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Effectively Managing Energy Costs in the Resort Industry

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This is to certify that the doctoral study by

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Walden University
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Abstract

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MBA, Texas Southern University, 2015

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Doctoral Portfolio Submitted in Partial Fulfillment

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Abstract

Hawaii's commercial consumers pay the highest electricity rate in the United States; these costs are expected to rise 3-3.5% in 2021. Management in the Hawaiian resort industry that lacks adequate knowledge of controlling these rising costs is at a competitive disadvantage. Utilizing the diffusion of innovation theory, the purpose of this qualitative case study was to explore strategies used in the resort industry to control energy costs. The participants comprised of 10 energy management professionals with successful experience managing energy consumption in the resort industry. Data were collected through telephone interviews, archival documentation, and field notes. Using Yin's 5-step process of collection, dismantling, aggregation, and interpretation, 3 themes emerged, including technology implementation, data analytics, and behavior modification. One key recommendation is for business managers to use data to drive decision-making to mitigate risks associated with energy price volatility to maximize economic returns. The implications for positive social change include the potential to lower dependence on fossil fuels and improve the overall environment by reducing harmful pollutants responsible for climate change and greenhouse gas emissions.

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Dedication

First off, I would like to dedicate this work to my father, Todd Whitesides, who instilled in me a work ethic that has made me into the man I am today. I would not be anywhere near where I am today without his continued love and support. Words cannot describe the bond I have with this man.

Second, I would like to dedicate this work to my grandfather, Larry Olson, who showed me what true family love is. Never in my life have I encountered an individual as selfless or compassionate as him. I am proud to say that my grandfather is one of the few individuals I would entrust with my life and my livelihood.

Lastly, I would like to dedicate this work to my fiancé, Yuna Semenova, who sacrificed time and attention to get me to this milestone. For the past 3 years she has put up with me and my eccentricities good, bad, and indifferent. She truly deserves the entirety of my body, heart, and soul.

"The meaning of life is to give life meaning" ― Viktor E. Frankl

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Section 1: Foundation of the Study

Energy use strategies impact a company's profitability. Short-term and long-term upward price pressure on energy can adversely affect an organization's financial health (Sadorsky, 2010). Commercial sector energy prices expect to rise due to high electricity demand (Pitt, Michaud, & Duggan, 2018). Energy usage, if not properly managed, can adversely impact business profitability and overall sustainability. Firms struggle to implement effective long-term strategic energy plans to account for this uncertainty (Armaroli & Balzani, 2007). Without implementing strategic plans to manage energy use, firms expose themselves to upwards price pressure in the energy sector, which can adversely impact their profitability (Sadorsky, 2010). Firms that understand how to manage energy costs through strategic implementation can mitigate the profitability risk associated with rising energy costs.

Background of the Problem

Projected energy prices will increase in the commercial sector (Energy Information Association, 2016). Energy prices can experience upwards price pressure over time based on a multitude of factors stemming from the variability of energy production and consumption (Alberini & Towe, 2015). Factors that influence energy prices include fuel costs, accessibility of fuel and power plants, environmental costs, and price regulations (Sanquist, Orr, Shui, & Bittner, 2012).

Organizations need to be aware of the variables impacting prices they pay for energy (Hu, Kim, Wang, & Byrne, 2015). Organizations can effectively operate in a rising cost environment by educating themselves on the factors influencing energy prices

and taking strategic action to manage these costs effectively (Eccleston, March, & Cohen, 2011). Organizations effectively managing energy costs can also gain a competitive advantage (Weaver, 2004).

Firms that can successfully implement energy saving strategies can benefit from a sustainable competitive advantage in the market, which is particularly important in the resort industry (Yatich, 2018). Unfortunately, implementation of strategies to manage energy costs within organizations suffer from a very high failure rate (Cândido & Santos, 2015). Resorts that navigate rising energy prices by implementing strategies to manage energy costs effectively will gain a strategic advantage over their competitors (Weaver, 2004). Furthermore, these strategies can produce substantial direct and indirect benefits to the longevity and profitability of an organization (Smerecnik & Andersen, 2011).

Problem Statement

Hawaii's commercial consumers pay the highest rate for electricity in the United States (Chen, 2019; U.S Energy Information Administration, 2016). The projected annual rate increase is 3-3.5% through 2021 (U.S Energy Information Administration, 2016). The general business problem is resort managers struggle to effectively manage these rising energy prices now and into the future, resulting in decreased profits. The specific business problem is some business managers in the Hawaiian resort industry lack strategies to effectively manage energy costs.

Purpose Statement

The purpose of my qualitative multiple site case study was to explore the strategies used by professionals in the resort industry to effectively manage energy costs.

The population for my study included 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii that successfully managed energy costs. Business managers in the resort industry can benefit from the results of my study by identifying new implementation strategies to effectively manage energy costs. The implementation of these strategies may shield an organization from financial losses due to rising energy costs and improve the overall environment by reducing harmful pollutants that are responsible for climate change.

