2015). The “Contingency Model of Strategic Management Accounting Usage in SMEs” framework by Kalkhouran et al (2015) relates to this study, because it was developed specifically for assessing the use of SMA in small and medium enterprises. Rural electric cooperatives fall into the category of small and medium enterprises and research has shown that SMA and SCM are interrelated frameworks within management accounting.

Lastly, the framework assisted in the development of the problem statement, purpose statement, and research question within this proposed study by providing an understanding of how both contingency theory and upper echelon theory may be used together in a manner that allows for a greater understanding of the decision-making process used by the management staff of electric cooperatives. Furthermore, the three contingency variables within the framework provide specific classifications and groupings in which to draw upon when developing the web-based survey that will be used in this proposed study. The next portion of this literature review will present additional information regarding the following three sections, which are further broken down in themes that highlight information regarding electric cooperatives, SCM, and the theories used within the conceptual framework of this study.

## **Electric Cooperatives**

### **History**

Prior to 1935 very few rural areas and farms had electricity due to the high cost of constructing the powerline infrastructure that would be required to provide such services by the current power companies (Cooper, 2008). According to Greer (2003), prior to the passage of the REA, less than 12% of rural farm homes had electric power. President Franklin D. Roosevelt

helped establish rural electric cooperatives in 1935 when he sponsored the Rural Electrification Act (REA) (Corrigan & Rixon, 2017). One year later the National Rural Electrification Act was passed and the creation of Rural Electric Cooperatives (REC) began. The main goal of the REA was to bring the benefit of electrification to the less populated areas of the country by providing investment funds at low interest rates. The REA set out to accomplish this goal by providing locally formed cooperatives access to funding through low-interest loans (Yadoo & Cruickshank, 2010).

Subsequent research shows that rural electrification played an important role in achieving both human and economic development (NRECA, 2019; Yadoo and Cruickshank, 2010; Paredes and Loveridge, 2018). For example, over 90% of the farms within the United States had electricity within 17 years of the passage of the REA (NRECA, 2017). Today, there are over 900 electric cooperatives in 47 states, and they cover 56% of the landmass in the United States (NRECA, 2017; Lindsey & Settle, 2003). According to Lindsey and Settle (2003), over 50 percent of the electric lines in our country have been built by electric cooperatives.

These new electric cooperatives serve more than just farms, they serve over 19 million businesses, homes, and other establishments (NRECA, 2017). This growth has led to electric cooperatives paying over \$1 billion in state and local taxes, which is also a benefit to local communities (NRECA, 2017). Furthermore, Electric cooperatives own assets worth \$175 billion, invest about \$13 billion annually in new plant equipment, deliver about 11% of the power sold within the United States each year, and employ over 71,000 people within the United States (NRECA, 2017). It is easy to see the overall positive financial impact that electric cooperatives have on the U.S. economy, once you figure in the manufacturers, contract services, and other businesses that support or use the services of electric cooperatives.

Through the years electric cooperatives have continued to provide more than just electricity to underserved areas by leading economic development initiatives within their communities that have included: revitalization projects, job creation, water system improvements, and sewer system improvements (NRECA, 2017). Another economic driver that electric cooperatives are working on includes providing broadband services to their members. According to a fact sheet provided by NRECA (2019), there is evidence that shows that electric cooperatives are in a perfect position to assist in bridging the digital divide to some 30% of rural America without access to affordable broadband services. Additional research by NRECA, suggests that there is over \$68 billion in lost economic value over 20 years due to the lack of broadband access by rural areas (NRECA, 2019). More than 100 electric cooperatives are currently working on solutions to bridge the aforementioned digital divide that has limited the access to broadband services to rural Americans (NRECA, 2019). The foray into broadband services by electric cooperatives is yet another example of how electric cooperatives have continued to update their service portfolio over the years in order to provide access to the services that benefit the rural communities for which they serve; however, this is one area in which they may have varying levels of competition in their service territories in contrast to the natural monopoly that they have regarding their electric service.

### **Organizational structure and leadership**

Cooperatives operate according to a series of seven core principles (NRECA, 2016). The seven core values that guide the activities of electric cooperatives are: (i) open and voluntary membership, which is open to all that are able to use their services regardless of their race, gender, religion, or economic status; (ii) democratic member control, which members have equal voting rights and assist in setting policies or making decisions; (iii) members' economic

participation, which members contribute equally to and surplus is used for activities that the membership approves; (iv) autonomy and independence, which cooperatives must ensure that they maintain their democratic controls throughout any agreements or partnerships that they enter into; (v) education, training, and information, which assists members, employees, and elected officials to effectively contribute to their cooperative; (vi) cooperation among cooperatives, which assists cooperatives improve their services, assist local communities, deal effectively with the needs of their communities; (vii) concern for community, which the goal is sustainable development of their communities (NRECA, 2016). Each of the aforementioned principles are important to the way in which electric cooperatives function and they should play an important role in the financial decisions that the leadership of electric cooperatives make.

Regarding leadership structure, electric cooperatives are led by board members (Paredes & Loveridge, 2018). These board members are local individuals that are voted in by the member-owners of the electric cooperative and charged with (Paredes & Loveridge, 2018). These board members in turn hire a General Manager (GM) or Chief Executive Officer (CEO) to oversee the day-to-day activities of the electric cooperatives (Jones, 2014). Furthermore, research by Jones (2014) specifically examined the leadership styles of managers at rural electric cooperatives and suggests that there is a positive correlation between a GM's leadership style and the financial performance of their respective electric cooperative. The research by Jones (2014) provided information that showed how a GM's leadership style could impact a firm's operations, how they motivate their employees, and their overall influence on operating costs and financial performance both in a positive or negative manner. The GM guides these daily activities through their employees, which are important assets of the electric cooperative (Collier, 1997).



Unlike large corporations that have shareholders to answer to for their financial performance, electric cooperatives have member-owners that are provided opportunities to play an active role in how the electric cooperative operates (Jones, 2014). Member-owners are individuals or businesses that are provided power by the electric cooperative operating in their area and have an equal say in how the cooperative operates (Corrigan & Rixon, 2017)). Furthermore, these member-owners make up the democratic leadership style of the cooperatives where each member has one vote that guarantees them equal participation regarding the governing of the cooperative and affords them the opportunity to guide the cooperatives efforts into further local development (Yadoo and Cruickshank, 2010).

Lastly, Congressman Jim Cooper (2008) suggests in a policy essay that the electric cooperative organizational structure is not only less efficient than that of an organization with shareholders, but may also lead to the overall mismanagement of the organization. Jeter, Thomas, and Wells (2018), suggested similar concerns regarding how the mismanagement of electric cooperatives and the seriousness of their consequences. Cooper (2008) points to several areas in which a cooperative may fall victim to mismanagement including: the dwindling attendance to cooperative board and annual meetings, the lack of requirements to become a board member, the ability of cooperative staff to influence board members, and the lack of regulatory oversight. Cooper (2008), further suggests that the selection of board members and voting may also be negatively impacted by low member turnout, because the number of cooperative's employees at these functions may be enough to meet quorum requirements for such processes to legally take place. This type of structure may lead cooperatives to look after their own interest instead those of their members (Cooper, 2008; Jeter et al, 2018). Further research by Cooper (2008) and Jeter et al (2018) has pointed out that the cooperative

organizational structure may not have always served its members best interest, that additional regulatory oversight may be required, and that the cooperatives business environment has changed over the years, which require a fresh look at how the cooperative structure should look in the future.

**Leadership.** Research by Jones (2014) reviewed how leadership styles may impact the financial performance of rural electric cooperatives. Jones (2014) suggests that while the relationship between leaders and organizational performance has been well studied, there is a lack of similar research regarding leadership within rural electric cooperatives. Jones (2014) postulates that there is a correlation between the leadership style of the GM of an electric cooperative and how well that cooperative performs financially. Besides identifying which leadership style has a positive impact on a cooperative's financial performance, Jones (2014) noted the following two additional important aspects regarding a cooperative's financial performance:

Superior performance in comparison to industry peers regarding margin, TIER, and equity might not be the optimal level of financial performance to provide the maximum benefit to the cooperative members. The leaders of each cooperative decide the optimum level of financial performance to maintain organizational sustainability and financial viability. (p. 136)

The research by Jones (2014) concluded that transactional leadership correlated to a more positive financial performance for the rural electric cooperatives participating in the study. This is in contrast to the transformational leadership style, which with the definition that was provided in the study seemed to be more in line with the seven cooperative values. Furthermore, the behavioral theory framework utilized by Jones (2014) has similarities to the framework chosen

for this study. The framework used in this proposed study includes upper echelon theory, which is grounded in behavioral theory research and specifically focuses on the characteristics of a leader and how their decisions impact organizational performance.

### **Cooperative finances**

*Costs and revenues.* Cooperatives are not-for-profit organizations that operate within the \$391 billion U.S. electric utility industry (NRECA, 2017). NRECA (2019), explains that the cooperative business model within the United States follows the following federal mandates: consumer-controlled democratic governance and operating the organization at cost, plus enough margin to maintain financial viability. According to Olivier, Williams and Ganley (2010), the cooperative cost structure is a combination of cost of power and distribution costs. Over two-thirds of an electric cooperative's total cost is contributed to the cost of power (Olivier et al, 2010). Distribution costs include capital costs, operations, and maintenance (O&M), and administrative and general (A&G) costs (Olivier et al, 2010). Capital costs are the largest of the distribution costs and is driven in large part due to consumer growth (Olivier et al, 2010). O&M costs are the second largest and are associated with infrastructure and the delivery of power (Olivier et al, 2010). A&G costs include three of the fastest growing cost areas, which include: pensions, health care, and disability (Olivier et al, 2010).

In order to cover the aforementioned controllable and uncontrollable costs, an electric cooperative relies on kilowatt hour (kWh) sales. Kilowatt hour sales are dependent on three factors: number of members, weather conditions, and economic activity (Olivier et al, 2010). The main component of residential kWh sales is weather conditions (Olivier et al, 2010). Kilowatt hour sales are further broken down by rate classes that are used separate various electric users that include: residential, commercial, and industrial (Greer, 2003). Research by Greer

(2003) suggest that the rates charged by utilities are not always fair and that residential customers may shoulder higher rates if larger utility customers stop using the services that electric cooperatives provide. Lastly, any revenue left after all costs is supposed to be distributed to each cooperative member in the form of capital credits (Lindsey & Settle, 2003). Capital credits are allocated to each member in a proportional manner based on their patronage compared to total revenue during the year (Berry, 1994; Jeter et al, 2018). Cooper (2008), has suggested that cooperatives have returned very little in the form of capital credits, while their overall equity has increased over the years. NRECA (2019), states that cooperatives retire over \$1.1 billion in capital credits annually. Not properly returning capital credits to their members may have both tax and legal status implications (Cooper, 2008).

***Financial performance indicators.*** There are two main loan providers for electric cooperatives, and they are the Rural Utilities Service ("RUS") and the National Rural Utilities Co-operative Finance Corporation ("CFC") (Cooper, 2008). CFC also provides electric cooperatives with additional management and technical assistance (Cooper, 2008). One of the services provided by CFC is a series of ratios called Key Ratio Trend Analysis (KRTA) that provide electric cooperative leaders with information regarding their financial performance compared to other cooperatives of similar size (NRUCFC, 2019). Along with the KRTA, cooperatives primarily utilize the following key performance indicators (KPI) to determine their financial health: times-interest-earned-ratio (TIER), equity as a percent of assets, and margin as a percent of revenue (Olivier et al, 2010). The Rural Utilities Services has a minimum TIER requirement of 1.25 (Olivier et al., 2010). A TIER of 1.25 means that the cooperative needs to earn \$0.25 in margin for every \$1 of interest expense (Olivier et al., 2010). According to the RUS guidelines, the minimum TIER requirement must be maintained for two out of three years

or the cooperative is in default (Olivier et al., 2010). The aforementioned performance indicators assist cooperatives ensure that they operate at an acceptable performance level and earn enough margins to cover their debt.

### **Business environment**

Electric cooperatives are amid a series of changes in their industry, which include deregulation, economic instabilities, increased competition, technological advancements, and increasing customer expectations (Jafari, 2014; Michael, 2013; Collier, 1997). These changes within the electric cooperatives' environment have reduced residential electricity sales by 2%, they have caused electricity demand to decrease around one-half of one percent in 2017, and all while still providing enough net margin to all these cooperatives to return over \$1.1 billion of excess revenues to their members (NRECA, 2017). An increase in revenue, while having sales of a product decrease are not typical for many industries unless they make decisions that make them highly efficient, which may not be the case since Greer (2003) found that electric cooperatives were not operating in a cost-minimizing fashion. Cooperatives tend to operate at higher costs associated with delivering electrical services, which spurns from the fact that many of them have a low number of members served per mile of line (Vince, Quirk, & Fogel, 1997). Lastly, Graffy and Kihm (2014) suggested the following regarding managing competition:

Conventional strategies for managing competition fail to suffice, and failure to adapt in a proactive and timely manner can produce dire results for affected firms. Indeed, successful adaptation in these circumstances must be anticipatory, not merely responsive.

(p. 4)

***Service Territories.*** Fortunately, cooperatives have been insulated from many of the negative impacts from the aforementioned changes in their industry over the years due to their naturally restricted market (Collier, 1997). In other words, electric cooperatives operate in well-defined service territories that have allowed them to become natural monopolies, which are somewhat protected from competition (Jeter et al, 2018). Weisman (2017) suggested the following:

traditional regulated monopoly model of provisioning electric power continues to undergo a competitive transformation fueled by competition, technological change, and environmental populism. The risks that these changes pose for electric utilities are both significant and multi-dimensional. (p. 9)

Collier (1997) has also suggested that those well-defined services territories are threatened by the aforementioned changes to their industry. Collier (1997), further suggested that it was a set of well-defined service territories that was a major contributor to their financial viability. Research by Graffy and Kihm (2014) also suggests that disruptive competition may not be solely from sources outside of the cooperative's territory, but rather include be from power generation technology that is now available to the very members that they serve. The primary driver regarding the competition that cooperative members pose is the reduction in the cost of residential solar systems (Graffy & Kihm, 2014). Besides the reduction in cost regarding residential solar power systems, there are federal and state incentives available that make the installation of solar power systems very attractive (Graffy & Kihm, 2014). Graffy and Kihm (2014) suggest that electric utilities in general will be required to implement strategic decision-making processes in order to take advantage of this competition and turn threats into opportunities.

These well-defined service territories may lead electric cooperatives to make decisions that are not always in the best interest of the cooperative as a whole and ultimately place the unnecessary financial burdens on the cooperative if not properly managed (Jeter et al, 2018).

***Regulations and government policies.*** The regulatory environment for electric cooperatives differs from state to state (Wilson et al, 2008). Greer (2003), points out that less than 20 electric cooperatives fall under the jurisdiction of any state commission. This is an important point to be made, because it underscores the importance of the member-owners of these electric cooperatives and their role in managing the cooperative. It is this self-regulating structure that aims at benefiting the communities that the cooperatives serve; however, without proper participation these cooperatives can easily be mismanaged (Jeter, Thomas, & Wells, 2018). The regulatory environment in which electric cooperatives operate is also changing in order to keep up with technology (Graffy & Kihm, 2014). Regarding deregulation, Lindsey and Settle (2003) have stated the following:

the vast majority of rural electric cooperatives are not under the regulatory oversight jurisdiction of the Federal Energy Regulatory Commission (FERC) or state regulatory agencies; hence legislation at either level designed to implement deregulation permits and encourages, but does not mandate, cooperative participation. (p. 41)

Furthermore, Amin and Stringer (2008) have suggested the following:

Economically, the theory of deregulation aims to achieve the lowest price through increased competition. However, the market reality of electricity deregulation has often resulted in a business-focused drive for maximum efficiency to achieve the highest profit from existing assets rather than in lower prices or improved reliability

***Tax-exempt status.*** In addition to new regulations, cooperatives may also be negatively impacted by new government policies, like the Tax Cuts and Jobs Act of 2017 (Kelly, 2019). Financially, cooperatives must receive 85% of their revenues from their members through membership dues and sales of services (Kelly, 2019). The remaining 15% of their revenues may originate from non-member sources (Kelly, 2019). Electric cooperatives may not receive more than 15% of their revenue from non-member sources or they will be subject to lose their tax-exempt status (Kelly, 2019). This is a huge distinction in revenue sources since a loss of their tax-exempt status would cause the cooperative to file federal income tax and possibly lose access to various subsidized loans (Paredes & Loveridge, 2018; Wilson et al, 2008).

