Social Media Use During Power Outage Events

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by

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The undersigned, appointed by the dean of Graduate School, have examined the thesis entitled

SOCIAL MEDIA USE DURING
POWER OUTAGE EVENTS

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a candidate for the degree of masters of arts,

and hereby certify that, in their opinion, is worth of acceptance.

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Elizabeth Stephens

DEDICATION

It's an honor for me to dedicate my thesis to my husband, Bruno Politano and to my children, Samuel (12) and Julia Politano (9). They have sacrificed countless hours and days without having me by their side to support my vision and desire to pursue a master's degree. They have believed in my dream and have never stopped being loyal and loving companions. To my husband and to my children, I dedicate this thesis and hope it will inspire our children to be relentless in their pursuit of education. I hope this experience will encourage them to be passionate about their God-given calling and to use their talents to serve neighbors and communities.

With all my heart, I also dedicate this thesis to my parents, Paulo and Leda Araujo. For 38 years, they have given of their "blood, sweat, and tears" for their children to have a better future. My parents have relentlessly made sacrifices for me and my brothers to have a better life in the United States than we would have in our country of birth and upbringing, Brazil. My mother courageously graduated from Medical School at age 59. In doing so, she not only fulfilled a God-given calling for her life, but she showed her children and grandchildren that is never too late to pursue your dreams. To my parents and heroes, I express my deepest love and gratitude. To my brothers, sisters, and dearest friends, thank you for standing by my side, for your prayers and encouragement throughout the journey.

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Finally, I conclude this dedication page by celebrating that God's grace is more than sufficient for me. To my Lord and Savior, Jesus Christ, I dedicate all that I am and all that I do. *"And whatever you do, whether in word or deed, do it all in the name of the Lord Jesus, giving thanks to God the Father through him." Colossians 3:17*

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ABSTRACT

This study explores how consumers use social media networking sites during power outage events. Using a qualitative research lens, the study explores consumer motivation as it relates Uses & Gratifications theory as well as the growing reliance on social media channels for information as it relates to the Information Society theory. The study employs two methodologies for the research: consumer focus groups and textual analysis of Facebook posts related to outages and of industry survey reports.

This body of research seeks to learn how consumers utilize social networking sites during power outage situations. The study draws from research of communications scholars who previously addressed crisis communications, new media use and the motivations that cause individuals to consume information via interactive and real-time communication mediums such as social networking sites. Of notable relevance, the study draws implications for electric utilities and their engagement and communication with the consumers they serve. The research is structured to provide an overview of applicable theory and related literature, offer a comprehensive review of the methods, provide analysis of results and discuss answers to the research questions and meanings derived from the research as well as limitations and opportunities for future research.

Keywords: *social media, power outages, uses & gratifications theory, information society theory, consumer motivations, crisis communications, new media use*

CHAPTER 1: Introduction

Importance of Reliable Electricity

Access to electricity empowers societies driven by ever-evolving information technologies. Not only is electricity fundamental for society functions such as business, farming, manufacturing, health, education, media, and entertainment, electricity powers households in urban and rural areas, enabling consumers to enjoy a quality of life that once was not possible without this essential service. Conveniences such as running water, food refrigeration, home cooling and heating can be compromised without reliable electric service. Furthermore, consumers in rural areas may rely on electricity to accomplish farming tasks such as heating and cooling animal barns, watering and irrigating crops, among other needs. In a society continually driven by digital technologies, consumers depend on electricity to stay connected and to engage in a back-and-forth exchange of communication via devices such as smartphones, desktops, laptops, tablets, TVs, radio, video game consoles, and smart watches.

Internet Accessibility

Access to the Internet is closely tied to having reliable electricity. The Pew Research Center reports that approximately 90% of Americans today use the internet. Access to high-speed broadband service at home increased significantly between 2000 and 2010, but it has become more lop-sided in recent years creating a digital divide between certain demographic groups and particularly in urban and rural areas. The Pew Research Center reports racial minorities, older adults, rural residents and those with lower levels of education and income are less likely to have broadband service at home.

In 2019, approximately 73% of American adults have broadband internet service at home (Pew Research Center, 2019). Regarding device ownership, the Pew Research Center reports 96% of Americans own some sort of cellphone, with 81% owning a smartphone. The number of Americans using smartphones as their primary means of online access at home continues to steadily increase. Nearly 17% of American adults are 'smartphone-only' internet users – meaning they own a smartphone, but do not have traditional home broadband service (Pew Research Center, 2019).

Social Media Usage

The emergent ease of internet accessibility and rising ownership of digital devices – such as smartphones – have spurred a communication shift for consumers in a digitized world: the increasing use of social media sites. According to a 2019 report from the Pew Research Center, when the research institution began tracking social media usage in the United States in 2005, 5% of American adults used at least one social media platform. In 2011, that number had grown to half of American adults. Today, 72% of the public uses some type of social media site, with most Americans using social media channels to connect with others, get up to date with news content, exchange information and to entertain themselves. For the vast majority of social media users, checking social media channels at least once a day is a part of their daily routine (Pew Research Center, 2019).

Research Problem

When connectivity is interrupted due to a power outage, consumers experience a disruption in their routines and – depending on the duration of the power outage – they experience limited, if any, access to communication via devices and appliances. Occurrences such as natural disasters and extreme weather events can cause disruptions

to reliable access of electricity. When natural disasters and weather events are forecasted, consumers may choose to utilize social media outlets to obtain advance information before a disaster hits. In this sense, consumers may use social media sites as a preparedness tool, learning about time estimates, expected damages, and any safety precautions that they might need to take, including evacuations, the need to power a generator if available or the stocking of essential supplies. In the event that consumers experience a loss of electric power during a weather or natural disaster event, they may use mobile or digital devices to report an outage. Likewise, consumers may also choose to use social media channels to connect with their local electric utility to learn of estimated outage restoration times, access information on road conditions, relief efforts or available shelters as well as check on the status of friends and family members in the impacted area.

Research Purpose Statement

This body of research seeks to learn how consumers utilize social media sites during power outage situations. The study draws from research of communication scholars who previously addressed crisis communications, new media use and the motivations that cause individuals to consume information via interactive and real-time communication mediums such as social media sites.

Although researchers have addressed the use of social media during natural disaster events, most of these studies have focused on consumer social media use in the aftermath of hurricanes, tsunamis, tornadoes and earthquakes as larger scale natural disasters. A limited amount of literature focuses on the concept of consumer informational needs and information seeking practices during disruption of electric

power. This study – which seeks to understand consumer motivations and information needs by utilization of social media sites during power outages – yields contributions to the field of new media use, information seeking practices and crisis communications research.

Research Questions

The study seeks to answer one focal question, defined as RQ1: what use do consumers make of social media to obtain information during power outage situations? The focus of the research is to understand the types of uses consumers make of social media sites during outages and the gratifications that lead them to seek information via these mediums. The research analyzes what social media functions might be at play with electric cooperative consumers regarding their use of social media such as listening, monitoring situations, integration of emergency plans, crowdsourcing and collaborative development.

The study addresses other questions that stem from the chief research question. Grounded in Uses & Gratification theory, a sub-research question defined as RQ2 asks what consumers' motivations are when they use social media sites during power outages. The purpose of this question is to understand consumers' needs in a crisis situation and how these needs may prompt consumers to access new media sources, such as social media outlets, in pre-crisis, crisis or post crisis.

Subsequently – based on the Information Society theory – another sub-research question, RQ3, asks how consumers are turning to social media during natural disasters compared to other mediums of communication such as traditional media outlets like TV and radio. The rapid growth of information access and real-time content creation via new

media technologies offer audiences a host of options that are not obtainable with traditional media sources such as interactivity and a more customized experience based on the consumer's interests.

With new media technologies, individuals are able to make selections that fit their custom media repertoire. Studies show users continuously add new mediums to their communications 'toolbox.' This occurrence is perceivable with the rise of social media sites and users' adoption of multiple social media outlets based on their needs and interests (Quan-Haase et al., 2002). In this context, the study asks how social media outlets are becoming a predominant medium of communications during crisis situations.

Methodologies Applied

This body of work utilizes a qualitative research approach. The chief research method was carried out through the gathering of consumer insights during focus groups conducted with consumers at four electric cooperatives in the state of Oklahoma. The 36 focus group participants were consumer-members of electric cooperatives that have experienced extreme weather or natural disaster events causing outages in their service territory. In addition to the focus groups, the study employs textual analysis of electric utility industry survey reports and outage communications posts via the most used social media platform in rural areas: Facebook (Pew Research Center, 2018).

When a disruption of electric power occurs, electric utilities have an immediate need to communicate with those they serve. The disruption of power causes an inconvenience to consumers who rely on an uninterrupted flow of electricity for their home conveniences and business operations. When a disruption takes place, consumers want – and expect – to receive information regarding their outage situation within a quick

timeframe. This expectation has been augmented through the use of digital technologies and mobile devices via social media sites, SMS notifications, website updates as well as app notifications.

Concluding Purpose & Upcoming Chapters

Ultimately, the purpose of the study is to understand consumer information needs and information seeking practices by utilization of social media sites during power outage situations. Drawing from existing scholarly literature, the study explores the concepts of real-time information needs, consumer motivations and media use gratifications during power outage events.

The research is structured to provide an overview of applicable theory and related literature, offer a comprehensive review of the methods utilized with a qualitative approach lens, provide analysis of results and discuss answers to the research questions and meanings derived from the research as well as limitations and opportunities for future research.

CHAPTER 2: Literature Review

Theoretical Framework

From a theoretical standpoint, the research was conducted through the lenses of the Uses & Gratifications (U&G) theory and Information Society theory. As such, the research will build upon a time-tested theory, U&G, and how it can also be applied for new media and interactive communications mediums such as social networking sites. Likewise, the study explores information seeking practices in a digitally driven society as it relates to disaster communications. The research focuses on one primary question: what use do consumers make of social media outlets to obtain information during a disruption of power?

Uses and Gratifications Theory

The U&G theory asks, "Why do people use media, and what do they use it for?" Based on the individualist functional theory – which holds media meets social needs of individuals – the U&G theory attempts to explain the uses of media and satisfactions derived from distinctive communication mediums. Building on the concept of "active audience," the U&G theory suggests individuals make purposeful media choices based on their motivations. "Media and content choice is generally rational and directed towards certain specific goals and satisfactions. Audience members are conscious of the media-related needs which arise in personal (individual) and social (shared) circumstances and can voice these in terms of motivations" (McQuail, 2010, p. 424).

Furthermore, studies show that users find unique motivations for each communication medium. Under the U&G theory, the audience is identified as active, discerning and motivated in their media consumption choices. The focus of the theory is

on what people do with the media rather than the impact the media may have on the individual (Katz, et al., 1974). U&G theory researchers focused on new media trends find that although some measures designed to capture traditional media motivations also apply to new media technologies, new gratifications are emerging based on digitally mediated communications such as interactivity and immediacy. By understanding what type of information needs consumers either meet or do not meet via social media platforms during power outages, the study expands on U&G theory and applications for future communications research.

Ruggiero's (2000) research indicates computer-mediated communication has revived the significance of uses and gratifications. Based on three new media attributes – interactivity, demassification and asynchroneity – Ruggiero argues it's necessary to continue refining U&G theory. Interactivity refers to the ability of the user to contribute, reciprocate, share, and shape content, all these functions are evident and accomplished via social media sites. Demassification refers to the dimension of control users have over a medium. New media technologies offer the benefit of selectivity to users, allowing consumers to tailor sources to fit their needs. Asychroneity refers to messages that are staggered in time as senders and receivers create messages that can be consumed at their preferred time. Because of the transformative power of the Internet, Ruggiero argues the U&G theory must be "modernized" in a context that involves psychological, sociological and cultural concepts.

The U&G theory is useful for understanding what motivations consumers attempt to meet when accessing social media sites during power outages. The reality of having limited communication and connectivity, combined with the loss of conveniences at

home or business such as appropriate heating and cooling or the use of appliances due to lack of electric power, causes individuals to want to find a solution to their temporary situation. As electric utilities engage on social media to communicate with their audiences, they have an opportunity to provide timely and useful information to their consumers during power outage events. Lev-On (2011) discusses how contemporary media users utilize a variety of media depending on their circumstances and needs, including dire situations in which some type of crisis might be experienced. Similarly, Sundar, et al. (2013) discuss that the U&G theory challenges the notion that all gratifications are generated from inborn needs and proposes media technology can shape user needs, giving rise to new and distinctive gratifications.

Jenkins establishes that the "circulation of media content – across different media systems, competing media economies, and national borders – depends heavily on consumers' active participation" (Jenkins, 2006, p. 3). As such, media convergence brings to surface a cultural shift as consumers are prone to seek out information among dispersed media content, with social media sites becoming a more predominant means of information.

Information Society Theory

The fast-paced mass communications evolution and the emergence of new media forms have led researchers to establish the Information Society theory, which is interwoven in the "information culture" concept. According to McQuail (2010) in an extensive study identifying theories that stem from the overarching Mass Communication Theory, Information Society refers to the pervasiveness and prevalence of information in today's media lifestyles; the vastness of information wired in a digitized world has added

a new dimension to the notion of connectivity. Dijk (1999) argues that Information Society relates to a form of society that is progressively organizing its relationships in media networks which are steadily replacing or complementing the social networks of face-to-face communication. The revived U&G research based on emerging technologies provides grounds for supporting Information Society theory, which indicates the rise of a new kind of society, characterized by complex interactive networks of communication (McQuail, 2010). The exponential increase in production and flow of information has been augmented by the capabilities of newer technologies, considerably transforming today's media landscape.

Information Society theory has economical, social, cultural, geographical, and technological implications, impacting virtually every aspect of society. For example, as a result of the volume of information readily available, today's consumers live in an age of heightened awareness of various risks, including health, climate, environmental, economic, security as well as the interruption of electric service; this awareness is possible through the public circulation of ideas that extend boundaries – in some cases making them disappear. To older consumers, information society affords them the opportunity to be more cognizant of risks, especially pertaining to health, weather events and economy. In the event of a power outage involving older consumers, for example, learning of estimated restoration times is crucial for elders who might depend on oxygen machines or other medical devices. To younger consumers, Information Society is critically indispensable; the majority of young adults have not experienced anything different than a world driven by digital technologies where information is readily available. Melody (1990) explains that information societies have become dependent

upon several complex electronic information networks and allocate a major portion of their resources to information and communication activities.