Kelly (2019), suggests that cooperatives may lose their tax-exempt status due to the 2017 changes to the Internal Revenue Code (IRC) that are modified in the Tax Cuts and Jobs Act since these changes count federal, state and local grants as non-member income rather than capital. This change in 2017 to the IRC may cause electric cooperatives to miss out on grant income or disaster assistance from organizations like the Federal Emergency Management Agency (FEMA), which provides financial reimbursement to restore power after storms, floods, fires, earthquakes or other disasters (Kelly, 2019).

### **Strategic Management Accounting and Strategic Cost Management**

#### **Concept**

The term Strategic Management Accounting (SMA) was first used in 1981 by Kenneth Simmonds (Cadez & Guilding, 2008). John Shank is credited with the first mention of the term of Strategic Cost Management (SCM) in the United States in 1989 (Gliubicic & Kanapickienė, 2015). Nasieku and Githinji (2016) suggest the following regarding the strategic cost management framework proposed by Shank (1989):



Shank (1989) proposed the blending of three themes: value chain analysis, strategic positioning analysis and cost driver analysis from the strategic management literature to become a framework called 'strategic cost management' (SCM). Shank (1989) posits that the emergence of SCM the third stage of the development of the management accounting discipline: from cost accounting to managerial accounting to SCM.

SMA as it is known in Europe and its American counterpart SCM provide management with the ability to process external information that is market-driven, customer focused and provides both the tools and techniques to facilitate strategic decision-making (Dmitrović-Šaponja & Suljović, 2017). Research by Liu and Wen (2017), further suggests that the unifying link between SMA and SCM is that both frameworks provide a strategic method to gather, interpret, and analyze management accounting information, while stating the importance of the inclusion of information regarding external factors like a competitor's activities. Unlike Traditional Management Accounting (TMA), SCM and SMA include non-financial information and an information regarding an organization's business environment (Dmitrović-Šaponja & Suljović, 2017). According to Ganapaiah (2017), "the term strategic cost management has a broad focus, it is far more concerned with management's use of cost information for decision-making and not confined to the continuous reduction of costs and controlling of costs." Strategic cost management in its simplest form is the use of cost information to assist in formulating and communicating business strategy (El-hwaity, 2013).

The SCM frameworks assist organizations achieve a better competitive position through the application of cost management techniques throughout the decision-making process in a manner where the goal was not solely to reduce costs, but to also improve overall business processes that create customer value (Ganapaiah, 2017). In practice SCM also assists

organizations ensure that no cost reducing practices are undertaken that may also reduce the position of the organization (Kumar & Nagpal, 2011). Kumar and Nagpal (2011), suggest that SCM consists of a philosophy of improving cost and revenue, a proactive attitude, and a set of reliable techniques that assist in the decision-making process. Similar to Kumar and Nagpal (2011), El Kelety (2006) postulated that it is more of a philosophy, an attitude and a set of techniques that an organization may use to ensure its competitive advantage. Furthermore, Shank (1989) suggests the following regarding the definition of SCM and the four stages of the strategic management cycle in that SCM is:

the managerial use of cost information explicitly directed at one or more of the four stages of strategic management: (1) formulating strategies, (2) communicating those strategies throughout the organization, (3) developing and carrying out tactics to implement the strategies, and (4) developing and implementing controls to monitor the success of objectives. (as cited in El Kelety, 2006, p. 62)

Research by Kumar and Nagpal (2011) provided examples of three separate cost management initiatives that either strengthen, weaken, or has no impact on an organization's position. The first example of a cost management initiative that strengthens an organization's position explained how a hospital changed its admission procedure to become more efficient, which may increase the likelihood that patients would choose the hospital for service if they have a choice (Kumar & Nagpal, 2011). The second example of a cost management initiative that weakened an organization's position explained how an airline's two desk ticket administration and ticket sells setup may have cost less to run; however, the setup would lead to long lines or angry passengers and ultimately lead to passengers looking for a different airline for a better experience (Kumar & Nagpal, 2011). The third example of a cost management initiative

explained how an insurance company's decision to reevaluate its accounting system to become more efficient, which that had no impact on an organization's position since it had no impact on the company's external market (Kumar & Nagpal, 2011). Each of the aforementioned examples show the importance of decision-making and why a strategic methodology may provide better outcomes than simple adopting cost cutting measures.

### **Tools and Techniques**

The tools and techniques within SCM that assist organizations during strategic decision-making are essential as the organization's business environment becomes more competitive (Gliubicas & Kanapickienė, 2015). Research has identified over 20 techniques and tools used within SCM, which include: activity-based costing/management, attribute costing, benchmarking, competitive position monitoring, competitor cost assessment, competitor performance appraisal based on public financial statements, customer accounting, integrated performance measurement, life cycle costing, quality costing, strategic costing, strategic pricing, target costing, value chain costing, brand value budgeting, brand value monitoring, environmental management accounting, SWOT analysis, balanced scorecard, just-in-time, continuous improvement (Dmitrović-Šaponja & Suljović, 2017; El-Dyasty, 2007). Bekçioğlu, Kaderli, Köroğlu, and Sezer (2016) suggested the following:

The techniques that are used in SCM play a crucial role in success of SCM. Techniques used in SCM come under three groups. They are value chain analysis, strategic positioning analysis and cost driver analysis. (p. 129)

The tools and techniques utilized within SCM are not meant to used alone, but work together as a continuous process. Research shows that the proper application of these tools and techniques require not only knowledge of SCM, but also requires a framework in order to have a

practical application of SCM within an organization (El-Dyasty, 2007; El-hwaity, 2013; Elsayed, Wickramasinghe, & Razik, 2011; Ibrahim, 2006). Research has shown that there are themes relating to the various phases presented within these SCM frameworks. The identified phases were information gathering, information analysis, decision-making, and performance monitoring. Each one of these phases incorporate various tools and techniques.

A SWOT analysis is an example of a tool utilized within the information gathering phase of SCM frameworks. Many of the SCM frameworks identify value chain analysis as a key component to the information analysis phase, because it provides a manner in which to identify activities both internal and around an organization to identify competitive strengths. The decision-making phase is implied; however, it relies on senior executives in the firms to understand the information they are presented with and use the information to make strategic decisions to improve the organization's overall competitive advantage. The decision-making process also includes the implementation of SCM tools including, but not limited to target costing, just in time, activity-based costing, and total quality management. The last part of each framework includes the feedback loop or rather performance monitoring, which uses SCM tools like the use of a balanced scorecard or benchmarking.

The tools and techniques identified while researching SCM may assist management achieve success in strategic cost management; however, tools and techniques alone are not enough and management must understand that SCM requires electric cooperatives to commit resources, formulate and apply policies and procedures, and establish strategic objects, activities and instruments (Ibrahim, 2006).

### Contingency Theory and Upper Echelon Theory

Contingency theory states that there is no single way in which to lead, manage, or structure an organization due to factors or rather contingencies that surround each situation (Hoffman-Miller, 2019; Williams, Ashill, & Naumann, 2017). Regarding contingency theory, Williams et al (2017) suggested the following:

early theorists moved away from the traditional management approaches of there being ‘one best way’ to manage and structure organizations. These authors contended that the ‘best’ structure was contingent upon the environment in which the organization existed. They suggested that there was an environment–structure–performance relationship for most organizations. (p. 455)

Early research regarding contingency theory focused on the relationship between environment, structure, and performance (Williams et al, 2017). Further research regarding contingency theory explored the leadership and structure of organizations to assess how strategies are adapted in response to contingency factors, which may include environmental factors to improve organizational performance (Boehe, 2016; Williams et al, 2017; Hoffman-Miller, 2019). The external environment is one of the main contingencies identified in the theory (Soares and Maduro-Abreu, 2019). Examples of external environmental contingencies include, but are not limited to politics, technology, economic, legal, and demographics (Soares and Maduro-Abreu, 2019).

While contingency theory has been used extensively in research regarding management accounting, some studies have identified issues with how the theory was applied (Cadez, & Guilding, 2008). Cadez and Guilding (2008) have suggested that previous research has included the operationalization of contingency fit, which may have contributed to various inconsistencies

within contingency theory research regarding management accounting since these studies did not multiple contingencies at the same time. Cadez and Guilding (2008), suggest a framework for assessing the effectiveness of SMA utilizing contingency theory. The framework suggested by Cadez and Guilding (2008) addresses the best fit regarding strategy includes assessing organizational performance due to various combinations of context and structure. While the framework proposed by Cadez and Guilding (2008) is different than the framework being used in this study to assess the utilizations of SCM within an organization, it does point out the relationship between strategy-structure-performance that impact overall organizational performance.

Upper echelons theory shares similar aspects regarding leaders to contingency theory, namely how a leader's characteristics and choices influence organizational outcomes and ultimately impact the firm's performance (Hiebl, 2014). Kanadli, Bankewitz, and Zhang (2018) stated that "the main premise of upper echelons theory is that organizations reflect senior executives' (the upper echelons) cognitive frames (e.g. knowledge, skills, values, beliefs, biases)" (p. 431) Information search and filtering, interpretation, and choice are the three stages of strategic decision-making, which are influenced by the cognitive frames of senior executives (Kanadli et al, 2018). Characteristics such as knowledge, skills, values, beliefs, age, and biases are all cognitive frames in which leaders use in order to influence organizational outcomes through strategic decision-making (Kanadli et al, 2018). Carpenter, Geletkanycz, and Sanders (2004) stated the following:

The upper echelon theory suggests that because cognitive base, values and perception are unobservable, measurable managerial characteristics could be adequate surrogates for and

provide reasonable indicators of those latent constructs. (as cited by Chuang, Nakatani, and Zhou, 2007, p. 3)

Research by Pavlatos and Kostakis (2018), examined the effective usage of SMA through the lens of the characteristics of senior management according to upper echelons theory and historical financial performance. The research conducted by Pavlatos and Kostakis (2018) is important to this study since it not only identified a positive relationship between senior management's education and decision making, but also assisted in confirming the relationship between past poor financial performance and the increase in using SMA tools and techniques. This information is relevant regarding inferring that importance of external factors having a direct impact on the strategic decision-making. A survey by Hiebl (2014), provides further data that shows how senior management's characteristics according to upper echelon theory complements research based on firm level and external contingency factors and the use of management accounting.

While the survey by Hiebl (2014) does not directly provide information connecting a firm's performance to the characteristics of senior management, it does provide guidance on how certain studies have shown a direct correlation to various characteristics to how senior management may implement innovative technologies that ultimately aim at assisting them to make better decisions. Regarding leadership and performance, the purpose of this study utilizes a framework regarding how both upper echelon theory and contingency theory assists in understanding the importance of the personality of an organization's leader and how they operate according to various situations or rather the external contingencies that organizations are currently facing in order to make strategic decisions (Kalkhouran et al, 2015).

## Summary

The literature review indicated that electric cooperatives are amid some environmental uncertainty and that SCM provides valuable tools for assisting organizations in cost reductions, while improving their competitive advantage. Furthermore, the literature reviewed highlighted the importance that an organization's management's ability to implement SCM and their ability to successfully react to emerging threats is driven by how SCM tools are perceived, implemented, and evaluated. The implementation of SCM as a business process requires the understating and utilization of various tools and techniques for leadership to make decisions that are strategically aligned with improving their organizations competitive advantage. The implementation of strategic tools required for decision-making may not assist an organization from completely averting a crisis; however, strategic cost management tools may assist these electric cooperatives survive long enough to recovery from various financial downturns.

The literature reviewed also affirmed that a SCM usage within organizations can and has provided organizations with the tools needed to reduce costs and improve upon their complete advantage. While SCM usage has had its success, the leadership within electric cooperatives must assess the competitive position of their organization on a regular basis and position their organization to respond to changing conditions rapidly through a continuous SCM process. Lastly, the literature reviewed raised fundamental concerns and calls for further research regarding the application, organizational structure, and policies that would bolster interest of SCM within other industries. A SCM strategy should be fully integrated across the organization and incorporate major departments that include management, finance, information technology, human resources, members services, and operations. Results from this qualitative study may provide the current body of knowledge of strategic cost management with significant support



through identifying the level of practical applications of SCM from firsthand knowledge and the personal experiences of electric cooperative management who are responsible for the manner in which strategic cost management practices are implemented. This exploratory case study looks to address the “how” and “what” questions posed regarding SCM tools or techniques and their utilization by electric cooperatives in Florida to formulate financial strategies to improve their overall competitive advantage. Furthermore, the exploratory case study may provide the presumed causal link between the use of SCM and the financial status of electric cooperatives, which operate in the Not-for-Profit sector. An overview of the qualitative approach in terms of research design and rigor, using exploratory case study research, is provided in the next chapter.

### Chapter 3: Research Method

The purpose of this chapter is to introduce the research methodology for this qualitative exploratory case study regarding how SCM tools or techniques are utilized by electric cooperatives in Florida to formulate financial strategies to improve their overall competitive advantage. The application of an exploratory case study and the qualitative approach for this study are further discussed in this chapter. The proposed methodology, study participants, procedures, data analysis, assumptions, limitations, and ethical concerns are also primary components of this chapter.

The problem to be addressed in this study is to determine how SCM tools or techniques are utilized by electric cooperatives in Florida to formulate financial strategies to improve their overall competitive advantage. Well over 40 million members across the country rely on electric cooperatives to provide safe, affordable, and reliable services (NRECA, 2017). The safety, reliability, and the affordability of residential power could be negatively impacted if effective financial strategies are not formulated by electric cooperatives, which have already seen residential electricity sales decrease by 2%, irrigation sales decreased 6.3%, and overall electricity demand decrease by about one-half of one percent in 2017 (NRECA, 2017). Historical research has shown that other industries have utilized SCM in an effective manner to be more competitive in the areas of cost, quality customer services, and improve the strategic position of their company (Michael, 2013; Cooper & Slagmulder, 1998; Souza & Rasia, 2012; Pavlatos, 2018; Nasieku & Githinji, 2016). Research shows that there is a gap existing in academic and professional literature regarding cost management in relation to financial performance within rural electric cooperatives (Corrigan & Rixon, 2017; Claggett Jr, Hollas, & Stansell, 1995). Furthermore, Corrigan & Rixon (2017) have suggested that research applied

specifically to rural electric cooperatives has not sufficiently been considered in the academic literature. Pavlatos (2018), also suggests further research on SCM should be conducted on service industries and look to incorporate other important variables like organizational culture and technology as well as to see whether the heterogeneity of the sample changes the overall results.

The purpose of this qualitative case study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management. The proposed exploratory research design will utilize a web-based survey method to collect data from at least two members of senior staff at 15 electric cooperatives within the state of Florida that represent part of the bounded system in the study. All attempts will be made to include the General Manager and the Finance Officer, since the information collected from this group will assist in providing data from two groups with similar training and backgrounds within electric cooperatives. Utilizing the cooperatives within the state of Florida assists in ensuring that the groups have similar economic factors that impact their organizations and fall under similar state and federal regulations. Twelve electric cooperatives will be asked to participate in order to obtain the number of interviews required to successfully complete the study.

There will be 2 personnel from each of the 15 cooperatives participating in the study. Both the General Manager and the Finance Officer of each cooperative will be contacted via email utilizing the email address information obtained from the Florida Electric Cooperatives Association, Inc. website and asked to participate in the web-based survey portion of this study. Therefore, twenty-four interviews will be conducted in order to meet the desired research objective. Furthermore, the small sampling size is within the typical range for case study

research using purposive sampling as the participants share similar heterogeneous characteristics such as similar backgrounds and experiences (Farrugia, 2019; van Rijnsoever, 2017).