The concept of "information-seeking" is a trait of the information society we live in and encompasses almost everything consumers do online (Sundar et al., 2013). In this context, the proposed study of understanding the uses consumers make of social media sites to obtain information during power outages adds to the overall communications research field. The study expands new media use and crisis communication research, and it is of value to electric utilities in their quest to effectively communicate with consumers.

Reliance on Social Media

The proposed study explores why consumers use social media sites – particularly Facebook – ahead of and during natural disaster or extreme weather situations that cause power outages. In a society driven by information technologies, more consumers are choosing to access social media sites during a natural disaster or severe weather event in which a disruption in electric power is likely to take place (Xiao, et al., 2015). The prevalent nature of social media culture sets the direction for an information flow that is continual, interactive, and involves individual users as message actors, agents, and creators (Utz, et al., 2012).

When natural disasters occur, consumers may turn to social media to receive information regarding the disaster or to learn about safety precautions during the crisis event. Similarly, when natural disasters are forecasted, users of social media sites may use this medium as a preparedness tool. Electric utilities also utilize social media outlets as a means of conveying safety and preparedness information to consumers. According to Xiao and other scholars (2015, p. 1663), "social media data are increasingly being used in

disaster management for information dissemination, establishment of situational awareness of the 'big picture' of the disaster impact and emerged incidences over time, and public peer-to-peer backchannel communications."

The proposed study explores the concept of social media interactivity, its real-time nature, implications for electric utilities and consumers during disasters and power outage events as well as concurrent media use trends.

Social Media Interactivity and Use During Natural Disasters

Tandoc et al. provide an analysis of the need for communication during a crisis, "since communication is important for society to function, a disruption in communication channels during disasters is paralyzing. In times of disasters, individuals have a pressing need for information, for how to make sense of their situation, as well as to link with other members of the community, such as friends and family" (Tandoc, et al., 2016, p. 1781). Furthermore, the scholars discuss the concept of social media as a medium that fosters two-way communication, instead of the traditional communication model of messenger-message-receiver. The dialogue and interactivity possible through social media sites add a new dimension to the motivations consumers might have when utilizing these platforms. As Tandoc explains, "while traditional media engaged in their own reporting of what happened through their tradition communication channels, social media provided a way for many residents to narrate their own stories, present their own experiences, voice their own opinions, and construct their own realities" (Tandoc, et al., 2016, p. 1787). Of additional relevance to this proposed study, scholar Alexander (2014) explores seven potential uses of social media in disaster situations that influence consumer motivations: listening function, monitoring the situation, integration with

emergency plans, crowdsourcing and collaborative development, creating social cohesion, and furtherance of causes and research. For this specific study, the concept of monitoring conditions and gathering information is of notable relevance. Limitations in traditional media channels during disasters may lead the way to higher consumer activity and engagement in digital technology platforms. “When traditional communication channels became non-operational, non-traditional information sources and communication platforms, such as Facebook, became salient” (Tandoc, et al., 2016, p. 1178).

Several studies have investigated the rise of social media use during natural disasters. For example, Yi and Kuri explain that the use of Facebook and Twitter increased from 32% to 49% immediately following the 2011 Great East Japan Earthquake (Yi, et al., 2016). Likewise, Twitter data revealed that users posted over 20 million tweets about Hurricane Sandy between October 27 and November 1, 2012 (Stewart, 2016). Moreover, research reveals that both the motivation of using social media and the speed of information propagation increase during a disaster from normal time (Guan, et al., 2014). The analysis of previous research confirms that use of social media platforms heightens during natural disaster situations. Liu et al. suggest the exposure to disasters may influence consumer information seeking and information sharing practices for disaster situations that might follow. These practices are frequently conducted via social media channels such as Facebook and Twitter because of attributes such as immediacy, interactivity and ease of accessibility. “This study adds that when the public has recently been exposed to a disaster they are more likely to seek and share disaster information about a subsequent disaster” (Liu, et al., 2015, p. 62).

Real-time Information

One distinctive feature of social media is the ability to achieve real-time communication. The concept of real-time communication is vital when understanding why consumers choose to use social media platforms during power outage situations. As Xiao explains, "instead of waiting for professional news reporters to arrive on-site to report the situation, individuals can gather first-hand information and disseminate it through social media in real time" (Xiao, 2015, p.1665). The concept of real-time is a prominent trait of social media sites. AccuWeather meteorologist Jesse Ferrell, the company's social media manager, stated "social media offers unbeatable immediacy. Social media tools are, in some cases, the only assist in connecting people and supplying information" (Accuweather.com, 2013). Studies also show that social media use enhances communications before, during and after a disaster (Houston, et al., 2014). "Social media has evolved from being a passive outlet of information to an emergency management tool that is capable of distributing real-time warning information, receiving requests for assistance, and establishing situational awareness based on user activities (Xiao, 2015, p. 1664). Not only can social media be used to disseminate static information on how to prepare for disasters, it can also serve as backchannel communication to allow individuals to generate and disseminate content related to the disaster in real-time.

Implications for Electric Utilities

From an electric utility standpoint, providing information about the likelihood of power outages, and the process that it takes for restoration – however long it may be – can aid the utility in earning rapport and trust from consumers. Whether it is an isolated

outage incident or a system-wide event, how a utility responds to the disruption of electric service impacts member satisfaction and engagement.

At the time of this research's writing, a large investor-owned electric utility in the state of California, Pacific Gas & Electric (PG&E), carried out a public safety power shut-off (PSPS) causing nearly 800,000 meters to lose power. PG&E explained the PSPS was needed due to high winds and dry conditions favorable for wildfires; consequently, the PSPS was implemented with the purpose of preventing wildfires that could potentially be initiated by the utility's equipment or infrastructure. However, at the peak of this massive power outage, the utility's website failed, and thousands of consumers were left scrambling for updates on their outage situation or to learn if their area of residence or business would be impacted. "PG&E's communications and computer systems faltered, and its website went down as customers tried to find out whether they would be cut off or spared. As the company struggled to tell people what areas would be affected and when, chaos and confusion unspooled outside," (New York Times, October 12, 2019).

A 2017 consumer survey conducted by the National Rural Electric Cooperative Association reports that member satisfaction dips when members experience an outage. "Overall satisfaction for members experiencing an outage during the past year was significantly lower (8.6) when compared to members who did not (8.95). Furthermore, cooperative performance ratings in areas impacted by outages such as 'provides reliable service' and 'restores power quickly after an outage' were significantly lower for members experiencing a recent outage" (The Cooperative Difference, 2017). The survey report recommends that electric cooperatives be pro-active with member communication

by providing information on the cause of an outage, informing the member about the status of linework crews and – if possible – by offering an estimate of how long it might take to restore power. By providing this type of information, the survey indicates, the utility will minimize member unrest and garner better understanding from the consumer. It is also important to find a balance on volume and frequency of information being shared. At the response stage, it is crucial to be mindful of time; consumers may perceive silence as dismissive yet crafting a response prematurely can be equally problematic (Jaume, 2013).

For organizations and emergency responders, scholars offer practical guidelines to aid in the effectiveness of social media use during natural disaster situations: 1) acknowledge the crisis directly for what it is, 2) disclose concise and precise resolution actions and timeline, 3) express sympathy and practice empathy, 4) be honest and straightforward, 5) provide publics with appropriate communications channels and contact information, and 6) provide follow-ups and updates (Geller, 2014).

An article published in Utility Dive, a leading industry utility publication, quotes an official from Edison Electric Institute speaking on the importance of consistent outage communications with consumers. “Companies recognize customers can actually be patient, if you explain to them the issue and that someone is working on it. Customers understand a storm came through; what they don’t like is being left in the dark – both literally and figuratively” (Utility Dive, June 6, 2019). Additionally, the author emphasizes the value of communicating with customers before emergencies strike, “on blue sky days.” The practice of consistent and strategic communications assist utilities in the path to becoming a “source of safety information and a trusted voice.” Stewart, et al.,

states the issue of powering devices and the society's growing reliance on mobile and digital technologies cause a challenge for impacted consumers (Stewart, et al., 2016, p. 640).

The unescapable digital culture interwoven in society today – in rural, suburban and urbans areas – make it crucial for electric utilities to engage with consumers via social media sites. "Organizations and institutions can no longer afford to ignore the public demand to utilize social media vehicles as primary sources of news, entertainment, and interpersonal interactions; thus making it a critical time to acknowledge social media from the crisis management perspective" (Stewart, et al., 2016, p. 645). The expanding access to digital technologies cultivate the need for information that today's consumers have as well as the expectations they have built up to receive information from their electric utility during an outage event.

Media Lifestyle & Concurrent Use

To further understand the implications of social media use during natural disaster situations, it is important to understand consumers' media lifestyle and media use trends. Research shows that younger generations juggle the use of various media forms; similarly, older generations are adopting diverse communications tools, conventional and new combined, just at a slower rate than their younger counterparts. The concept of media lifestyle refers to the media options available and users' personal preferences. Youth, in particular, have unique media lifestyles that combine a variety of old and new media forms (Kruistum et al., 2014). A study from 2008 indicated the average American between ages 8 to 18 devotes more time to media use than to any other activity, with the exception of sleeping. They spend more than six hours a day on media use (Roberts et al.,

2008). Both young and old consumers are inundated with the emergence of media options, and both segments select media choices that best suit their lifestyles. For example, it is becoming more common for an older consumer who watches a significant amount of TV to utilize computer-mediated communications such as social media sites to keep up with loved ones who live afar. Likewise, millennials are still watching TV, reading magazines, and listening to radio, but these venues of traditional media are being augmented with interactive content available in new media technologies (Katz et al., 1974).

Younger consumers are especially prone to media multitasking since their lifestyles are embedded in the vast expanse of digital media. There is a danger to media multitasking, however. Studies show the more media tasks conducted simultaneously – such as watching TV, texting and checking on social media sites, for example – the fewer messages are retained. The overflow of information poses a negative relation between context instability and average memory for content (Southwell, 2005). Chief causes of shortened attention spans are assumed to include new media technologies and various forms of media messages, especially those that are brief and fragmented, such as TV commercials and online videos (Newman, 2010). This poses a challenge for organizations such as electric utilities and media professionals who have to judiciously create messages with an understanding that the intended audience might be consuming several messages concurrently. This become crucially important for electric utilities during the preparedness stage ahead of natural disasters. Media multitasking is not a phenomenon reserved only for a young audience. Studies show older adults are juggling multiple media choices concurrently (Voorveld et al., 2013).

Still, young and old consumers have diverse patterns of media multitasking. Because younger cohorts grew up in the digital revolution, they multitask more with computer-mediated technologies such as online videos, online music streaming, instant messaging, social media outlets and the like. Older consumers, on the other hand, multitask combining traditional media forms with fewer new media forms; they use television, radio, and newspapers more heavily combined with some texting or email, for example. Studies show that traditional and new media are cohabitating successfully among media audiences; they are not serving as a substitute but are, instead, enhancing and complementing each other. Uses and gratifications play a fundamental role here as consumers are selecting different mediums of communication based on the type of information or gratification they want to derive from a specific medium. The media multitasking is also a direct result from the pervasiveness of information technologies as established by the Information Society theory.

Media Use Trends for Electric Cooperative Consumers

The study primarily focuses on the patterns and media use habits of electric cooperative consumers. As such, understanding more about how electric consumers use media is beneficial to enhancing the contributions of this research.

The electric cooperative membership has evolved significantly over the years. Local farmers and ranchers formed electric cooperatives to electrify sparsely populated areas in rural America under the Rural Electrification Administration of 1935. Their goal was to achieve the same quality of life found in urban areas where city dwellers enjoyed the conveniences of electric power (Public Utility Reports, 1996). Because electric cooperatives are not-for-profit and member-owned, meaning they are created by the

people for the people, pioneers and their immediate descendants have a deeper connection and appreciation to their cooperatives.

As decades have passed and the rural electrification program has solidified and prospered, newer generations have lost the connection to what once was reality: life without electricity. As such, and because of social and cultural factors impacting their lifestyles, younger generations may not have as strong of an interest in electric cooperatives messages as previous generations (Touchstone Energy Cooperative Difference Survey, 2013). In most instances, consumers want to pay the bill and flip the switch. As member-owned organizations, however, it is imperative that electric cooperatives enjoy member engagement; from member-elected boards of directors to essential votes on bylaws, cooperatives depend on member involvement.

Today's co-op members hold media usage patterns similar to what researchers are finding in today's media landscape. According to results from a national survey conducted by Touchstone Energy Cooperatives in 2017, the percentage of co-op members owning computers exceeds 85% with eight out of ten senior households owning some form of computing device. Members who once had one personal computer now own multiple devices for each person in a household. For example, six out of ten members indicated owning at least two different types of computing devices.

Methods for connecting to the Internet can vary extensively in rural areas. Suburban cooperative members have access to high-speed broadband capacity while rural members are more limited in options, some still using dial-up services. The survey noted, however, that while dial-up connections are more common with seniors, virtually no younger cooperative demographics are connecting via dial up. Wireless connectivity

offers young and old members the mobility required to keep their numerous devices on, affording cooperatives the opportunity to communicate with members on a variety of new channels. A significant amount of members under 55 years old own smartphones. Senior members lag behind their younger counterparts in smartphone adoption but are catching up. The 2019 Pew Internet Project survey reported that 81% of American adults own smartphones, which is comparable to 80% of cooperative households.