The use of a web-based survey method can be useful as it may reduce access limitations reducing sample issues and provide a platform for a rich exchange of information, especially in populations that have access to the internet and see it as an accepted form of communications (Parsons, 2007). In addition to the web-based survey, participants will be asked to provide documents regarding financial policy and procedures that the organizations use to guide financial decisions. These documents may provide information regarding additional guidelines or standards followed during the financial decision-making process. There is a high probability that both the information and documents will be obtained since they only provide information regarding decision-making guidance. Additionally, a formal request will be sent to the cooperative's board president for said documents in the event that the documents are not provided by the interview participants. Furthermore, the researcher is not attempting to gain the actual financial data used to make decisions. The aforementioned documents will assist with methodical triangulation, which will facilitate the validation of the research data by cross verification between more than two sources. While the additional documentation would be useful for triangulation and provide additional insight, the lack of said documentation will not negatively impact the outcome of the research. Methodical triangulation will be conducted utilizing various computer applications such as Computer-Assisted Qualitative Data Analysis (CAQDAS) programs like NVIVO in order to assist with thematic analysis in this study. Thematic analysis provides a method of identifying, analyzing, and reporting patterns within collected data (Castleberry and Nolen, 2018). According to Castleberry and Nolen (2018), thematic analysis is commonly used since it provides a flexible method of data analysis when

dealing with various topics and research questions. Thematic analysis will assist with the familiarization of the data, including code and theme development. Furthermore, software programs for word processing, spreadsheet creation, and email will be utilized to facilitate interviews, data storage, coding, data retrieval, data comparisons, and overall data modeling for the case study. The study may contribute to the current body of knowledge regarding the utilization of SCM techniques being implemented in a non-competitive and monopolistic industry, such as the industry represented by the electric cooperatives within the State of Florida. Collier (1997) suggested the following regarding the electric cooperative industry:

Cooperatives already operate on thin margins; if they operate at a loss, they have to borrow money against their assets to remain in business. They have limited, naturally restricted markets, and little recourse to other markets. Strongly defined service territories have been their basis for financial viability. (p. 60)

### **Research Methodology and Design**

Utilizing a qualitative study is appropriate, since the goal of this study is to better understand a specific phenomenon through a participant's experience and perceptions. Qualitative research provides a flexible research design since the design encompasses various accepted methods and structures (Astalin, 2013; Butina, Campbell, & Miller, 2015; Yin, 2016). The case study research design was chosen, since this design may be descriptive or explanatory and can be used to describe a person, an organization or an institution (Astalin, 2013). The purpose of this study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management, which is why a qualitative approach and case study design are the most appropriate for this research.

**Qualitative research.** According to Baškarada (2014), it is the steps undertaken during the data collection and data analysis portion of the research design which logically connects research questions to the research conclusions. Qualitative research methods may be used to answer specific questions regarding a participant's experience and perspective, which is not always easy to count or measure (Hammarberg, Kirkman & de Lacey, 2016). There are four major types of qualitative research design, which include phenomenology, ethnography, grounded theory, case study (Astalin, 2013). Phenomenology describes things that participants have in common when experiencing a phenomenon (Creswell, Hanson, Clark Plano, and Morales, 2007). According to Astalin (2013), ethnography provides a scientific description of human societies, which lends to be an acceptable method for studies regarding cultures and people. Grounded Theory assists in theory development based on data collected (Creswell et al, 2007). Research by Creswell et al (2007) suggest that in addition narrative research and Participatory Action Research as qualitative research methods. Creswell et al (2007) suggest that narrative research includes the following: (i) studying one or two individuals, (ii) gathering data, (iii) reporting experiences, (iv) ordering the meaning of each experience chronologically. Participatory Action Research is a collaboration between the researcher and participants working to find a solution for a social problem (Creswell et al, 2007).

Hammarberg et al (2016), suggests that trustworthiness, credibility, applicability and consistency are areas in which qualitative researchers may defend the integrity of their work. Trustworthiness is gained by ensuring that said research is properly explained, described, and that the research methods are justified (Hammarberg et al, 2016). Credibility is obtained through the internal validity of the research, which may be defended through the use of triangulation (Hammarberg et al, 2016). The analyzing of both the web-based survey and collected

documentation within this study will assist in providing validity to the research through triangulation. External validity on the other hand is defended through the applicability of the study, which is handled through the sample provided (Hammarberg et al, 2016). The reliability of the study is assessed through the credibility of the research; however, credibility does not mean that the research needs to be recreated exactly rather that other studies must be successful at identifying similar patterns (Hammarberg et al, 2016).

### **Case Study design.**

While qualitative research methods such Narrative Research, Phenomenology, Grounded Theory, and Participatory Action Research each have a purpose, the Case study research design has many characteristics that make it a good choice regarding a qualitative research method and has multiple benefits over other research methods when applied to real world situations (Tetnowski, 2015). Case studies assist researchers describe, understand, and explain their research problems (Baškarada, 2014). Case studies provide researchers opportunities to gain a deeper understanding of the research problem, while also providing a method to better explain and describe a specific research problem (Baškarada, 2014). Tetnowski (2015), also suggests that case study research is also flexible enough to allow the researcher to work with emerging data sets and avoid methodological constraints that in turn assists with reducing examiner bias. Additionally, case studies are flexible enough to allow for both confirmatory and explanatory findings (Baškarada, 2014).

With that being said, there are three types of case studies: explanatory, exploratory, and descriptive (Tetnowski, 2015). Explanatory case studies are suited to explaining causal links between more than one event (Tetnowski, 2015). An exploratory case study provides a method in which to better understand a specific phenomenon and is particularly useful when there is little

information to use to guide the research (Tetnowski, 2015). Descriptive case studies attempt to provide both the context and a detailed picture of a specific phenomenon (Tetnowski, 2015). An exploratory case study is relevant for the purpose of this research since the goal is to better understand a specific phenomenon, which is the investigation into how SCM tools or techniques are being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage.

Qualitative case studies are investigations of “bounded systems” that focus either on a case or an issue surrounding a case (Stake, 1995). A “case” is the unit of analysis within a case study and may include a group, an individual, an institution, or even a concept (Sorin-Peters, 2004). Sorin-Peters (2004), also suggests that each of the aforementioned units of analysis constitute a “bounded system”. This “system” is the focus of the qualitative case study (McCaslin & Scott, 2003). The bounded system in this case study is the sampling frame, which is the group of electric cooperatives within Florida from which the participants are employed and are the population within the study. The unit of analysis being the individual electric cooperatives within the group.

### **Population and Sample**

The population for this study will be 12 of the 15 distribution electric cooperatives with headquarters in Florida that were identified using information from the Florida Electric Cooperatives Association (FECA) and Florida Department of Agriculture and Consumer Services websites. The selected cooperatives are members of the Florida Electric Cooperatives Association (FECA), Inc. and are all electric cooperatives located within the State of Florida. From the 12 electric cooperatives the researcher will conduct twenty-four interviews; two interviews will be conducted per electric cooperative. The 12 cooperatives follow the same



guiding principles and cover different regions of Florida. Each electric cooperative will be contacted utilizing email address information obtained through the Florida Electric Cooperative Association, which is the statewide association that represents their cooperative members before The Florida Legislature and The Florida Public Service Commission. The study will use purposive sampling in order to target the senior leadership of electric cooperatives as the key informant sample, which will be recruited through the contact information obtained from the Florida Electric Cooperative Association (Marshall, 1996; Farrugia, 2019). The rationale for targeting the senior leadership of electric cooperatives is that they are in positions that understand the cooperative environment and make decisions that impact the overall operations of the organization.

The sample will consist of 24 (people) interviews from twelve electric cooperatives within the population group. It is widely accepted that qualitative research tends to be relatively small compared to other forms of research methods; however, even though the sample size is small it should still be purposeful (Butina, Campbell, & Miller, 2015; Trotter II, 2012; Yin, 2016). The sample size covers 80% of the total population of electric cooperatives in Florida.

Marshall (1996), suggests the following:

An appropriate sample size for a qualitative study is one that adequately answers the research question. For simple questions or very detailed studies, this might be in single figures; for complex questions large samples and a variety of sampling techniques might be necessary. In practice, the number of required subjects usually becomes obvious as the study progresses, as new categories, themes or explanations stop emerging from the data (data saturation). (p. 523)

This is an important aspect of the qualitative method that provides the researcher with the flexibility to adjust a sample size in an appropriate manner in order to still achieve data saturation. The population has been selected and the sample size is known; however, the sampling frame may need adjusted in order to achieve a successful outcome. Additionally, the type of sample being used will further contribute to the success of this study. Purposive sampling will assist in ensuring that there is a high level of homogeneity within the participants of the study.

Guest, Bunce, and Johnson (2006) have further suggested the following:

We assume a certain degree of participant homogeneity because in purposive samples, participants are, by definition, chosen according to some common criteria. The more similar participants in a sample are in their experiences with respect to the research domain, the sooner we would expect to reach saturation. (p. 76)

Guest et al (2006) have suggested that, although as few as six interviews could produce saturation, twelve interviews should be sufficient if the aim of the study is to understand the perceptions and experiences of a relatively homogeneous group. Furthermore, the participants of this research are all members of the same industry, they all subscribe to the same seven guiding principles of electric cooperatives, and they all have similar financial obligations that must be met. The twenty-four web-based surveys from the participating twelve electric cooperatives, along with the relatively homogenous group should allow the researcher to reach saturation and reliably answer all research questions.

### **Materials or Instrumentation**

Qualitative research utilizes various instruments in order to collect data, which include open-ended questionnaires, interviews and classroom observations (Zohrabi, 2013). The web-

based survey will be the primary instrument of data collection for this study due to the amount of traveling that would be required to conduct face-to-face interviews at the various cooperatives throughout the State of Florida. Phone interviews and video conference meetings are also examples of cost-effective interview options that provide more immediate responses; however, according to Parsons (2007):

Web-based surveys offer the promise of efficiently collecting large amounts of data, providing access to larger samples, and reaching rare or hidden populations, thus enabling greater audience focus for exhibits and programs, all while saving time and money.

The web-based survey will utilize semi-structured questionnaire, which are a preferred interview type (Zohrabi, 2013). The semi-structured questionnaire is both flexible and provides the research participant an opportunity to provide more information than other interview methods. Vanette (2020) suggested the following:

Question design is one of the opportunities that researchers have to directly influence the quality of the data that a survey is used to gather. With all of the other ways that data quality can be degraded, there is no reason to miss the opportunity that question design offers to create a more intemaximize data quality. (p. 43)

The process for conducting the web-based survey has several stages depending on the needs of the study. The first stage of the survey includes the introduction email with a link to the actual web-based survey. The survey will start with the participants consent and participation acknowledgement. Consent and participation forms have been created using the NCU IRB templates. Additionally, it will be explained that there will be no incentives for participating in the study. A follow-up email will be sent if required due to lack of replies or if additional

information is required. Additional electronic communication methods may be used as requested by the participants of the research study, which may include a phone call or video conference call. A link to the web-based survey will be sent to each participant. The survey process includes a consent method that will be presented to each participant. The survey will contain all of the questions required for the participants answer and will provide the participant enough time to focus on each question. Additionally, the survey process through Qualtrics will allow the researcher to adjust or ask follow up questions based on the replies that are received. The survey will be pre-tested as suggested by Vanette (2020) in order to ensure that the questionnaire length is appropriate, that there are no errors, and that the questions are easy to understand. The original set of questions will be based off of the information identified in the framework provided by Kalkhouran et al (2015). The survey will consist of multiple open-ended questions that are consistent with semi-structured questionnaire designed to be flexible and generate rich data (Baškarada, 2014). In the event that the response rate is too low and a minimum of fifteen questionnaires are not received, there will be a follow-up email sent to each participant for which a reply has not been received; however, additional participation request may be sent out to the remaining electric cooperatives that makeup the population of this study if needed. The survey process will conclude with a final email thanking each participant for the information that was provided. The process as a whole should take less than four weeks to complete due to the nature of the interview process; however, more time may be required if requested by any participants or if additional follow up questions are required.

Additionally, organizational documents such as policies and procedures will be utilized and analyzed. These types of documents have been used in qualitative research for years (Bowen, 2009). Documents, along with the interview material, may be used as a combination in

order to perform triangulation in order to provide both convergence and corroboration (Bowen, 2009). Furthermore, triangulation will assist in providing further evidence of the credibility of the study and minimize bias (Bowen, 2009). According to Bowen (2009), documents contain information that may suggest additional questions that should be asked or even additional situations that should be observed as part of the research. Skimming, reading, and interpretation are all methods of document analysis (Bowen, 2009). Thematic analysis may be used to assist in coding and category construction in an attempt to uncover themes relevant to the study (Bowen, 2009).

### **Study Procedures**

The proposed study will implement various well documented processes and procedures to ensure that enough detail is provided and that the study can be replicated by other researchers. Northcentral University has provided access to the Qualtrics secure survey service, which will be the primary communication medium for this study. This web-based service will provide detailed digital records regarding the information requested, the information provided, the date and times of all communication transactions, and the participants in each electronic conversation. The web-based survey conducted in this study will use the “Survey Methodology & Compliance Best Practices” found on the Qualtrics website as well as the Qualtrics question design information provided by Vanette (2020).

The researcher will follow the recommendations provided in the guide by Vanette (2020) for conducting effective Qualtrics surveys and the information provided by Parsons (2007) regarding web-based surveys. Vanette (2020) suggests that survey designers should operate with two goals in mind: (i) making the response processes as easy as possible and (ii) avoid making it easy for respondents to shortcut the response process. Lastly, a participation email will be sent

that will include information regarding any incentives for participation, research ethics and informed consent documentation, instructions relating to the survey process, and relevant deadlines.

Additional data requests may be required for collecting relevant data from each participant in order to assist with methodical triangulation of the collected data, which will be done utilizing Northcentral University's secure email service or the Qualtrics' web-based survey services. The web-based survey and the available financial policies or procedure may provide additional guidelines or standards followed during the financial decision-making process, which will be useful for data triangulation. There is a high probability that the information being asked for will be obtained since the researcher is not attempting to gain the actual financial data used to make decisions, but rather the information and documents utilized during the cooperative's decision-making process. Lastly, a journal will be kept in order to document the activities during the study, in addition to the electronic journaling capabilities of both Northcentral University's secure email service and the Qualtrics' web-based survey service.

### **Data Collection and Analysis**

Data collection will begin after approval by Northcentral University Internal Review Board (NCU IRB) and an informed consent letter has been received from research participants. The confidentiality and the anonymity of the participants will be maintained in by ensuring that the names of each electric cooperative are coded with abbreviation of their company names and all email communications will be conducted by using NCU's email portal and Qualtrics services, which provide a more secure option compared to personal emails. Furthermore, the investigation questions have been formulated utilizing the semi-structured questionnaire protocol for the exploratory case study.

According to Castleberry and Nolen (2018), there are essentially five steps in the analysis of qualitative data. The five steps outlined by Castleberry and Nolen (2018) include compiling, disassembling, reassembling, interpreting, and forming a conclusion. The collected data will be analyzed using the steps outlined by Castleberry and Nolen (2018), which will assist in identifying themes within the data. According to Castleberry and Nolen (2018), themes assist in capturing the “essence” of the phenomenon being researched along with its relation to the research questions and purpose of the study. These themes are created by identifying patterns within interviews and the documents provided by the research participants, which will assist in reaching the overall research objective.