Younger members are significantly more likely to visit their cooperative's website than members over 55 years old. Similarly, a significant amount of cooperative members (60%) are active social media users. Although younger members are twice as likely to participate in social networking activities as senior cohorts, over one-third of senior members currently engage in online social conversations. Social networking is an additional communications tool in a cooperative's communications toolbox; it is becoming even more relevant when utilized to convey outage information to consumers who are active users of digital devices. "Priority should be placed on communicating items of immediate benefit to the member, such as updates on outages, energy efficiency tips and how to reduce their bill," (Touchstone Energy Cooperative Difference Survey, 2012, p. 45).

The interpretation of the 2017 Touchstone Energy Cooperatives National Survey is best summarized in the emergent need of cooperatives to implement communications strategies that reflect their members' media lifestyles with content that is relevant, simple to use, quick to search and accessible. This proves to be vitally important during natural disaster and power outage events as consumers are actively seeking information in a quick timeframe. Consumer surveys show this is the path for thriving member

engagement and for understanding media uses and gratifications that guide cooperative members when receiving electric cooperative messages, particularly outage communication messages.

CHAPTER 3: Methodology

The research was conducted with a qualitative approach. A qualitative study seeks to investigate the making of meaning (Pauly, 1991). According to Christians and Carey, qualitative researchers don't ask "how do the media affect us," but "what are the interpretations of meanings and value created in the media and what is their relation to the rest of life?" (Christians & Carey, 1989). Qualitative research is suitable for understanding how consumers use social media to obtain information during power outages because a qualitative approach seeks in-depth observation and investigation. Additionally, qualitative researchers consider the context, culture and history that might apply to their subjects of study; this research approach uses open-ended and exploratory interview techniques. Qualitative researchers consider the different meanings and values created in media (Brennen, 2013). Rather than focusing on media effects or influences, the qualitative researcher attempts to understand the varied relationships that exist within media and society. To achieve its goal of answering the research questions effectively, the study utilized the primary method of consumer focus groups with semi-structured questions and textual analysis of Facebook posts related to outage communications as well as utility survey reports.

Method 1: Focus Groups

Focus groups are group interviews designed to explore how participants feel and think about the topic of study in question. Focus group discussions are similar to collective depth interviews; the intention is that it will lead to important insights (Berger, 1998). This methodology is fitting for this study because it allows for flexibility in the interaction between the facilitator and the subjects as the facilitator follows up on

participants' comments, which in turn can lead to other relevant insights. Additionally, focus groups are suitable for the study because they foster a user-friendly and non-threatening approach; these attributes are helpful when discussing the inconveniences of power outage situations, which could be combined with other potential damages caused by natural disasters to homes, businesses or to transportation infrastructure such as roads and bridges. Another benefit is that the responses of most participants can trigger memories from other participants or stimulate others to share their own experiences and perceptions.

Research participants & setting

The study deployed four consumer focus groups that were conducted at electric cooperatives in Oklahoma; participants for each of the focus groups were members of the hosting electric cooperative. The electric cooperatives invited members to participate in the focus group based on the following criteria: 1) participating consumers had to be followers of the cooperative's Facebook page; 2) participants needed to represent a diverse mix of ages (25 to 65) and gender, and 3) selected consumers had to have residence in areas within the cooperative service territory that had experienced power outages in recent years. Two of the hosting co-ops, Northwestern Electric Cooperative based in Woodward, Oklahoma and Cimarron Electric Cooperative based in Kingfisher, Oklahoma, have a more predominant rural makeup whereas the two other cooperatives – Oklahoma Electric Cooperative based in Norman, Oklahoma and Central Electric Cooperative based in Stillwater, Oklahoma – serve a growing suburban area. Staff from each of the four electric cooperatives invited a total of 48 consumers to participate in the focus group sessions via Facebook invitation and/or email methods. A total of 36

consumers accepted the invitation to participate in a focus group session. The sessions were conducted in the evening at the hosting electric cooperative's headquarters office either in the cooperative's boardroom or in a meeting room at the co-op facility. Each evening focus group session began with a meal provided by the cooperative to the participating consumers, and each session lasted approximately two hours. The four focus groups took place in the timeframe between March and April of 2019.

Procedure

Before answering the questions presented by the moderator, consumers filled out a brief questionnaire regarding their engagement in various social media sites as well as on device ownership. Out of 36 participating consumers, 94.4% are actively engaged on Facebook, 22.2% are engaged on Twitter, 30.5% on Instagram, 52.7% on YouTube, 22.2% on Snapchat, 38.8% on Pinterest, 58.3% on Google+ and 19.4% on LinkedIn. Regarding device ownership, 94.4% of the consumers reported owning a smartphone, 50% own a tablet, 63.8% own a laptop, 38.8% own a desktop and 16.6% own a smart watch. In this study, the researcher served as moderator for all four focus group sessions.

In a focus group setting, participants were seated in a U-shaped arrangement and answered 12 semi-structured interview questions that related to the consumer's informational needs during power outage situations and their use of social media during these scenarios.

The following questions were asked:

1. What was your motivation/purpose for following your co-op's Facebook page?

2. When a significant weather event is being forecast, such as an ice storm, a tornado, imminence of wildfires or a snow storm, how do you get information to prepare for such events and/or to seek forecast details? Do you use media channels? If so, which ones? (TV, radio, websites, social media, etc).
3. When power is out, what are the first steps you take to seek information?
4. If using social media for information ahead of and during a natural disaster event, what type of information do you look for?
    a. Time estimates of weather impacting your area
    b. Expected damages
    c. Resulting damages after event
    d. Outage restoration time estimates
    e. Safety tips
    f. Evacuation orders
    g. Listing of shelters and relief efforts
    h. Checking on the status of friends and family
5. Have you ever reported an electric outage? What method do you use to report an outage and why?
    a. Phone call
    b. Smart hub app
    c. Website
    d. Social Media
6. Have you visited your co-op's Facebook page during an outage event? If so, tell us about your experience.

7. When a disruption of electric power takes place, how soon do you expect to receive information on the outage event? Why do you expect information on this timeframe?
8. How do you expect to receive information in regard to a power outage?
9. What expectations do you have of your local electric cooperative during outage events?
10. How do you feel about your cooperative's response time during power outage events?
11. Tell us how you would describe your cooperative's communications efforts during a power outage event. Overall, how satisfied are you with your co-op's outage communication efforts on social media? What determines your level of satisfaction?
12. What, to you, is the most important thing you would like to see changed about the co-op's use of social media to communicate during outage events? Why?

Although semi-structured interviews are based on pre-established questions, they are fitting for the focus group method because they allow for flexibility in the flow of interaction between the moderator and participants. The focus groups were videotaped to ensure the researcher had a record of the participants' feedback in verbatim. Additionally, an independent notetaker was present during each of the focus group sessions and took extensive notes of the feedback from each participant. Once the four focus group sessions were concluded, the notes and video recordings were used to analyze feedback and look for common trends and unique insights shared from consumers. The researcher listened to the video recordings and took notes from each of the focus group sessions for

evaluation and a better understanding of the consumers' thoughts and feelings regarding social media use during power outage events. With each reading of the focus group transcripts, notes were taken to help identify trends or common themes. The researcher specifically looked for comments that were similar in nature and provided insights into the motivations and gratifications consumers seek when they use social media channels during outages. After the researcher read each set of notes individually, a collective summary of notes was compiled to identify any similarities or tendencies, including unique circumstances. Specifically, the data was analyzed to identify informational needs consumers have during power outage situations and how social media sites play a role in meeting (or not meeting) those informational needs.