Additionally, attempts will be made to index and label the data according to various categories. Categories and coding in qualitative research are an ongoing process, which will continue as the study progresses and additional themes are identified. Categories will be created and should include: (i) the name of participating company; (ii) what aspects of SCM the company has implemented; (iii) then respective electric cooperative’s participating manager; (iv) the manager’s role and their responsibility; (v) and the additional data, policies, and procedures collected from that company that will assist with triangulation. Data analysis within this study will utilize Computer Assisted Qualitative Data Analysis (CAQDAS) programs like NVIVO, data triangulation methods, documentation, and maintain a clear chain of evidence in order to mitigate threats including, but not limited to: reactivity, validity, trustworthiness, and researcher bias within the case study (Yin, 2016; Auerbach & Silverstein, 2003; Odoh & Chinedum, 2014; Onwuegbuzie & Leech, 2007; Sinkovics, Penz, & Ghauri, 2008). Reactivity is a threat since the researcher is in the research environment. Threats to validity include practices or procedures that may discredit the soundness of a research study. Threats to trustworthiness occur when the

proposed research is not properly explained and if the appropriate research methods are not used. Reflexivity is research bias that may occur if a researcher is unable to keep their own opinions from leading to the misinterpretation of research results. According to Castleberry and Nolen (2018):

NVivo® (QSR International Pty Ltd), MAXQDA (VERBI GmbH), and ATLAS.ti® (Scientific Software Development (GmbH) are widely used tools that provide technological support to the qualitative research that streamlines the data analysis process and allows for more complex, deeper analysis of the data. (p. 809)

Furthermore, member-checking will be utilized in order to ensure that the experiences of each participant are represented accurately. Castleberry and Nolen (2018), suggest that the feedback provided by each participant during the analytic process will assist by supporting the ability to defend interpretations and conclusions. Additionally, an intra-coder process that is suggested by Castleberry and Nolen (2018) will be utilized, which includes an initial coding of data, a waiting period, and then a re-coding of the same data. The final coding will assist in identifying the major themes in the study for Thematic Analysis and assist with the overall interpretation of the data. The final interpretations of the data will assist in answering all research questions and include deeper discussions regarding the relationships between themes and the other findings in the study. Using the aforementioned process outlined by Castleberry and Nolen (2018) should assist the study in withstanding any scrutiny regarding the decision making that was made throughout the analysis process.

### **Assumptions**

This study includes the following two assumptions:

- the knowledge level of each participant, and



- the honesty of the participants in the study.

The first assumption regarding this study is that all participants will understand the purpose of this research. The second assumption in this study is that participants will provide honest insight during the interview process. There is a high probability that the information will be provided, since the requested information does not contain any confidential data or trade secrets. Furthermore, triangulation methods will be utilized to analyze both the web-based survey and collected documentation (Gibson & Brown, 2009; Onwuegbuzie & Leech, 2007; Yin, 2016). As stated previously, Methodical Triangulation will be used since between-method triangulation can be used to collect data through reactive procedures such as interviews and non-reactive procedures such as policies or procedures and will assist in increasing research validity (Flick, 2004; Baškarada, 2014). Regarding trustworthiness, Anney (2014) suggested that the criteria for trustworthiness in qualitative research include credibility, transferability, dependability, confirmability, integrity. The aforementioned purposive sampling process and triangulation data analysis process will assist in ensuring that the criteria for trustworthiness in qualitative research has been met, which includes the credibility and transferability of the study (Anney, 2014). Triangulation will assist in reducing systematic bias and allow for the cross-examination of the participants' responses, which will improve the overall integrity of the study (Anney, 2014). Lastly, using purposive sampling techniques allow the researcher to maximize the information being uncovered, which provides more in-depth findings than could be achieved by other probability samplings methods.

### **Limitations**

Low participation turnout along with validity and reliability are three limitations within this study. While validity and reliability are limitations associated with qualitative research

design chosen for this study, low participation turnout would increase the possibility that the study would inadequately represent the total population of the study. Data triangulation and documentation will assist in ensuring the validity and reliability of the study. Low participation should be mitigated since web-based surveys allow the participants to respond when they have time to address the research questions. Furthermore, the requested reply window and survey method will provide enough time for the participants to complete the survey. Follow-up emails will be sent out to participants if a reply has not been received within a four-week window.

Although using a web-based survey may reduce many of the social cues identified in face-to-face meetings, using other aspects of thick description will assist in ensuring the transferability of the study. Furthermore, the credibility of the study will be backed by Methodical Triangulation and detailed documentation. The aforementioned methods used to ensure the validity, reliability, credibility, and transferability of the study will all lend to the overall trustworthiness of the study.

### **Delimitations**

The research objective is to explore the use of SCM by electric cooperatives to formulate financial strategies that improve their overall competitive advantage. The first delimitation of the study is that the intention is not to cover any best practices regarding the implementation of SCM nor is it the intention to consider any specific leadership style. The second delimitation of the study includes the interview design, which was the choice of the researcher. The interview design was chosen to provide the participants the flexibility required, so that their responses may include enough detail into how each electric cooperative within the State of Florida have implemented SCM tools and techniques. The interview design should provide a high probability that the requested information will be provided due to its ease of use and the request does not ask

for confidential information or trade secrets, which will not impact the overall research objective. Additionally, a formal request will be sent to the cooperative's board president for said documents in the event that the documents are not provided by the interview participants. The final delimitation is the inclusion of only participants within electric cooperatives that are involved with creating and implementing financial strategies.

### **Ethical Assurances**

The research study will commence once the approval for the research by the Northcentral University Institutional Review Board (IRB) has been received. In compliance with ethical assurance, each participant will be provided voluntary consent forms asking them to participate in the study. Participants will also be notified that there will be no compensation or incentive offered for their participation in this study. All efforts to keep data safe and secure will be made; however, it is difficult in today's environment to make any guarantees regarding the security of data stored in cloud environments due to the level of technology available. With that being said, data collection during the web-based survey process will be conducted using the secure Qualtrics survey environment provided by Northcentral University.

The study does not collect personal health information or information protected under the Health Insurance Portability and Accountability Act (HIPAA), so the need for additional security procedures aimed to protect sensitive data is reduced; however, the researcher understand that all data will be kept secure and confidential in the event that a participant inadvertently provides data that requires additional safeguards. Offline storage will be used to store data collected during this study. Additionally, only the researcher and members of his dissertation team will have access to the data collected during the study. In order to ensure the security of the data collected in this study, this researcher will maintain a journal that will identify the data collected,

when the data was requested, when the data was received, and the date, time, and signature of the person accessing said data.

The researcher is currently employed by an electric cooperative and a member of an electric cooperative's senior staff; however, the researcher's employer will not be a participant in this research. While the researcher is a member of senior staff, he is not in a position that guides the overall financial direction of the cooperative and is not a CFO or CEO. While researcher bias is a concern due to the researcher's employment within the population being studied, there are processes and procedures in place to reduce the possibility of this occurring.

The researcher has adopted the role of an "insider researcher", which Kanuha (2000) describes as individuals that conduct studies in the populations in which they are also members. Kanuha (2000) also cautions the following:

For each of the ways that being an insider researcher enhances the depth and breadth of understanding a population that may not be accessible to a nonnative scientist, questions about objectivity, reflexivity, and authenticity of a research project are raised because perhaps one knows too much or is too close to the project and may be too similar to those being studied. (p. 444)

Continuous assessment as well as consulting my NCU research Chairperson and other faculty will be utilized whenever data interpretation is necessary, which will ensure that the researcher maintains objectivity, reflexivity, and authenticity. Lastly, the researcher is able to put aside his own understanding of the research topic and keep an open mind to the information provided by the participants. Gibbs (2017) explained that the insider approach has been increasingly used by practitioner researchers. Gibbs (2017) suggests that the researcher

associated with insider research should be aware of problems arising from objectivity and emotional distance.

### **Summary**

In summary, rural electric cooperatives are organizations that have played an important part in our American history. Rural electric cooperatives are community led organizations that adhere to a set of seven core principles, which provide the guidance for their overall operational framework. While the number of electric cooperatives has grown over the years, so too has the threats that they are facing. Changes in regulations, technology, the environment, and competition all require electric cooperatives to make well informed and strategic financial decisions. SCM provides a framework of tools and processes that aim to reduce overall costs, while improving an organizations financial and competitive position. Integrating SCM into the decision-making process within electric cooperatives may provide them with the strategic advantage to compete with future threats and maintain their financial viability.

The literature reviewed has suggested and identified multiple gaps in research regarding rural electric cooperatives and SCM. This study aims to bridge said gaps and to contribute to existing research. This dissertation will utilize a qualitative case study to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management. The research design of this exploratory case study will provide a clear direction regarding how to proceed with the research and resolve any questions that arise during the collection of data from the research participants.

The objective of Chapter 4 is to summarize the collected data, analyze it and then to present the results. The researcher's goal in Chapter 4 is to present the findings of the study clearly and succinctly, while leaving the interpretation of the results for Chapter 5. Furthermore,

Chapter 4 will demonstrate how the methodology presented in this chapter established trustworthiness, ensured credibility, and provided confirmability.

## Chapter 4: Findings

The purpose of this qualitative case study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management. The phenomenon that was studied was how strategic cost management was used to improve the competitive advantage for electric cooperatives in a not-for-profit, natural monopoly industry. This chapter provides the result of fifteen surveys from senior staff members that represented ten different electric cooperatives in the State of Florida. Each electric cooperative that participated in this study provided responses that aimed to provide a better understanding on how their organization formulates their financial strategies. The remainder of this chapter is organized in the following sections: Trustworthiness of the Data, Study Results, Evaluation of the Findings, and Summary.

A web-based survey, utilizing semi-structured questioning format was used to gather data from each of the twelve participants. Additionally, any financial policies utilized by the participants were request and were reviewed using NVIVO in order to assist with thematic analysis. Thick descriptions and generalized data taken from the various sources used in the data collection are included to illustrate the explanations. The qualitative study may lead to a better understanding of the financial decision-making process utilized by electric cooperatives and the use of strategic cost management in the not-for-profit sector.

### Trustworthiness of the Data

This section will clearly identify the means by which the trustworthiness of the data was established. Credibility, transferability, dependability, and confirmability will each be addressed in order to ensure that trustworthiness has been established. The semi-structured questions on the survey provided information regarding various financial aspects, education level, and the

knowledge of strategic cost management within the electric cooperatives serving members in the State of Florida. The survey revealed that just over half of the senior leaders of the participating electric cooperatives have heard of SCM. Most participants also identified solar as one of their PEUs. The survey and requested financial policies provided multiple data sources, which increased the understanding of the study and provided the data that was used to establish triangulation.

Triangulation, a few member checks, and the use of the Qualtrics Survey software all assisted in establishing trustworthiness in the research data. Triangulation was one method used as a way of corroborating the researcher's findings and a test the overall validity of the study. Triangulation corroborates two or more sources of data or types of data and assists with attributing creditability to the data. In addition to triangulation, member checking was another technique used to provide confidence in the credibility of the study, minimize bias, and improve the overall integrity of the study (Anney, 2014 ; Bowen, 2009). The credibility of the study was further enhanced through the use of the Qualtrics Survey, which provided an audit trail of the interaction between the researcher and participant. The methodology and design were described by the researcher, which would allow the study to be repeated and ensure that the dependability requirements were met. The transferability of the study was increased by the use of purposive sampling. Purposive sampling considers the characteristics of those within the sample. These characteristics are directly related to the research questions. Confirmability was achieved by utilizing quotes from participants that assist with depicting identified themes and by ensuring that the research findings were a result of the electric cooperative's senior leader's experiences and not the biases of the researcher.



## Results

The information and answers provided by this study assisted in better understanding of how SCM tools or techniques are utilized by the executive staff at electric cooperatives in Florida to formulate financial strategies to improve the competitive advantage. The survey was sent to 28 participants that represented 14 of the electric cooperatives within Florida that were asked to participate in the study, in which 15 participants volunteered to be part of the study. These 15 participants represented 13 of the 14 electric cooperatives with employees asked to participate in the study. Seven of the 13 participants stated that they have financial policies; however, only 3 were provided when asked.

The responses from each participant to the survey questions and information gathered from the financial document review provided data that, after analysis, answered the following two research questions:

**RQ 1.** How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?

**RQ 2.** How are SCM tools or techniques being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage?

The remainder of this chapter includes demographics data that was collected during the survey, the results of the study, evaluation of findings, and the chapter 4 summary.

## Demographics

This section includes information regarding the participant recruitment process and how each participant was selected to voluntarily participate in this study. This demographic data is also an important aspect of the study since it provides data that was an integral part of the

framework provided by Kalkhouran et al (2015), which was the framework used during the development of the survey questions. Demographic information regarding the participants' educational level, time working in current position, and data collection procedures are presented. Additionally, an analysis of the research questions and open-ended survey questions was completed using both Qualtrics data analysis and NVIVO system. Emerging themes were identified by the researcher after all surveys had been received and reviewed.

**Participant recruitment.** The researcher reviewed the contact information that was available using the Florida Electric Cooperatives Association website and the website of each electric cooperative in the Florida. Requests were sent to prospective participants who met the criteria outlined in the previous section. The researcher collected information from cooperative employees who voluntarily consented to participate in the study. The researcher reviewed the data provided by each cooperative employee to verify they met the required criteria for the study. Due to the limited responses received, each qualified cooperative employee from the review were selected to participate in the study.

**Data collection procedures.** The 15 surveys were conducted using the Qualtrics web-based survey system. The Qualtrics survey system estimated that each survey should take no more than 7 minutes and 12 seconds (07:12). The survey times recorded by the participants ranged from 2 minutes, 38 seconds (2:38) to 30 hours, 41 minutes, 29 seconds (30:41:29) in duration; a difference of 30 hours, 39 minutes, 9 seconds (30:39:09) between the shortest and longest survey completion times. The variation in the time it took to complete each survey may be attributed to the depth of responses, work schedules, and environmental factors faced by the participants. Some participants provided more detailed information compared to other participants.

The Qualtrics survey system digitally recorded each survey response based on consent granted by each of the 15 participants and provided an easy-to-use breakdown for each survey response. While there were no known technological errors during the survey response processes, some participants had notified the researcher that they had not received the link to complete the survey. The researcher had to resend the survey recruitment email multiple times and follow up with a phone call to ensure that the participant received the invitation to participate in the survey. The research completed member checking to ensure information gathered and used by the researcher was accurate and complete. Three participants responded during the member checking process. Two of those participants indicated their agreement with the information provided by the researcher, while one participant stated that they had not answered survey question 10 correctly, since their cooperative did not have a formal financial policy that they could share. So, only one participant requested any changes; therefore, the researcher updated the participant's answer to question 10 accordingly following the member checking process.

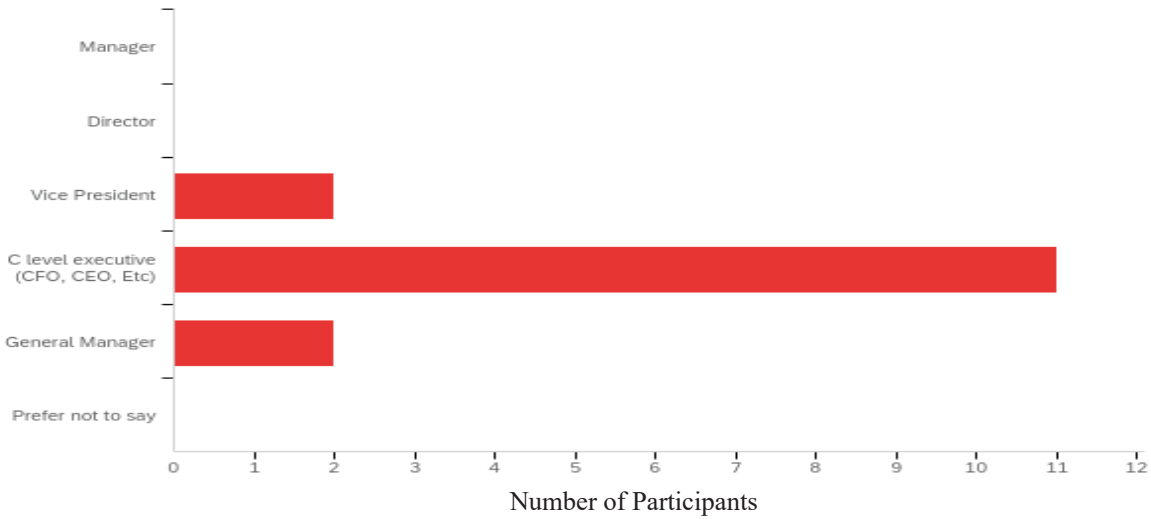
Each participant was asked 22 survey questions (see Appendix C). The responses to the questions provided data that were analyzed, coded, and organized into themes by the researcher using the tools provided by Qualtrics and through NVIVO data analysis. The responses to each question were compared to the response of the other participants in order to evaluate them for similarities. By reviewing responses in this manner, patterns emerged, data was coded for thematic analysis, and saturation was satisfied.

**Participant characteristics.** Fifteen cooperative employees voluntarily participated in this study without any compensation. Of the 15 cooperative employees, two identified as General Managers, 11 identified as C level executives (CFO, CEO, etc.), and two identified as Vice President as seen in Figure 1. Of the 15 participants, six have bachelor's degrees and nine have

master's degrees as seen in Figure 3. Of the 15 participants, six have spent less than 5 years in their current position, four have spent between 5 and 10 years in their current position, two have spent between 11 and 15 years in their current position, and three have spent 16 or more years in their current position as seen in Figure 2.

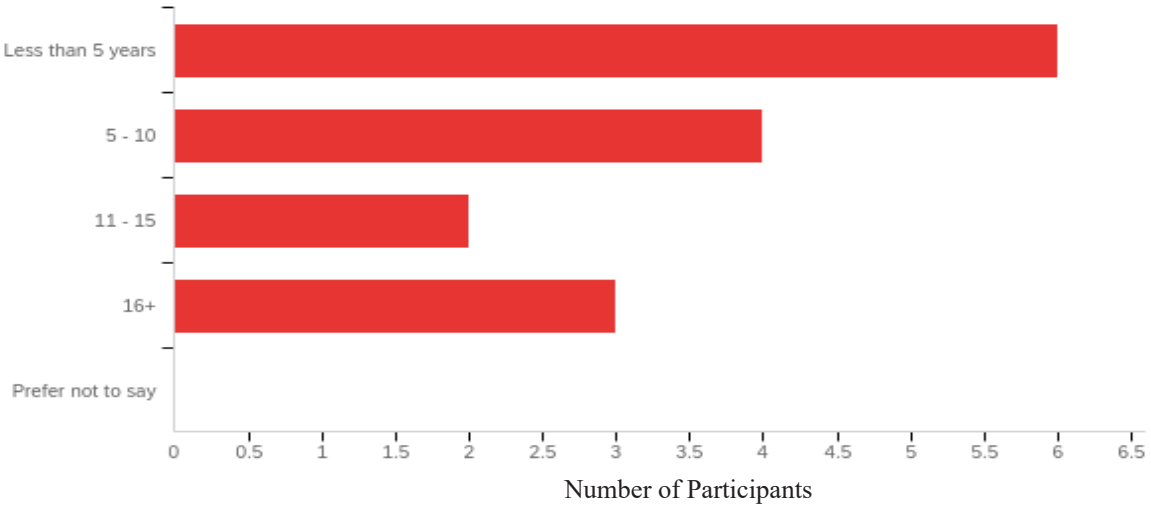
**Figure 1**

*Participant's Job Title Data*



**Figure 2**

*Participant's Years of Service Data*



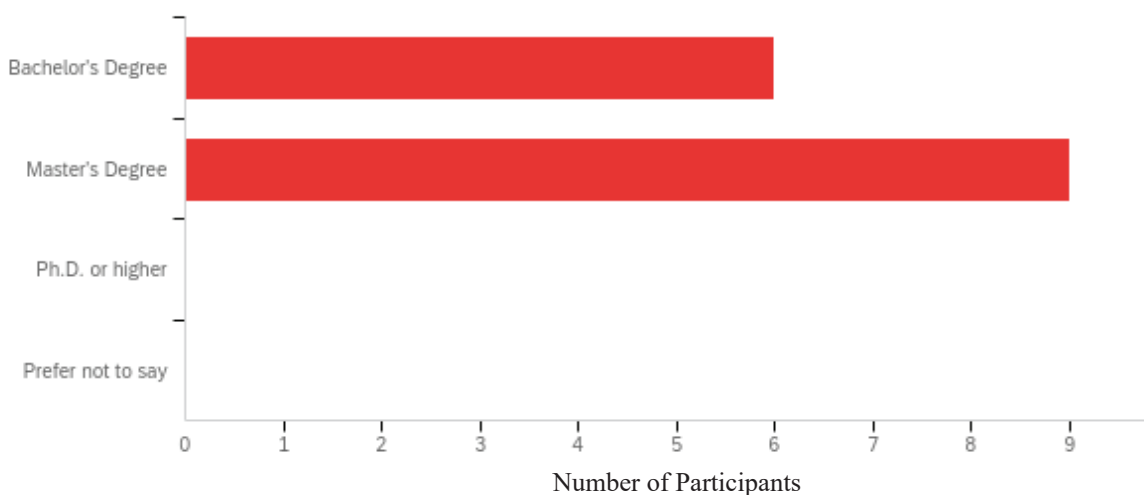
**Figure 3*****Participant's Education Level Data***

Table 1 contains 19 of the 23 survey questions and to what research question they are related to, which will be discussed later in this chapter.

**Table 1*****Relation of Survey Questions to Research Questions***

Survey Question	Research Question Addressed
Does your electric cooperative have a formal budgeting process?	RQ1
What type of budgeting method does your cooperative use?	RQ1
Does your electric cooperative have a formal financial policy?	RQ1, RQ2
Are you able to share your electric cooperative's financial policy?	RQ1, RQ2
Does your electric cooperative perform financial forecasting?	RQ1
Which type of financial forecasting do you use?	RQ1
Does your electric cooperative use the Key Ratio Trend Analysis (KRTA) information provided by the National Rural Utilities Cooperative Finance Corporation?	RQ1
Do you mind sharing which KRTAs are used by your electric cooperative?	RQ1

Does your electric cooperative utilize any Business Intelligence (BI) tools?	RQ1
Do you mind sharing which BI tools are used by your electric cooperative?	RQ1
Does your electric cooperative conduct Strategic Planning Meetings?	RQ1
When was your last Strategic Planning Meeting?	RQ1
Who participates in your Strategic Planning Meetings? (Select all that apply)	RQ1
Have you heard of the terms Strategic Cost Management (SCM) or Strategic Management Accounting (SMA) prior to being asked to participate in this research study?	RQ2
Does your cooperative utilize Strategic Cost Management during financial decision-making?	RQ1, RQ2
Are there any Perceived Environment Uncertainties (PEU) that your electric cooperative is facing? (deregulation, solar installations, etc.)	RQ2
Would you mind sharing which Perceived Environment Uncertainties (PEU) that your electric cooperative is facing?	RQ2
How do these Perceived Environmental Uncertainties potential impact your cooperative financially?	RQ1, RQ2
Do you use any of the following tools to guide your financial decisions (select all that apply):	RQ1, RQ2

**Research Question 1.** How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?

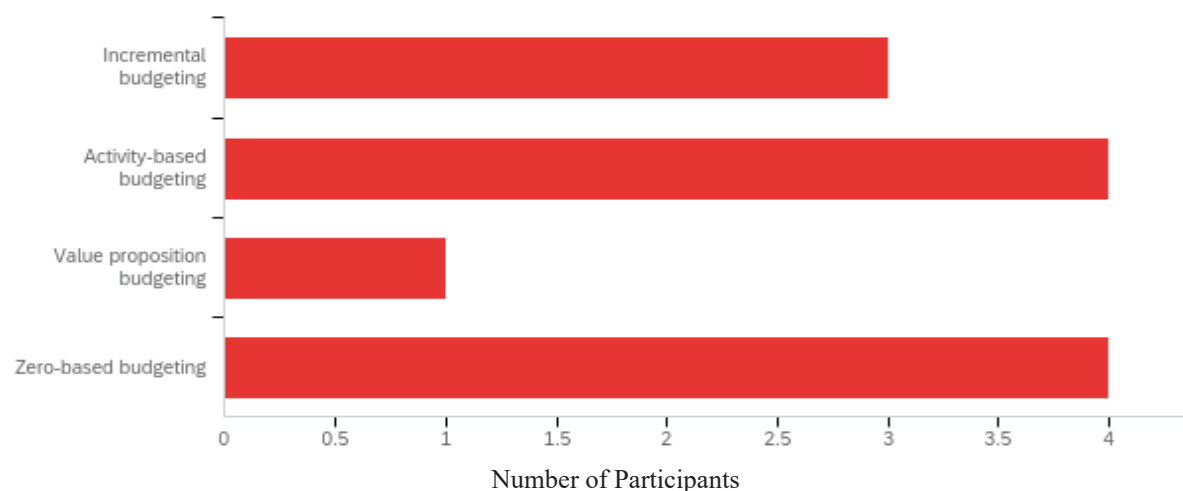
### **Cooperative Specific Financial Guidance Data**

**Formal Budgeting Process.** Fourteen of the participants responded that their electric cooperative has a formal budgeting process. Twelve of the fourteen answered the follow-up question regarding the type of budgeting method used by their organization. Activity-based budgeting and Zero-based budgeting are the two most utilized types of budgeting methods, as

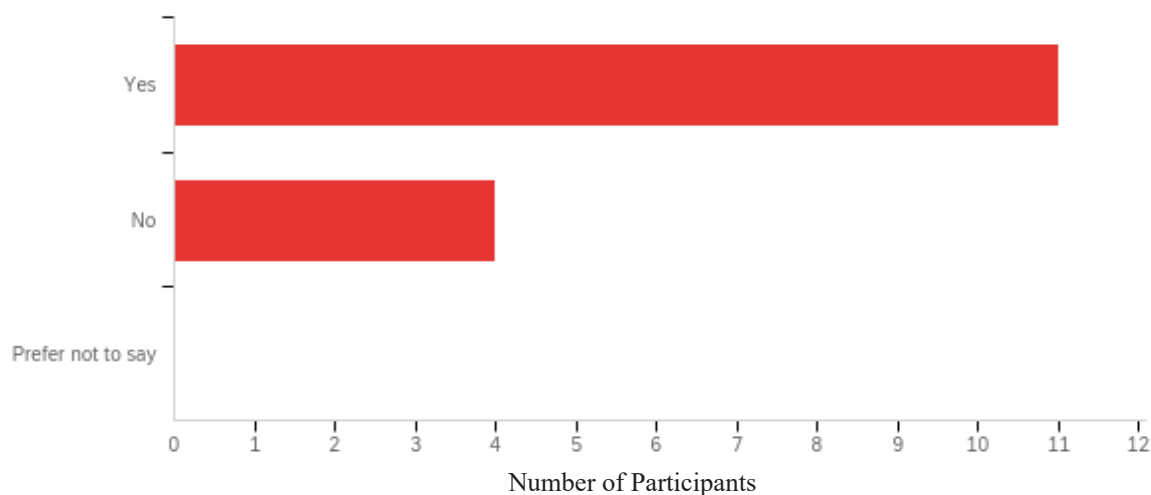
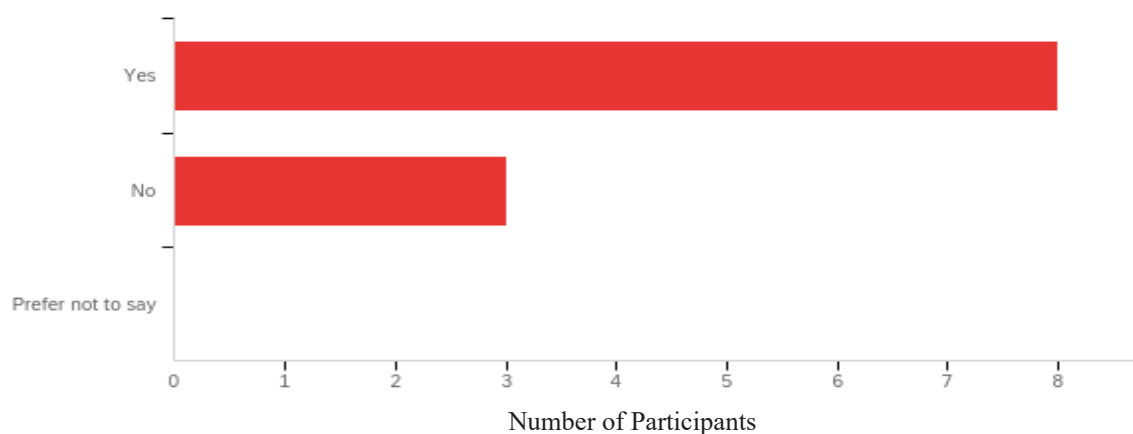
seen in Figure 4. Only four of the financial policies received mentioned a budgeting process; however, none of them identified any specific type of budgeting to be used.

**Figure 4**

***Participant's Budgeting Method Data***



**Formal Financial Policy.** All fifteen of the participants responded to the question regarding having a formal financial policy. Only eleven of the participants responded that their electric cooperative has a formal financial policy, as seen in Figure 5. Additionally, only seven participants stated that they are able to share their electric cooperative's financial policy, as seen in Figure 6. Only three of the financial policies received contained verbiage relating to "competitive" or "strategic". The financial policy received from Participant 8 stated that the policy should enable them to "respond to competitive challenges and strategic opportunities (For example: Being able to maintain competitive rates in order to attract new loads and/or acquire new territory)". While the policy from Participant 14 stated that one of the goals of the policy should be to "Enhance a competitive position to support the organization's Mission to provide efficient, reliable, cost-competitive electric and emerging energy solutions and quality service to our customers."

**Figure 5*****Participant's Financial Policy Data #1*****Figure 6*****Participant's Financial Policy Data #2***

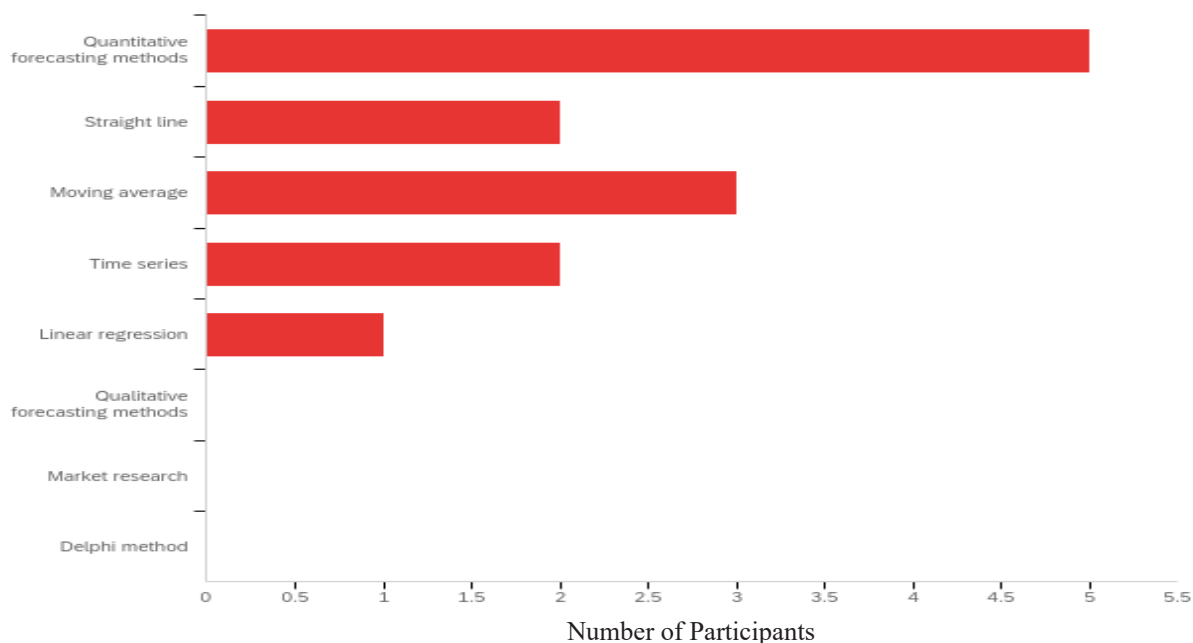
**Financial Forecasting.** All fifteen of the participants responded to the question regarding performing some type of financial forecasting. The most widely utilized type of financial forecasting was Quantitative forecasting methods and Linear regression was utilized the least, as seen in Figure 7. All six of the financial policies received mentioned some form of financial forecasting. As stated in the financial policy from Participant 8 regarding financial forecasting “It shall further be the responsibility of the CFO to prepare an annual ten-year financial forecast,



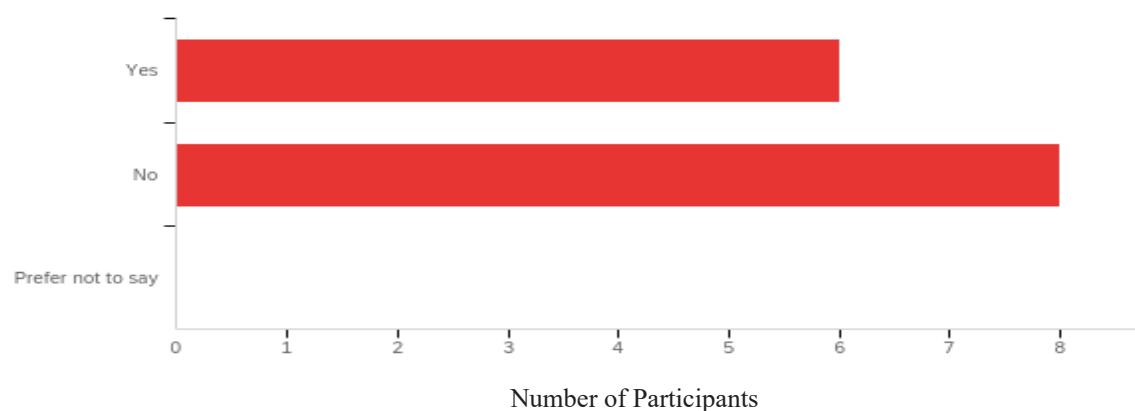
using industry accepted financial forecasting methods, to gauge the organization’s projected, ongoing ability to meet the provisions of the Plan and to recommend corrective actions, if necessary.”