Common themes

Since a qualitative research approach is open-ended, the research was open for any new angles or new concepts that arose from the focus group interviews related to the research questions. The feedback was analyzed to identify any needs that consumers had that were met or not met from the use of social media during power outage situations. Overall, common themes were:

- 91% of consumers feel a need to be informed and to know their outage has been acknowledged by the local electric cooperative;
- 55% of consumers choose to use social media to check outage restoration times or to find more about what caused the outage;
- 69% of consumers choose to check social media outlets ahead of a storm or natural disaster event for safety precautions;

- 89% of consumers find the information provided on their electric cooperative's social media outlets helpful;
- 94% of consumers have a favorable impression of their electric utility provider's outage updates.

Potential risks

The main risk for the participants involved in this research are limitations in full confidentiality and privacy, given the nature of a focus group setting; however, consumers' names are not identifiable in the study. While the full confidentiality of each focus group participant cannot be fully carried out – as they were exposed to other participants in the same setting – the researcher and notetaker used a coding mechanism in the notes to identify the various participants in an effort to protect their privacy and personal identification. Each participant was given an informed consent form, which they signed for their voluntary agreement to take part in the focus group. Additionally, each participant was given detailed information about the purpose of the study and how their feedback would be used to shape the research; it was ensured that the participants understood that they could withdraw from the focus group at any moment or choose not to answer a question at their discretion.

Maintaining credibility was at the forefront of the study. By recruiting participants who could relate to the topic of the study, the feedback received has direct applications to the topic at hand. By keeping the focus of the research narrowed to four locations in rural and suburban Oklahoma with subjects who are members of four electric cooperatives, the research is grounded in this context and does not provide a generalized view of the

research questions but provides specific findings that can potentially have similar implications to consumers from other types of electric utilities and demographic regions.

Method 2: Textual Analysis

Textual analysis is a qualitative method that aids researchers in the understanding of meanings constructed by society within a cultural context. "Textual analysis is all about language, what it represents and how we use it to make sense of our lives" (Brennen, 2013, p. 192). Various types of media such as books, newspapers, television programs, radio, websites, advertisements are a few of the examples of the types of texts qualitative researchers analyze in order to understand some of the relationships between media, culture and society (Brennen, 2013).

The textual analysis of Facebook posts related to outages took place during the summer of 2019 after the focus group sessions were conducted in the spring. The posts evaluated for this study were posts published on any of the four participating electric cooperatives' Facebook page. For the purpose of this study and based on feedback gathered at consumer focus groups, textual analysis of Facebook posts was suitable to understand what use consumers make of social media to obtain information during power outage situations. Collectively, about 500 consumer Facebook responses to co-op outage posts were evaluated for this study. The posts that were analyzed for the research specifically dealt with power outage situations and the responses provided by electric cooperative consumers, independent of what caused the outage – whether it was caused by a natural disaster, weather event or a planned outage.

It is important to note that Facebook was chosen for this analysis because it is the most-used social networking site by electric co-op consumers in rural Oklahoma. This

trend reflects social media usage nationwide. The Pew Internet Project reports that 58% of social media users in rural areas use Facebook, with 17% of users in rural areas using Twitter (Pew Research Center, 2018). According to the Oklahoma Association of Electric Cooperatives, of the electric co-op consumers connected to social media, nearly 90% are connected to Facebook while 10% are on Twitter.

Research materials

Textual analysis of industry survey reports was also conducted. The survey reports collect data from co-op member-consumers throughout the nation; the survey is published annually by Touchstone Energy Cooperatives. Surveys from 2012 to 2017 were analyzed.

Additionally, textual analysis methodology was applied to the study by the evaluation of social media posts from rural electric cooperative consumers in power outage situations in the years of 2017, 2018 and 2019. During the winter season of these years, several electric cooperatives in Oklahoma were impacted by ice storms that caused widespread outages in their service territories. In the spring of 2018, wildfires in northwestern Oklahoma caused extended outages. The researcher analyzed responses to posts made by electric cooperatives that specifically referred to outage situations and updates.

Textual analysis provides another means for understanding how consumers are using social media during power outage situations; the observation of the language used on these posts shed light into the uses and gratifications consumers have during power outage situations. Additionally, this analysis shed light on the informational needs and motivations consumers have and how needs or gratifications are being met through the

information electric utilities are posting on Facebook regarding outage events. Moreover, textual analysis helped to identify trends and patterns in the needs of consumers and the information provided by electric cooperatives. The data and common themes gathered from focus group were evaluated against the content of the posts made by electric cooperatives as well as consumer responses. In most instances, social media posts and interactions validated feedback from the consumer focus group sessions.

Limited risk

The main risk associated with this method is the potential biased interpretation. To minimize bias, it was important to understand the context in which posts were written as well as any cultural and historical circumstances regarding the posts under observation. The social media posts were publicly accessible as they were posted on public, electric cooperative Facebook pages that anyone can access. There is minimal risk of loss of privacy and confidentiality as the names of consumers are not included in the research. Likewise, the industry survey reports also do not include identifiable information from participating consumers.

CHAPTER 4: Results

The discussion generated during the consumer focus groups at four different electric cooperatives in Oklahoma provided meaningful insights into the research questions. All consumers were followers of their electric cooperative's Facebook page. Primarily, consumers cited following their co-op's Facebook page to stay connected with information from their co-op and to receive updates during power outage events. Specifically, some consumers said a power outage or ice storm event prompted them to begin following their co-op's Facebook page. Their motivation was to receive information on a situation that impacted them. A consumer precisely cited following the co-op's Facebook page because of the "instant" nature of Facebook as a social media site. Another consumer cited following the page because "the co-op is a part of our lives." Since electric cooperatives are not-for-profit utilities that are community-driven and locally owned and governed, several participating consumers revealed a personal connection and appreciation to their electric cooperative as being a vital part of their local community. This behavior was noticeable not only during the focus groups, but also through the textual analysis of consumer comments on co-op outage-related posts.

Consumers in rural areas repeatedly emphasized their appreciation to the co-op and to the linemen working to restore outages; the notion of a tight-knit community was pronounced in these rural settings. Consumers in suburban areas also showed appreciation for their electric cooperative and line workers; on a few occasions, consumers appeared to be more eager for information and updates regarding outages. Comments such as, "Any updates on timeframe for restoration? Going on 7 hours for us," were more routine on some instances.

Overall, consumers from all participating electric cooperatives expressed concern for the safety of the linemen, with one consumer stating, “Please be safe, we can live without electricity out here a while longer.” The flow of updates and information from the electric utility – including photos, videos and Facebook live updates – provide an opportunity for consumers to have a better understanding of the behind the scenes of the restoration process and the challenging work conditions line personnel go through in the restoration process to turn the lights on again. In all focus groups, consumers expressed gratitude to the line workers, the sacrifices they make leaving their own families behind and their dedication to serve co-op members.