**Figure 7**

***Participant’s Use of Financial Forecasting***

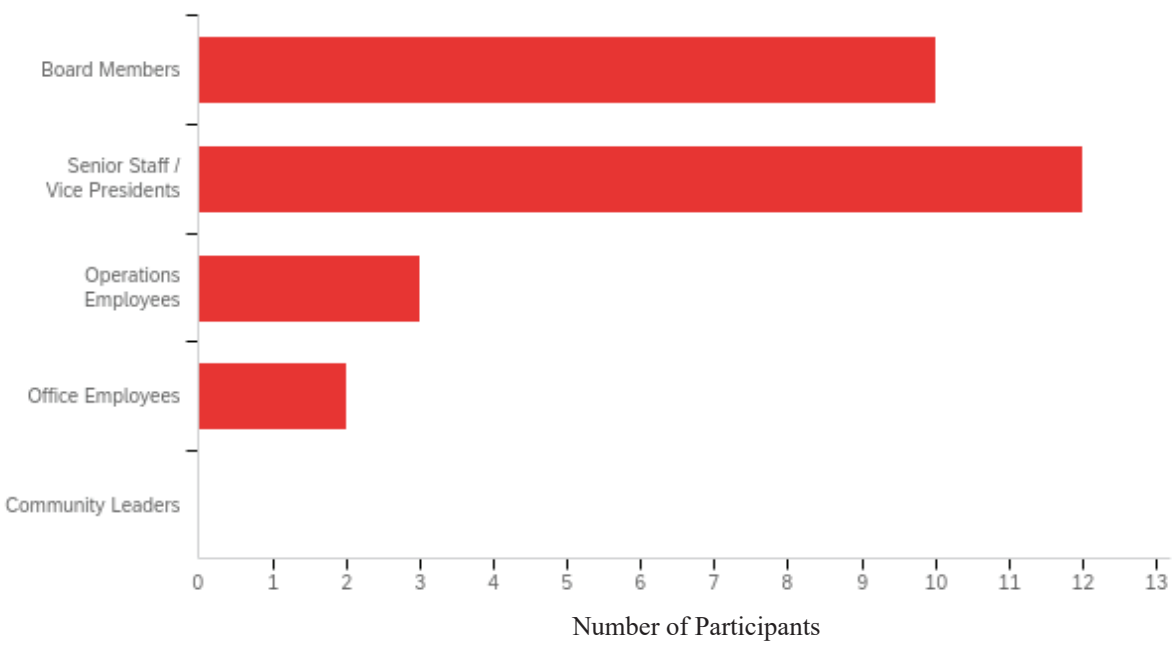


**Business Intelligence (BI) Tools.** Only six of the fourteen participants responded that they use some form of BI Tools, as seen in Figure 8. The most widely utilized type BI Tool was PowerBI and one electric cooperative reported utilizing internally developed tools. Only the financial policy provided by Participant 10 mentioned tools required to monitor “deviations” and “trends”. The financial policy provided by Participant 10 stated, “The managerial accounting system shall be designed to reflect deviations from plans, budgets, and trends and reports shall be prepared and distributed on a timely basis so indicated corrective or remedial action can be taken. All major deviations in costs from plans, budgets, and trends shall be reported promptly to the Board of Trustees.”

**Figure 8*****Participant's Use of BI Tools***

**Strategic Planning.** All fifteen of the participants responded to the question regarding performing some type of strategic planning meeting. Eleven of the electric cooperatives have held a strategic planning meeting within the past three years, one electric cooperative has held a strategic planning meeting 4 – 6 years ago, and three participants did not answer the question. The policy provided by Participant 11 stated that one of the purposes of their capital management plan was to “Provide a connection to the strategic planning process.” Senior Staff / Vice Presidents were the most prominent participants in these strategic planning meetings, as seen in Figure 9.

**Figure 9**  
*Strategic Planning Meeting Participants*



After analyzing the survey responses and document review data received from the participants for the survey, the following survey questions were related to **RQ 1**: 9, 10, 13, and 14 as seen in Table 2.

**Table 2*****Research Question 1 and Themes from Open-Ended Survey Questions 9, 10, 13, 14***

Research Question	Survey Questions	Themes
How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?	Question 9: Does your electric cooperative have a formal financial policy?	Six participants provide the financial related policies utilized by their electric cooperative.
	Question 10: Are you able to share your electric cooperative's financial policy?	benchmark, budget, competitive, cost, forecasting, management, and strategic
	Question 13: Does your electric cooperative use the Key Ratio Trend Analysis (KRTA) information provided by the National Rural Utilities Cooperative Finance Corporation?	No themes were identified regarding this question; however, all participants acknowledged the use of KRTA data.
	Question 14: Do you mind sharing which KRTAs are used by your electric cooperative?	Although several participants provided KRTA ratios, only three financial polices mentioned ratios contained in the KRTA. The financial policies received from Participants 8, 11, 14 mentioned TIER, OTIER, or Equity ratios.

Requesting the financial policies from each participant in the study was in part to assist with triangulation, but it was also to identify any additional information or guidance that may have been provided to management regarding financial decision-making. The themes that emerged after reviewing the provided financial policies were identified and some of the verbiage in the polices were “the specific goal to ensure that retail electric rates are providing appropriate revenue to achieve the benchmarks as stated below. These ratios will be calculated consistent

with standard industry practices. The Board of Trustees retains the right to modify this policy in the future. Goal 1 - Maintain an Operating Times Interest Earned Ratio of 1.75 times with an acceptable range of 1.5 times to 2.5 times. Goal 2 - Maintain a Distribution Equity to Total Assets Ratio of 40% with an acceptable range of 40% to 50%,” “Prior to the beginning of each (fiscal) calendar year, the Board of Trustees shall review and approve a work plan and capital and operating budget,” “To respond to competitive challenges,” “Orderly planning for a well-balanced capital structure will aid in obtaining funding when needed, lower the cost of capital, assist in controlling the costs of funding the operations, and maximize the value of the company to the organization members,” “Cash flow forecasts shall be prepared as often as is necessary to assure the availability of funds to cover current expenditures,” “The guidelines and parameters outlined in the Plan are intended to provide management with sufficient latitude to make daily management decisions,” and “To support strategic goals of high-quality service and competitive rates.” Additionally, it was clear in some of the financial policies that certain KRTA values were used to provide goals to guide management within their financial decision-making process. Examples of this guidance include, “Rates are established and finances managed to maintain TIER at approximately 2.0 and DSC at approximately 2.5 which results in strong credit ratings enabling the organization to obtain the most competitive interest rates from lenders. Debt covenants do not require a minimum TIER but do require a minimum DSC, depending on the lender, between 1.35 and 1.50. Debt covenant requirements with the organization’s power supplier include a TIER and DSC greater than 1.5 and 1.75 respectively.”

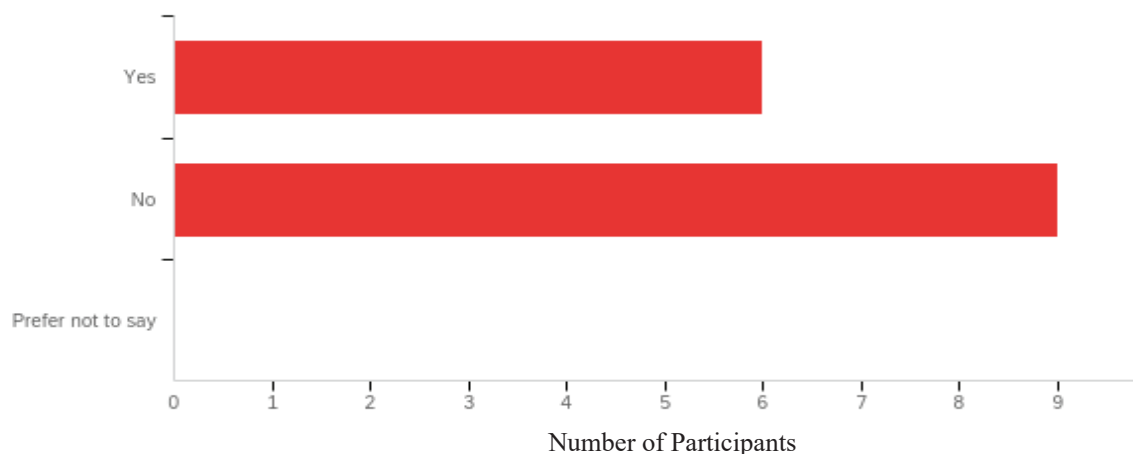
**Research Question 2.** How are SCM tools or techniques being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage?

### Strategic Cost Management Data

**Familiarity with SCM.** Six of the participants responded that they had heard of the terms Strategic Cost Management or Strategic Management Accounting, as seen in Figure 10. Only three of the six participants stated that they utilize SCM during financial decision-making. None of the financial policies received mentioned SCM by name.

**Figure 10**

#### *Participant's Familiarity with SCM*

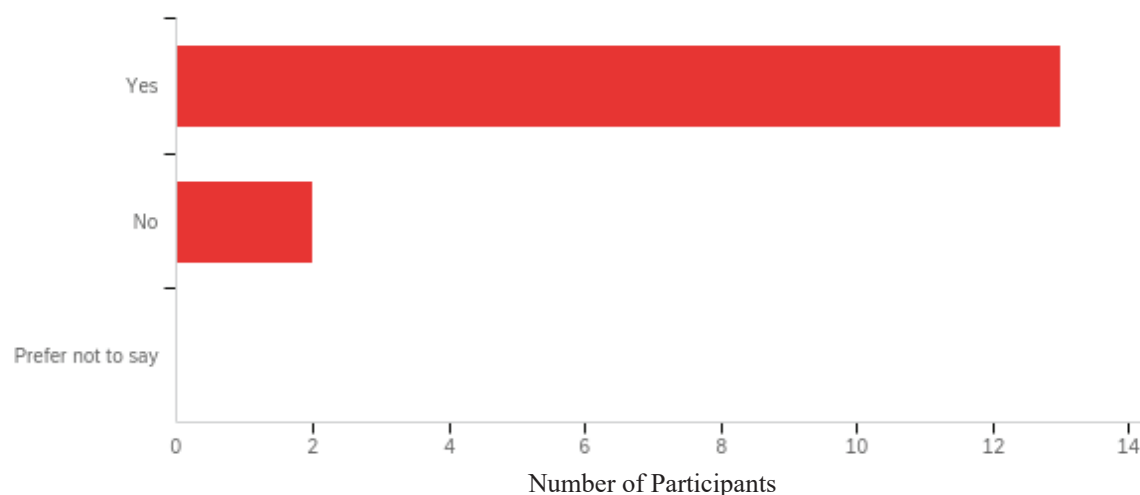


**Perceived Environmental Uncertainties (PEU).** Fourteen of the participants responded that they were facing some form of PEUs, as seen in Figure 11. The most common PEUs mentioned were solar, deregulation, and other regulatory issues. In the follow-up question regarding the potential impact of the PEUs, Participant 5 stated in the survey that “All are potentially disruptive if not planned for appropriately.” Participant 1 stated in the survey that “Currently the impact is minimal but the growth of household solar in our market has exploded

recently.” Participant 10 stated in the survey that “Increased power cost from our power provider and additional costs if there are added regulations.”

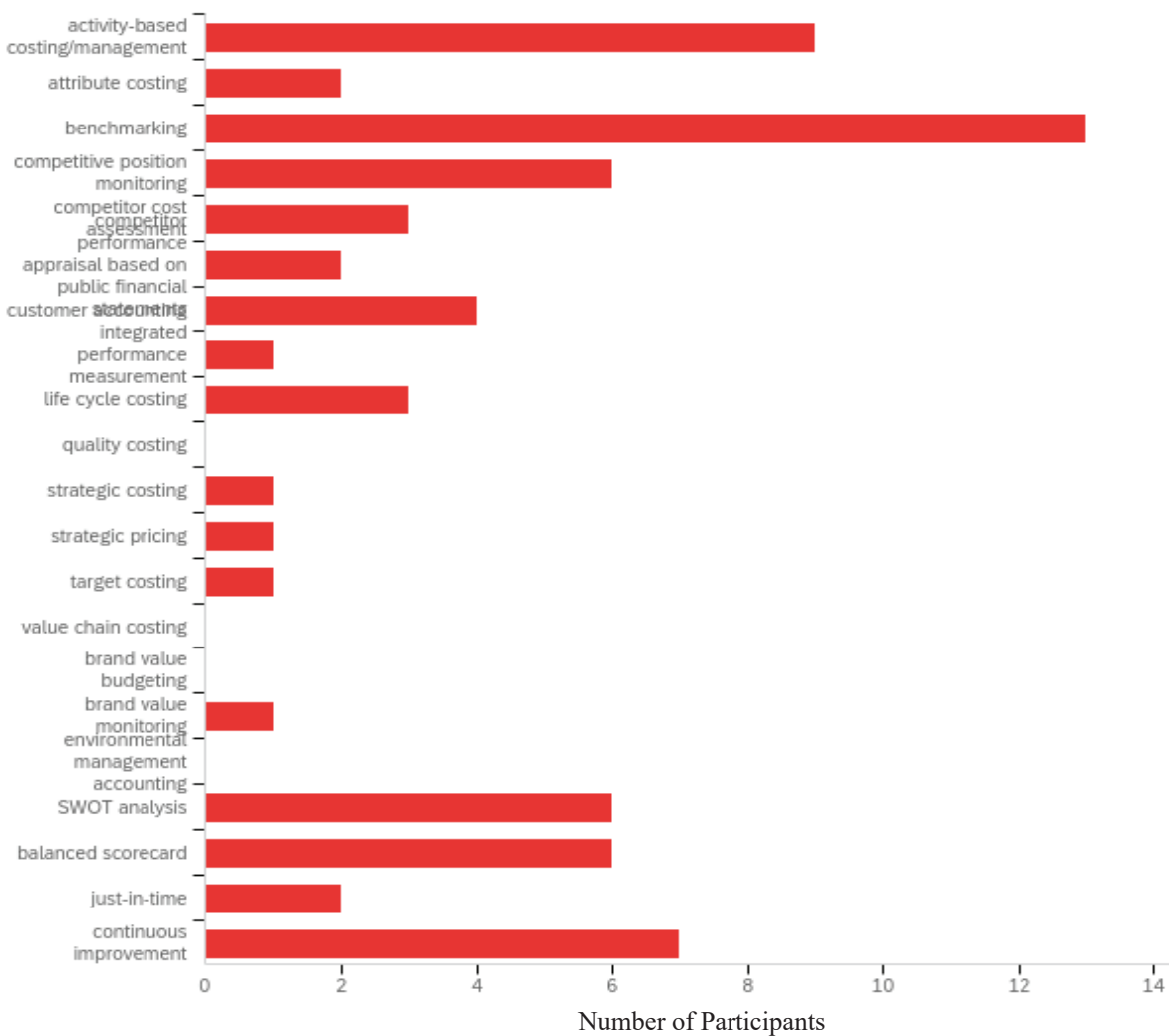
**Figure 11**

*Participant’s Perceived Environmental Uncertainties*



**SCM Tools.** Benchmarking and activity-based costing/management were the two most widely used tools according to the responses received from the participants. In order to get a better understanding of what SCM tools are being used by electric cooperatives within the State of Florida, participants were able to select multiple SCM related tools that they utilize to make their financial decisions, as seen in Figure 12. While many of the SCM tools were identified as being used by these electric cooperatives, benchmarking was the only SCM tool mentioned in one of the financial policies that had been submitted when reviewed using the NVIVO software.

Figure 12

*SCM Tools Identified*



After analyzing the survey responses and document review data received from the participants for the survey, the following survey questions were related to **RQ 2**: 23, 24, and 25 as seen in Table 3:

**Table 3**

***Research Question 2 and Themes from Open-Ended Survey Questions 23, 24, 25***

Research Question	Survey Questions	Themes
How are SCM tools or techniques being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage?	Question 23: Are there any Perceived Environment Uncertainties (PEU) that your electric cooperative is facing? (deregulation, solar installations, etc.)	No themes were identified regarding this question; however, 13 of the 15 participants acknowledged facing some type of PEUs.
	Question 24: Would you mind sharing which Perceived Environment Uncertainties (PEU) that your electric cooperative is facing?	Solar, Deregulation, and Net Metering
	Question 25: How do these Perceived Environmental Uncertainties potential impact your cooperative financially?	Costs, Rates, Reduced Sales

The themes that emerged after reviewing the provided financial policies were identified and some of the responses from the participants in the survey were “Solar”, “Deregulation”, “Net Metering Costs”, “Rates”, and “Reduced Sales”. Participant 2 stated that “The alternative energy movement/net metering, regulatory issues regarding IOU acquisitions, IOU theft of Cooperative Territory.” Participant 6 shared that the “pressures to integrate green technologies, power supply decisions, deregulation of energy markets, third party solar options” are some to the PEUs that their electric cooperative were facing. Participant 11 stated that “Solar expansion pressured rate restructuring to eliminate subsidies. Coal elimination challenges our G&T reflecting higher



## Evaluation of the Findings

This section includes an evaluation of the findings of the study to compare and expand research relevant to strategic cost management. Further, this section provides an increased understanding of how electric cooperatives utilize strategic cost management. The findings were evaluated by comparing themes presented in the survey and the provided financial policies. In light of the existing research and conceptual framework (as discussed in Chapters 1 and 2), the findings of this qualitative study assist in expanding existing research regarding the use of SCM in the not-for-profit industry; specifically, electric cooperatives operating within the State of Florida. The study evaluated the survey responses and financial policies provided by 13 of the 14 electric cooperatives asked to participate in the research. Each participant completed a Qualtrics survey aimed at identifying how SCM was being utilized in their organization. In comparison to other studies, the results confirm how and to what extent SCM is being utilized based on the conceptual framework provided by Kalkhouran et al (2015).

The framework proposed by Kalkhouran et al (2015) highlighted three contingency variables for having a significant effect on the use of advanced management accounting principles, which are perceived environmental uncertainty (PEU), advanced manufacturing technology, and CEO characteristics. The aforementioned framework was utilized to assist in evaluating and answering the following two research questions: (i) “How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?”; (ii) “How are SCM tools or techniques being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage?”. With this in mind, the data that stood out the most was that out of the 15 participants that responded to the survey, only 6 had heard of SCM and only

half of the six stated that SCM was used during financial decision-making. Three of the 6 participants that had heard of SCM identified as CEO/GM and only one of them stated that SCM was used during financial decision-making. The survey data clearly shows that the majority of the participants either had not heard of nor used SCM in their financial decision-making process, which is in line with the literature review by Nasieku and Githinji (2016) that found that there was lower usage of SCM in both the UK and North America when compared to other countries. Participant data also alludes to very low usage of SCM within the State of Florida's electric cooperative not-for-profit industry in contrast to the increased usage in the manufacturing field in which a majority of past research covers (Nasieku & Githinji, 2016; Pavlatos, 2018).

While this data at face value was concerning, the additional survey data and financial policies provided information that these electric cooperatives did utilize many of the identified SCM tools and that similar PEUs were a driving force regarding their financial decision-making process. The data also seems to agree with the findings by Cescon, Costantini, and Grassetti (2019), in which the researchers concluded that measuring SMA technique "based only on use or lack of use could be misleading". Cescon et al (2019) stated that some SMA techniques could be partially adopted, which aligns with the participant data collected in this study that SMC tools are being used; however, only three participants identified as using SCM during their financial decision-making process. Another prominent finding was that only five of the electric cooperatives stated that they are using some form of Business Intelligence (BI) tool, which would draw into question how efficiency or effectiveness issues identified in order to formulate financial decisions in a timely manner.

## Summary

Two research questions were developed to better understand how SCM is being utilized by electric cooperatives within the State of Florida. Qualtrics survey data from thirteen different electric cooperatives within the State of Florida and the financial policies provided by 6 electric cooperatives were used to create data sets within NVIVO software in order to better answer the two research questions presented in this study. The data itself provided some interesting insight into an industry in which the researcher is currently employed. While the data shows that there is an effort to utilize various accounting tools and to identify PEUs that may impact the organization, it is clear that a majority of participants had not heard of SCM and therefore the framework had not been implemented regardless of how the data was framed into the conceptual framework provided by Kalkhouran et al (2015). This highlights a point made by Liu (2015) when analyzing the problems that exist when implementing SCM, which was:

Many enterprises cost management staff lack...the necessary financial and accounting knowledge...For the specific requirements of strategic cost management, a lot of enterprises lack of the comprehensive analysis ability and competition consciousness, thus unable to provide useful information for enterprise managers, sales and investment decision-making process. (p. 33)

Furthermore, it is possible for both the tools and techniques associated with SCM to be used and for the organization to not follow the SCM framework. This would be in line with one of the significant issues identified by Nasieku and Githinji (2016), which was that the SCM techniques being used by organizations were not necessarily “strategy-driven”. This is where the leadership component of the framework provided by Kalkhouran et al (2015) is so important, since senior leadership play integral roles in the decision-making that shapes the direction of the

company. Kalkhouran et al (2017) further found that there was a positive indirect relationship between the use of SMA and CEO characteristics. Lastly, the PEUs listed by the participants were similar to those identified by the researcher and this was another indication that the electric cooperatives could benefit from implementing a more strategic decision-making framework like SCM.

## Chapter 5: Implications, Recommendations, and Conclusions

Leaders in the emerging environment will succeed by focusing on strategies that create new value for customers and that demonstrate nimble responsiveness to the broader contextual demands on energy systems, perhaps particularly during a time of rapid change (Graffy & Kihm, 2014). The problem addressed in this study was to determine how SCM tools or techniques are utilized by the executive staff at electric cooperatives in Florida to formulate financial strategies to improve the cooperative's overall competitive advantage. The purpose of this qualitative case study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management.

The qualitative, exploratory research design was used in this study. This study utilized a web-based survey method to collect data from 15 individuals representing 13 of the 15 Florida electric cooperatives selected to participate in this study. The small sampling size of the study is within the typical range for case study research using purposive sampling due to each participant sharing similar heterogeneous characteristics that include similar backgrounds and experiences (Farrugia, 2019; van Rijnsoever, 2017). All participants were employed in senior leadership positions within their respective electric cooperatives at the time of completing the required survey. A web-based survey was conducted using Qualtrics, which is a software application for designing, distributing, and analyzing surveys. Additionally, participants were asked to provide documents regarding financial policy and procedures that they use to guide financial decisions.

Various computer applications were utilized to facilitate participant communications, data storage, coding, data retrieval, data comparisons, and overall data modeling for the case study. After analyzing the data, the results were compiled in a manner that could be used to provide a better understanding of the use of SCM tools or techniques that are utilized by the

executive staff at electric cooperatives in Florida to formulate financial strategies aimed at improving the cooperative's overall competitive advantage. Lastly, the three limitations within the study were low participation turnout, validity, and reliability. While the minimum participant rate was achieved for the study, the study had a much lower participant rate than expected. The lower participant rate could be attributed to the Covid-19 pandemic and overall work conditions, due to remote work capabilities or for being out of work due to quarantine procedures. The lower participation rate also reduced the number of financial documents provided, which could impact the triangulation method used to improve the validity and reliability of the study.

The researcher adhered to both the standards and practices of privacy, confidentiality, and anonymity based on the research guidelines outlined by Northcentral University. Each participant was provided a copy of the Informed Consent form by the researcher. All reported information provided by participants has been coded in a manner to ensure the anonymity of participant and their respective electric cooperatives. Member checking was conducted with each participant to ensure the survey data was presented in an accurate and complete manner.

Results from this study may provide a better understanding of the use of strategic decision-making frameworks like SCM with the electric cooperative, not-for-profit sector. By identifying management's knowledge of SCM and what strategically aligned financial tools are being used to make financial decisions, senior leadership at electric cooperatives may be able to improve upon business processes or improve the implementation of strategically driven financial goals. Results from this study may also be beneficial to not only the leaders and senior staff members of electric cooperatives, but also accounting professionals and other researchers. Furthermore, results of this study may contribute to a better understanding of the financial decision-making process within electric cooperatives as well as how strategic decision-making



frameworks may assist electric cooperatives navigate the financial challenges within their industry. A brief review of the implications of the study, recommendations for practical application, and recommendations for further academic research follow.

### **Implications**

After analyzing data from the study, a better understanding of how financial decisions are made at electric cooperatives was gained. Four implications emerged after reviewing the data. Two implications are related to the first research question including the need to include more specifics within financial documents for better guidance and the need to identify the proper BI tools that electric cooperatives can use in order to monitor in near real-time for financial deviations and trends. The two implications that are related to the second research question included the need to formalize and require the use of tools and techniques that assist with meeting financial goals in a strategic manner and the need to provide a better understanding of how strategic decision-making frameworks, such as SCM may be utilized to better address and reduce the impact of the aforementioned PEUs.

**Research Question 1 implications.** The first research question was, “How does strategic decision-making tools or techniques influence the financial strategies created by electric cooperatives within the state of Florida?” The purpose of the first research question was to better understand how senior leadership within electric cooperatives formulate their financial decisions. To answer the research question, a survey was completed by 13 electric cooperative employee participants. Based on the responses from the participants, the primary theme of Documentation emerged.

Each of the participants completed the survey; however, only 6 participants provided documents relating to their financial policies or other documentation relating to financial

guidance. NVIVO was used to collect specific data from the provided documents and survey. The data was collected, analyzed, and coded. After analyzing the data, two themes emerged including 1) Use of Financial Documents and 2) Lack of use of Business Intelligence Tools.

**Implication 1.** The majority of participants identified having a formal budgeting process and financial policies, which are two items used to assist in formulating financial decisions. While having the documents is a start, there is a need include more specifics within the documents for better guidance. The data provides examples of the need to possibly include the type of budgeting process to be used, what does it mean to be competitive, and what strategic goals should be achieved. Each of these items are beneficial for improved guidance since uncertainty may impact the budgeting process (Costantini and Zanin, 2017).

**Implication 2.** The majority of participants do not use any form of Business Intelligence (BI) tools besides the traditional form of financial forecasting. The majority of participants utilize KRTA data for comparative analysis and use specific ratios including TIER, OTIER, and Equity for referencing financial health. Only one of the financial policies received had mentioned using tools to monitor the financial status of the cooperative. There is a need to identify the proper BI tools that electric cooperatives can use in order to monitor in near real-time for financial deviations and trends. Business leaders utilize information from various systems in order to make better decisions especially as their business environment goes through competitive changes (Kalkhouran et al, 2015).

Regarding SMA, the finding from this question was consistent with previous research by Alsoboa, Nawaiseh, Karaki, and Al Khattab (2015), in which it was found that strategic decision-making tools or techniques do influence performance and had an impact on the financial strategies utilized by the participants of their study. The survey results show the participants of

this study were utilizing the tools and techniques associated with SCM, which provide the information needed to make appropriate financial decisions.

**Research Question 2 implications.** The second research question was, “How are SCM tools or techniques being utilized by the management of electric cooperatives within Florida to formulate financial strategies to improve their overall competitive advantage?” The purpose of the second research question was to identify what strategic tools or techniques are being used by senior leadership within electric cooperatives and how they impact the financial decision-making process. To answer the research question, a survey was completed by 13 electric cooperative employee participants. Based on the responses from the participants, the primary theme of Knowledge and Use emerged.

Each of the participants completed the survey; however, only 6 participants provided documents relating to their financial policies or other documentation relating to financial guidance. NVIVO was used to collect specific data from the provided documents and survey. The data was collected, analysis, and coded. After analyzing the data, two themes emerged including 1) Knowledge of SCM and 2) Financial Impact.

**Implication 1.** While the majority of participants responded that they had not heard of SCM prior to the survey, all but one participant referenced utilizing at least one tool or technique associated with SCM. Only one of the financial policies received specifically mentioned the use of benchmarking as a tool. There is a need to formalize and require the use of tools and techniques that assist with meeting financial goals in a strategic manner. SCM is more than just tool and techniques commit resources, it is a process that requires organizations to properly: (i) formulate and apply policies and procedures; (ii) establish strategic objects, activities and instruments (Ibrahim, 2006).

**Implication 2.** All but one participant identified some type of Perceived Environmental Uncertainty (PEU) that their electric cooperative is facing. Participants mentioned that Solar, Deregulation, and Net Metering could increase cost and rates, while reducing overall sales. There is a need to provide a better understanding of how strategic decision-making frameworks, such as SCM may be utilized to better address and reduce the impact of the aforementioned PEUs. According to Costantini and Zanin (2017), “Different contingency-based researches suggested that under conditions of high PEU, the use of sophisticated broad scope reports could reduce uncertainty and support more informed managerial decision-making.” (p. 382).

The finding from this question was consistent with previous research by Cescon et al (2019), in which it was found that measuring SMA technique usage based only on use or lack of use could be misleading. The survey results confirm that only 6 of the 15 participants had heard of SCM, while each participant was able to identify one or more SCM related tools that they have utilized in order to make financial decisions. Additionally, it could also be viewed that PEUs are not as much as a factor regarding financial strategy within electric cooperatives and that Porter’s five forces framework may have more relevance as identified in the research by Cescon et al (2019). While there were PEUs identified by 13 participants, there was not a direct correlation between the PEUs and the financial policies provided. Lastly, the finding from this question was not consistent with previous research by Cinquini and Tenucci (2010), in which it was found that defenders make greater use of costing techniques; however, the electric cooperatives in this study identified utilizing competitor and performance related techniques more frequently.

## Recommendations for Practice

There are three recommendations for practical application including utilizing some form of Business Intelligence tools, improve financial policies by providing specific guidance, and ensuring that financial practices and policies align strategically with overall financial goals.

**Recommendation 1.** The first recommendation is to utilize some form of Business Intelligence tools. Business Intelligence tools are used to transform data into information, information in decisions, and decisions into actions (Işık, Jones, and Sidorova, 2013). There are many BI tools to choose from and PowerBI was referenced the most by participants utilizing a BI tool. According to Kalkhouran et al (2015), “Better information leads to more effective administrative decisions” (p. 50). Unlike traditional management accounting that deals with internal and historical business information, organizations need access to external and future-oriented information regarding strategic decision-making (Kalkhouran et al, 2015). Utilizing a BI tool would assist electric cooperatives to better identify trends and deviations regarding various aspects of the organization that may impact the overall financial decision-making process.

**Recommendation 2.** The second recommendation is to improve financial policies by providing specific guidance. According to El Kelety (2006), “a strategy cannot be determined without first knowing the objectives that are to be pursued and the policies that are to be followed” (p. 31). Financial policies should provide more information than overall responsibilities and general financial guidance. Including specific goals, metrics, tools, and reporting guidelines may assist in improving the financial decision-making process.