A study of textual analysis over consumer Facebook posts revealed expressive comments about appreciation and gratitude to lineworkers in smaller communities. Comments such as “We are praying for them all, and cannot begin to express how blessed we are to have them all, and all the help from the other electric cooperatives, it’s very humbling to see how they all work together to get everyone taken care of” were more commonplace.

Research Question 1

The first research question asked what use consumers make of social media during power outage situations. Feedback on the focus groups revealed consumers are progressively migrating towards social media channels to access information during power outage events. Whereas in previous years when digital technologies were not widely available consumers relied on phone calls, radio messages, mailed messages or word of mouth to get updates from their electric utility regarding power outages, the accessibility of information has significantly altered due to new interactive mediums of

information distribution such as websites, apps and social media outlets. Because of the real-time nature of social media sites, when information regarding an outage is not found on social media, consumers share a level of dissatisfaction and not having the best experience in their co-op's social media page. Beyond using social media sites to access outage information, consumers are also checking social media sites ahead of a storm or natural disaster events for safety precautions as well as to assess damages and check on the status of friends and family.

The feedback from focus group participants revealed consumers who are connected to social media sites expect that their electric utility will provide information and updates when power outages occur. Acknowledgement of an outage is vital for most consumers who participated in the research. One consumer specifically mentioned that it would be better for the co-op to make a post stating that they know there is an outage, but do not yet know the cause of the outage, than not making a post at all. Another consumer stated: "I like when my co-op continues to post outage updates until all power is restored." In an age of information technology and given the fundamental reliance consumers have on electric service, the interruption of electric power provides a critically important time for communication between the utility and the consumers it serves.

While the majority of consumers still make a phone call to their electric cooperative to report an outage or they report an outage via their utility app, consumers are accessing social media channels more often in order to find out if their outage has been acknowledged by the co-op, if any information has been shared regarding estimated restoration times, if the outage has impacted other parts of the community, or to learn about the cause of the outage. When consumers lose power, they also lose connection to

their internet wi-fi service; however, in the event of no electric power, consumers still use their smartphone or tablet data service to seek information regarding the outage. In this sense, information shared on a utility's social media pages becomes crucial for consumers who may be looking for timely or instantaneous updates regarding the outage.

The number of consumers who responded they go first to social media when an outage occurs was more predominant in rural-based co-ops rather than on the more suburban-based co-ops. Consumers from more suburban co-ops expressed they either call the co-op first or use their co-op app to report an outage.

When visiting a co-op's Facebook page during an outage event, several consumers expressed they enjoy seeing pictures of linemen out in the field working on restoration efforts, videos, or live updates regarding the outage situation. Additionally, consumers expressed infographics explaining the steps to restore power as well as safety tips during a storm event enrich the value they receive from the co-op's social media pages during severe weather situations. The visuals help consumers to better understand the behind the scenes of an outage restoration effort while fostering a sense of appreciation for the line workers who may be working in adverse conditions to ensure the lights are turned back on. The ability to share real-time updates that include images and videos via social media sites provides a key educational opportunity for electric utilities to educate members on a process that is normally unknown to them, but that particularly impacts their life when a disruption of electric service takes place. Noticeably, some consumers shared they visit the co-op's Facebook page several times during a storm event to look for new updates.

Overall, nearly 100% of participating consumers expressed they were pleased with the volume and quality of information posted on their electric cooperative's Facebook page during power outages. The majority of consumers shared the type of information provided by their electric co-op has been helpful and relevant to the power outage situation.

Research Question 2

Sub-research question 2 (RQ2) asked what consumer motivations are when they use social media sites during power outages. At the focus groups, electric cooperative members were asked what type of information they sought when using social media channels ahead of severe weather events as well as during and after severe weather and power outage situations. Participant answers provided insights into the types of motivation that cause consumers to seek information on social media sites during such events. Nearly 100% of participating members said they check social media channels to learn of time estimates of when predicted weather might impact their area; in this sense, social media outlets are being used as a preparedness and monitoring tool during severe weather events.

Nearly half of the members said they check social media channels to learn of updates regarding outage restoration times. Members expressed that if their cooperative has a social media presence, they expect the co-op to post updates during power outages. This expectation was validated during the textual analysis of social media posts as several consumers either reacted to co-op posts related to outages or published posts asking for updates on outage restoration time estimates. In Oklahoma, the Oklahoma Association of Electric Cooperative reports that all 27 distribution electric cooperatives in the state have

social media channels to connect with their membership. The engagement and number of likes increase during outage events, specifically during extended outages. For example, in 2016 Northwestern Electric Cooperative based in Woodard, Oklahoma, – a participating co-op in the focus group study – experienced a growth of 45.9% of new followers on their Facebook page during an extended-outage event caused by ice storms. A neighboring co-op in the Oklahoma panhandle, Tri-County Electric Cooperative (TCEC), experienced an increase of 31.8% during the same period of extended power outages. On the same weather event, Seminole, Oklahoma-based Canadian Valley Electric Cooperative experienced a growth of 19.8% increase on their Facebook followers and East Central Electric Cooperative in Okmulgee-Oklahoma experienced 16% increase during extended outages in 2016 (Oklahoma Association of Electric Cooperatives, 2016).

In a slightly lesser frequency, consumers said they access social media sites during severe weather events to learn of expected damages, resulting damages, safety tips, list of available shelters and relief efforts in the area as well as evacuation orders in case of wildfires. Nearly 100% of consumers said they check Facebook to learn of the status of family and friends during and after events. In this sense, Facebook or other social media sites are used as a connection tool among consumers in the same community, region or even in different countries. During the textual analysis study of consumer comments on Facebook, it was perceivable that several consumers posted the status of their outage restoration on a co-op's post. While many of the comments on Facebook expressed appreciation to the cooperative once power was restored, others commented about their power still being off after several hours in their home or business. In fairly small and rural communities, consumers also check social media channels to

learn of any damages affecting their local community residents, small businesses, or public grounds such parks, schools, stadiums and churches.

Another element of understanding the motivation that causes consumers to check social media sites during power outages is the factor of time. Consumers were asked how soon they expected to receive information regarding an outage that impacted them. The majority of participants said they expected the cooperative to acknowledge the outage and post information on the event within 30 minutes of the outage. A smaller number of consumers said they would expect information to be shared within one hour; one specific consumer pointed out that the expectation of a quicker timeframe would be higher during an evening outage. A few consumers said they expect to see information on their outage immediately or within 20 minutes due to the availability of digital technologies such as social media channels, website – including real-time outage map updates – text messaging and push notifications via the utility app, if available. Overall, participating consumers said they were pleased with their local cooperative's response time on social media outlets regarding outages.

Research Question 3

Sub-research question 3 (RQ3) asked how consumers are turning to social media during natural disasters compared to other traditional mediums of communication. With various mediums of communications available today, when it comes to becoming aware of severe weather events and its potential impact, the majority of respondents on the consumer focus groups said TV is their primary medium of use. Several consumers, however, stated that if they are not at home, they will use their smartphone to keep updated via weather apps and/or social media channels. A few consumers cited watching

Facebook live updates by local news stations ahead of or during natural disaster events. Overall, the majority of participating consumers said social media is on their top three mediums of accessing information before, ahead and after a natural disaster takes place. Out of 36 consumers, 10 participants did not mention social media as one of the channels they seek ahead and during severe weather events that cause power outages. However, the 10 consumers who cited not using social media sites said they utilize their smartphones for weather apps during such times. Other mediums cited were radio, websites and word of mouth from family, friends and neighbors.

Consumers were asked how they expected to receive information regarding a power outage. Noticeably, the majority of consumers living in rural areas responded they expect to receive outage information on their electric cooperative's Facebook page. In contrast, consumers who primarily live in a more suburban area said they prefer to receive outage updates via text messaging. Distinctively, both means of communications are primarily depended on smartphone ownership, which 94.4% of participating consumers owned.

CHAPTER 5: Discussion

The feedback and data gathered from the consumer focus groups and textual analysis reveal meanings that validate the research questions and propel the need for future research in the field of crisis communications and new media use. The meanings found on the research relate to the need for information, consumer expectations, and a connection to the utility as a result, which could be a stronger or a weaker connection. The study exposes several implications to electric utilities in their quest to connect with consumers. Furthermore, the study has limitations that open the door for future exploration and research.

Need for Information

In a society driven by information Globally, the Pew Research Center estimates that more than 5 billion people have mobile devices with over half of that number owning smartphones (Pew Research Center, 2019). On the same report, the Pew Research Center shares 94% of consumers in advanced economies own a mobile phone and 90% use the internet. Similarly, 83% of consumers in emerging economies own a mobile device and 60% use the internet. Additionally, the report states 67% of consumers in advanced economies use social media sites whereas 49% of consumers in emerging economies use social media channels. This data was reflected on this body of work with participating consumers and members of electric cooperatives reporting they are active consumers of information via mobile devices and social media sites.

The research validates that consumers are active seekers of information. Specifically, consumers seek information when a situation such as a power outage impacts them. The disruption of electric service provides an inconvenience for the

consumer given the dependence consumers have on electricity. Although the inconvenience of a power outage could be short lived, the likelihood that it could last for hours, days, or weeks is constant. A power outage situation causes an immediate need for communication between an electric utility and the consumer. The need for communication goes hand in hand with the concept of Information Society Theory, which establishes that consumers depend on information. The pervasiveness and prevalence of information in today's media lifestyles bring a new dimension to connectivity and the consumer's desire to access information.

Consumers are not only accessing social media sites during power outage situations, they are also using these mediums of communication as a preparedness tool to learn of information ahead of a weather event or after the event and to access information on resulting damages or to check on the status of friends and family.

Consumer Expectations

The availability and accessibility of information provide fuel to consumer expectations. As it was expressed in focus groups and validated in textual analysis, consumers following their electric utility's social media sites do so to receive information regarding the utility and the essential service provided to them: electricity. When a utility maintains a social media presence, consumers expect to receive information when power outages take place. If information is not shared via social media sites regarding power outages, the lack of communication may cause frustration, disappointment and a level of dissatisfaction from the consumer in regard to the utility. One specific consumer stated in the focus group, "I first went to the co-op's Facebook page to look for information on outages during a storm, but I found nothing. Then, I went hunting for information on their

website and found an outage map. I really wanted to have an update on my outage situation." Receiving information during outage events is the leading reason why consumers decided to follow their electric cooperative's Facebook page, as revealed on the focus groups.

The research confirms that consumers have unique motivations for various types of media consumed. The Uses & Gratifications Theory establishes that users find unique motivations for each communication medium; in this sense, consumers are active, discerning and motivated in their media consumption choices. This proves true for consumers when outages take place and they visit their utility's social media sites to check on any information related to the outage.

Consumers not only expect for information to be shared, they also expect it in a timely manner, which is another gratification derived from social media use. The real-time nature of social media sites and digital technologies empower consumer expectations. As most consumers in the focus groups expressed, the average acceptable timeframe for information regarding outage events is 30 minutes. Participating consumers said they would be willing to wait some time to receive information regarding the outage, but after 30 minutes they expect the utility to use the social media channels and other digital technology mediums such as app notifications, text messages and website updates to pass on information to impacted consumers.

Consumers are using social media sites more frequently to access information and updates regarding a power outage that might be impacting them. Having their outage acknowledged by their local utility is helpful to consumers and contributes to better understanding and patience during power disruptions.

Connection to Utility

The interactivity made possible through social media sites have the potential to strengthen business-to-client relationships. This is true with electric utilities and the consumers they serve during outage events. Feedback from consumers revealed that when a utility passes on information to consumers about the outage restoration process, consumers appreciate the update and cultivate gratitude to those working on their behalf to restore electric service. As inconvenient as an outage can be, consumers feel better about their lack of electric power when they see the outage has been acknowledged and that their electric utility takes the time to provide information and updates regarding the outage restoration process. This sense of acknowledgement during an uncomfortable, temporary situation is one of the gratifications consumers derive from social media use during disruption of power.

Feedback from focus groups as well as from the study of textual analysis revealed that consumers appreciate responsiveness, communication and the ability to ask questions and have their questions answered in a timely fashion. The communication enabled through social media sites have the potential to strengthen a connection between consumers and their electric utility. On the same token, the lack of communication or delayed responses have the potential to weaken the connection between utility to customer.

Social media also enables utilities to enhance member engagement. Consumers participating in the focus groups expressed appreciation for the information their electric cooperative provide during outage situations. The study of textual analysis of social media posts on electric cooperative Facebook pages also revealed the exchange of

information between the electric co-op and the consumer fostered positive dialogue and empathy from the consumer, with most consumers expressing gratitude for line crews. Conversely, when consumers seek information and don't find it, the connection between consumer and electric utility could be weakened.

In this study, participating consumers shared they are overall pleased with the information provided by their electric cooperatives during power disruptions. Most consumers said they have a favorable impression of their co-op's utilization of social media sites to inform consumers during power outage situations.

Research Limitations & Future Research

The research has several limitations. The study was conducted in a narrow area in the countryside of one southern state, Oklahoma, via focus groups that were attended by electric cooperative consumers in four regions of the state. Other demographic groups could be researched in the future to allow for comparison in different parts of the country. Additionally, a similar study with other types of electric utilities such as investor-owned utilities or public power utilities would expand the reach of the research.

By design, the study was conducted on one social media platform: Facebook. A similar study could be conducted to evaluate the information consumers obtain from Twitter, Instagram or other social media sites in power outage situations.

Additionally, the proposed study focuses on a generic sense of power outage, which could be caused by multiple causes, such as natural disasters, weather events or unplanned blackouts or planned blackouts such as the recent public safety power shutoff carried out by PG&E in California. Further research could be conducted to explore

consumers' use of social media during power outage situations for one specific natural disaster event.

The continued examination of social media media sites and their role for information seeking and information sharing practices during natural disasters is imperative to the future of crisis communications and new media use research. As Stewart, et al., asserts, "The culture of social media is increasingly powerful and pervasive and is continually altering the online climate, resulting in a changing landscape in which to further explore," (Stewart, et al., 2016, p. 645).

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