**Recommendation 3.** The third recommendation is to ensure that financial practices and policies align strategically with overall financial goals. El Kelety (2006), stated that

“Organizational mission statements, policies, objectives, and strategy are not mutually exclusive components of strategic planning process” (p. 31). Are the goals of the financial documents to ensure that the organization runs as lean as possible, aligns solely with the seven cooperative principles, aligns with the organization’s mission, or to provide competitive services? Each of these goals have different purposes and may be achieved utilizing different strategic methods.

### **Recommendations for Future Research**

There are three recommendations for further academic research including expanding the study, evaluating different strategic management frameworks within the not-for-profit sector, and researching different business intelligence technologies utilized within the not-for-profit sector.

**Recommendation 1.** The first recommendation is to expand the study to other regions of the United States. Research involving other regions of the United States may provide the opportunity for different perspectives, thoughts, and opinions to be presented that would enhance overall research in this area. Furthermore, this may allow the findings of this study to be either confirmed or contrasted.

**Recommendation 2.** The second recommendation is to evaluate different strategic management accounting frameworks within the not-for-profit sector. This study had a focus on SCM; however, there are other strategic related frameworks like Enterprise Risk Management that may provide additional financial guidance to electric cooperatives. Electric cooperatives operate as natural monopolies, so the concept of competition could have multiple meanings requiring different approaches. There may be frameworks that are easier to implement within the not-for-profit sector that could provide different data in a new study.

**Recommendation 3.** The third recommendation is to research different business intelligence technologies utilized within the not-for-profit sector. Business intelligence tools like

those provided by SAP, Tableau, Microsoft, and IBM are just a few options in a growing field of software offerings that provide organizations with real-time data in order to enhance their decision-making processes. While no specific BI tool was researched in this study, it is widely understood that it is difficult to make strategic decisions when lacking appropriate information.

Low participation turnout, validity, and reliability are the three limitations that were identified in this study. Future researchers have the ability to improve this study through the aforementioned recommendations. Specifically, the low participation turnout may be improved by targeting a region that may have been less impacted by the 2020 Covid-19 pandemic, by increasing the participation population to include multiple states, or by including other members of the electric cooperatives senior staff. Validity and reliability are two limitations that could be improved by future researchers by identifying other financial documents or case studies that could be used for a more thorough use of methodical triangulation. Ultimately, impact from the Covid-19 pandemic to the study is another unknown; however, the impact may not simply be one of low participant turnout, but also include the many changes in both the work environment and the financial strategies being implemented by the participating electric cooperatives. Lastly, the data collected clearly shows that participants are not specifically utilizing an SCM framework and believe that there are some serious PEUs that may financially impact their respective cooperatives in the future. The next logical step regarding this line of research would be to identify the best method implement SCM within the not-for-profit sector in order to address the specific PEUs that have been identified.

## **Conclusions**

Several areas were covered in this chapter including a review of the study process and findings, implications, recommendations for practical application, and recommendations for

further academic research. There were two implications for each research question. There are three recommendations for further academic research including expanding the study, evaluating different strategic management frameworks within the not-for-profit sector, and researching different business intelligence technologies utilized within the not-for-profit sector.

The recommendations addressed practical perspective and were based on the limitations and implications from this study. There are three recommendations for practical application including utilizing some form of Business Intelligence tools, improve financial policies by providing specific guidance, and ensuring that financial practices and policies align strategically with overall financial goals.

The electric cooperative business environment has changed a fair amount since the 1930's due to advancements in technology, changes in the regulatory environment, and increased competition. Electric cooperatives appear to be positioned favorably financially for many years within Florida, due to the current favorable regulatory environment and successful lobbying organizations. However, increasing fuel costs, technology improvements, renewables, and increasing distributed energy projects are a few perceived environmental uncertainties that must be accounted for if electric cooperatives intend to continue to be competitive in the future. It is imperative that electric cooperatives include frameworks like SCM in order to develop strategies that will address threats to their industry, while still adhering to their seven cooperative principles.



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Appendices

## Appendix A: Consent Letter Example

### Introduction

My name is George Buckner. I am a doctoral student at Northcentral University and conducting a research study on Strategic Cost Management. Strategic Cost Management is also referred to as Strategic Management Accounting. The purpose of the study is to determine how electric cooperatives formulate financial strategies to improve their overall competitive advantage using strategic cost management. The name of this research study is “Strategic Cost Management and Electric Cooperatives.” I am seeking your consent to participate in this study. Your participation is completely voluntary, and I am here to address your questions or concerns at any point during the study.

### Eligibility

You are eligible to participate in this research if you:

1. Are a Chief Finance Officer.
2. Are a Vice President of Finance.
3. Are a General Manager.
4. Are a Chief Executive Officer.
5. Work for an Electric Cooperative within the State of Florida.

I hope to include 24 people in this research.

### Activities

In this study, participants will:

1. Receive and respond to questions in a web-based survey format. The questionnaire should take approximately 15 minutes or less to complete.
2. Follow up correspondence may be used if clarification is required.
3. Review your survey response information within 2 weeks from conclusion of the web-based survey. This is to ensure that the data collected is accurately represented in the study.
4. Provide feedback if applicable. Participants may report discrepancies or confirm the accuracy of their survey responses within 1 week of receiving the interview summary.

### Risks

There are no foreseeable risks or discomforts associated with this study. You may skip any question or stop participation in this study at any time.

## Benefits

If you participate, there are no direct benefits to you.

This research may increase the body of knowledge in the subject area of this study.

## Privacy and Confidentiality

I will secure your information with these steps: identifiers will be used to protect the identity of the participant and the electric cooperative and your personal information, cooperative information, and financial information will not be used for any purposes outside of this study.

This data could be used for future research studies without additional informed consent from you or your legally authorized representative.

Even with this effort, there is a chance that your identifying/private information may be accidentally released.

I will securely store your data for 3 years. Then, I will delete electronic data and destroy paper data.

## How the Results Will Be Used

The results of this study may be published according to Northcentral University policy and/or procedures. Data may be used on an individual basis to highlight important findings in the study. Participants will not be identified within the study.

## Contact Information

If you have questions, you can contact me at: [g.buckner1497@o365.ncu.edu](mailto:g.buckner1497@o365.ncu.edu) or (352) 221-3171.

My dissertation chair's name is Dr. Robert Davis. They work at Northcentral University and is supervising me on the research. You can contact them at: [rdavis@ncu.edu](mailto:rdavis@ncu.edu)

If you have questions about your rights in the research or if a problem or injury has occurred during your participation, please contact the NCU Institutional Review Board at [irb@ncu.edu](mailto:irb@ncu.edu) or 1-888-327-2877 ext 8014.

## Voluntary Participation

If you decide not to participate, or if you stop participation after you start, there will be no penalty to you: you will not lose any benefit to which you are otherwise entitled.

## Consent

If you consent to participate in this research, please select the "I agree" below.

## Appendix B: E-Mail Request for Volunteer Participants

(Insert date)

Dear (insert name),

My name is George Buckner, and I am a doctoral student at Northcentral University. I am conducting a research study that is focused on Strategic Cost Management and how it is used by electric cooperatives in the State of Florida. Strategic Cost Management may also be referred to as Strategic Management Accounting.

I am recruiting individuals that meet these criteria:

- Chief Financial Officers, or
- Vice Presidents of Finance, or
- General Managers, or
- Chief Executive Officers
- Who work at electric cooperatives within the State of Florida.

The activities for this research project will include:

- Agree to use the web-based survey format for the study.
- Respond to each question found in the web-based survey and follow up questions as needed. The set of survey questions will be given a week to complete, which includes any follow up questions. Questions should take no longer than 15 minutes to answer.
- Review the survey responses for accuracy. Participant will be given two weeks to review their survey responses.
- Provide feedback regarding the accuracy of the web-based survey responses. Participant will be given one week to provide feedback regarding the completeness and accuracy of their survey responses.

Your participation in this study is voluntary.

If you are interested in participating in this study please read the attached consent form and reply to this e-mail ([g.buckner1497@o365.ncu.edu](mailto:g.buckner1497@o365.ncu.edu)) if you would like to participate in my doctoral research study. If you are not interested in helping with the study, but you would like to refer someone, please send me their name(s) and contact information.

Thank you for your interest.

George Buckner III  
 Doctoral Candidate Northcentral University Prescott Valley, Arizona  
[g.buckner1497@o365.ncu.edu](mailto:g.buckner1497@o365.ncu.edu)



## Appendix C: Semi-Structured Questionnaire

### **Introduction:**

Hello, my name is George Buckner III and I am a doctoral candidate at Northcentral University pursuing a Doctor Of Business Administration. My research is focused on Strategic Cost Management, also referred to Strategic Management Accounting, and how it is used by electric cooperatives in the State of Florida.

There are no right or wrong answers, or desirable or undesirable answers. I would like you to feel comfortable saying what you really think and how you really feel. Everything you say will remain confidential, meaning that only myself, my dissertation chair, my subject matter expert, and possibly other university staff will be aware of your answers – the purpose of that is only so we know whom to contact should we have further follow-up questions after this interview. The Institutional Review Board may also review my research and view your information.

### **Background Questions:**

Which of the following most closely matches your job title?

- Manager (1)
- Director (2)
- Vice President (3)
- C level executive (CFO, CEO, Etc.) (4)
- General Manager (5)
- Prefer not to say (6)

How long have you have you been in your current position?

- Less than 5 years (1)
- 5 - 10 (2)
- 11 - 15 (3)
- 16+ (4)
- Prefer not to say (5)

What is the highest degree or level of education you have completed?

- Bachelor's Degree (1)
- Master's Degree (2)
- Ph.D. or higher (3)
- Prefer not to say (4)

### **Cooperative Specific Questions:**

Does your electric cooperative have a formal budgeting process?

- Yes (1)
- No (2)
- Prefer not to say (3)

What type of budgeting method does your cooperative use?

- Incremental budgeting (1)
- Activity-based budgeting (2)
- Value proposition budgeting (3)
- Zero-based budgeting (4)

Does your electric cooperative have a formal financial policy?

- Yes (1)
- No (2)
- Prefer not to say (3)

Are you able to share your electric cooperative's financial policy?

- Yes (1)
- No (2)
- Prefer not to say (3)

Does your electric cooperative perform financial forecasting?

- Yes (1)
- No (2)
- Prefer not to say (3)

Which type of financial forecasting do you use?

- Quantitative forecasting methods (1)
- Straight line (2)
- Moving average (3)
- Time series (4)
- Linear regression (5)
- Qualitative forecasting methods (6)
- Market research (7)
- Delphi method (8)

Does your electric cooperative use the Key Ratio Trend Analysis (KRTA) information provided by the National Rural Utilities Cooperative Finance Corporation?

- Yes (1)
- No (2)
- Prefer not to say (3)

Do you mind sharing which KRTAs are used by your electric cooperative?

Does your electric cooperative utilize any Business Intelligence (BI) tools?

- Yes (1)
- No (2)
- Prefer not to say (3)

Do you mind sharing which BI tools are used by your electric cooperative?

Does your electric cooperative conduct Strategic Planning Meetings?

- Yes (1)
- No (2)
- Prefer not to say (3)

When was your last Strategic Planning Meeting?

- 1 - 3 years ago (1)
- 4 - 6 years ago (2)
- 7+ years ago (3)

Who participates in your Strategic Planning Meetings? (Select all that apply)

- Board Members (1)
- Senior Staff / Vice Presidents (2)
- Operations Employees (3)
- Office Employees (4)
- Community Leaders (5)

**Strategic Cost Management Specific Questions:**

Have you heard of the terms Strategic Cost Management (SCM) or Strategic Management

Accounting (SMA) prior to being asked to participate in this research study?

- Yes (1)
- No (2)
- Prefer not to say (3)

Does your cooperative utilize Strategic Cost Management during financial decision-making?

- Yes (1)
- No (2)
- Prefer not to say (3)

Are there any Perceived Environment Uncertainties (PEU) that your electric cooperative is facing? (deregulation, solar installations, etc.)

- Yes (1)
- No (2)
- Prefer not to say (3)

Would you mind sharing which Perceived Environment Uncertainties (PEU) that your electric cooperative is facing?

How do these Perceived Environmental Uncertainties potential impact your cooperative financially?

Do you use any of the following tools to guide your financial decisions (select all that apply):

- activity-based costing/management (1)
- attribute costing (2)
- benchmarking (3)
- competitive position monitoring (4)
- competitor cost assessment (5)
- competitor performance appraisal based on public financial statements (6)
- customer accounting (7)
- integrated performance measurement (8)
- life cycle costing (9)
- quality costing (10)
- strategic costing (11)
- strategic pricing (12)
- target costing (13)
- value chain costing (14)
- brand value budgeting (15)
- brand value monitoring (16)
- environmental management accounting (17)
- SWOT analysis (18)
- balanced scorecard (19)
- just-in-time (20)
- continuous improvement (21)

Concluding Remarks:

Thank you for participating in this research study. If you have any further questions or concerns, you may contact me via email at [g.buckner1497@o365.ncu.edu](mailto:g.buckner1497@o365.ncu.edu) or by the following phone number (352) 221-3171. My dissertation chair's is Dr. Robert Davis. Dr. Davis works at Northcentral University and is supervising me on the research. You may contact Dr. Davis using the following email address: [rdavis@ncu.edu](mailto:rdavis@ncu.edu). If you contact us, and were in an anonymous study, your information will not be linked to your responses.

Again, if you have questions about your rights in the research or if a problem or injury has occurred during your participation, please contact the NCU Institutional Review Board at [irb@ncu.edu](mailto:irb@ncu.edu) or 1-888-327-2877 ext 8014.

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La Jolla, CA 92037

## Appendix D: IRB Approval Letter

**Date:** September 28, 2020

**PI Name:** George Buckner

**Chair Name (if applicable):** Robert Davis

**Application Type:** Initial Submission

**Review Level:** Exempt - Category 2

**Study Title:** Case Study: Strategic Cost Management and Electric Cooperatives

Approval Date	:September 28, 2020
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Dear George:

Congratulations! Your IRB application has been approved. Your responsibilities include the following:

1. Follow the protocol as approved. If you need to make changes with your population, recruitment, or consent, please submit a modification form. Remember that we have [office hours](#) and [group writing sessions](#) to support you.
2. If there is a consent process in your research, you must use the consent form approved with your final application. Please make sure all participants receive a copy of the consent form.
3. **If there are any injuries, problems, or complaints from participants (adverse events), you must notify the IRB at [IRB@ncu.edu](mailto:IRB@ncu.edu) within 24 hours.**
4. IRB audit of procedures may occur. The IRB will notify you if your study will be audited.
5. When data are collected and de-identified, please submit a study closure form to the IRB. See the [IRBManager instructions on our website](#).
6. You must maintain current CITI certification until you have submitted a study closure form.
7. If you are a student, please be aware that you must be enrolled in an active dissertation course with NCU in order to collect data.

Best wishes as you conduct your research!

Respectfully,

Northcentral University Institutional Review Board

Email: [irb@ncu.edu](mailto:irb@ncu.edu)

11355 N. Torrey Pines Road  
La Jolla, CA 92037

## Response to COVID-19

As state orders change with regards to interacting with people, and as you consider your research, please abide by all CDC and WHO recommendations regarding COVID 19. Please abide by their recommendations as the primary source of guidance.

For face-to-face human subject research, until an effective vaccine for COVID-19 is widely available, please abide by the following for all data collection.

- Study personnel and participants must pass self-screening prior to in-person interactions. Passing requires an answer of “No” to all of the following questions:
  - Have you recently started experiencing any of these symptoms?
    - Fever or chills, or
    - Mild or moderate difficulty breathing, or
    - New or worsening cough, or
    - Sustained loss of smell, taste, or appetite, or
    - Sore throat, or
    - Vomiting or diarrhea, or
    - Aching throughout the body
- A distance of 6 feet must be maintained between study personnel and participants throughout in-person interactions, unless participation requires closer contact.
- Surgical or N95 masks must be worn by study personnel and participants throughout in-person interactions. If study participation requires contact closer than 6 feet, N95 masks, gloves, and safety glasses must be employed.
- Study spaces, facilities, and equipment must be thoroughly cleaned and disinfected before and after in-person interactions.
- Adequate supplies of equipment, disinfectants, and PPE must be ensured before the study begins, and must not detract from the local community’s ability to respond to a potential surge.

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