Nature of the Study

For this study, I considered 3 specific research methods: qualitative, quantitative, and mixed methods. The research method chosen for this study was qualitative. The purpose of this study was to explore successful strategies implemented by managers to manage their energy costs. Qualitative researchers explore topics that describe, understand, and explain a social phenomenon (Lee & Krauss, 2015). Qualitative research differs from quantitative research in that it uses subjective narratives, rather than numbers and statistics, as a means of data collection and analysis (Anyan, 2013). Quantitative and mixed method researchers examine research questions that require the collection and analysis of numeric data (Venkatesh, Brown, & Bala, 2013). Because I was not collecting or analyzing numeric data, I chose not to pursue a quantitative or mixed method research study. The objective of this research study was to gain insight on strategies needed to effectively manage energy costs in an environment where rising energy costs decrease an organization's profitability. The application of a qualitative methodology was appropriate for this research.

Of the available research designs, I considered case study, phenomenological, and ethnographic. I chose the multiple case study design for my qualitative study. I rejected ethnography and phenomenology because they did not fit my design criteria. Ethnographic researchers focus on exploring a culture through interaction and interview (Marshall & Rossman, 2014; Sangasubana, 2011). I rejected ethnography because I was not studying a culture. Phenomenological researchers explore participants' lived experiences through study (Moustakas, 1994). I rejected phenomenology because I was not studying participants' lived experiences. I chose a multiple case study design because it was my intention to explore the energy systems of resorts in Hawaii and Nevada, which is a bounded system. The multiple case study design allows for the collection of data through observations, interviews, and artifacts of a bounded system (Yin, 2018). Because I was conducting an in-depth exploration of energy systems of resorts in Hawaii and Nevada, which is a bounded system, the case study approach was an appropriate design for this research.

Research Question

The overarching research questions was: what strategies do professionals in the resort industry use to effectively manage energy costs?

Interview Questions

1. What strategies did you find to be the most effective to manage energy costs?
2. What strategies did you find to be the least effective to manage energy costs?
3. What strategic technologies do you use to effectively manage energy costs?

4. What passive strategic techniques do you use to effectively manage energy costs?
5. In which sector of your business do you typically focus your strategies to effectively manage energy costs?
6. What is the biggest strategic limitation on effectively managing energy costs?
7. What is your long-term strategic plan to effectively manage energy costs?

Conceptual Framework

The conceptual framework used to support this study was Rogers' theory of diffusion of innovation. Rogers (2003) studied the adoption and implementation of new ideas, products, and services within a specific social system. The main elements of diffusion of innovation are that these ideas are innovative and communicated through certain channels over time through members of a certain social system (Rogers, 2003). Rogers identified factors associated with the success a new innovative on a given system. Individual factors represent the perceptions individuals feel towards a given innovation. Innovative factors represent the utility a given innovation provides to the user. Utility of a given innovation measures the relative advantage of attributes such as ease of use, compatibility, problem solving capability, standards, and technological edge. Task factors represent the present market conditions imposed upon an innovation shortly after launch. Organizational factors represent the internal organizational influences on a given innovation. Environmental factors represent external influences imposed by a given population's cultural values, technological infrastructure, community norms, and funding capabilities. Environmental factors, albeit hard to control, influence the success or failure

of a given innovation (Akca & Ozer, 2014). Business managers can use these factors as metrics to measure the success of saturation of their innovation within a given network.

The diffusion of innovation theory provides further support to how energy conservation strategies find adoption within an organizational network. Furthermore, this theory provides an educational tool for management on how to effectively apply successful initiatives. By studying implentation strategies over the adoption of innovative energy management strategies within a resort type setting, business managers will be better suited to effectively adopt strategies within their own organization, controlling and mitigating rising energy costs and protecting their profits.

Operational Definitions

Corporate social responsibility (*CSR):* Corporate social responsibility is a company's sense of responsibility to the community and environment it operates in (Mohammad, Rashid, & Tahir 2013).

Energy choice: Energy choice is a consumer-based business model where consumers can choose their electricity provider (Poullikkas & Gadalla, 2013).

Energy management systems (EMS): Energy management systems are technological systems used to monitor and manage energy use (Alcott & Rogers, 2014).

Energy return on investment (EROI): Energy return on investment is a ratio between the amount of energy that must be used to produce a certain amount of energy (Poisson & Hall, 2013).

Kilowatt hour (kWh): Kilowatt hour is a unit of energy equivalent to 1,000 watts over an hour of time (Devabhaktuni et al., 2013).

Levelized cost of energy (LCOE): Levelized cost of energy is a unit representing the net present value of the cost of energy over the life of a generating system (Devabhaktuni et al., 2013).

Passive Technology: Passive technology is technology that serves a singular function or process that does not allow for the user to interface with it outside of these parameters (Li, Shen, & Yu, 2017).

Assumptions, Limitations, and Delimitations

Assumptions

An assumption is a belief necessary for a researcher to conduct research but that cannot be proven (Simon & Goes, 2013). I assumed that the participants would not misrepresent themselves during questioning and that they provided professional based strategic viewpoints on my research topic within their area of expertise. Furthermore, I assumed that energy prices in my area of study will continue to increase and that businesses lacked strategies to effectively manage these rising energy costs.

Limitations

A limitation is a factor that the researcher cannot control which could impact the outcome of a study (Simon & Goes, 2013). I could not control the applicability or practicality of the thoughts, ideas, or strategies presented by my participants as they are the authority on effectively managing energy use. I also cannot control the future evolution of technology related to energy production or consumption or the impact technology may have on energy price changes.

Delimitations

A delimitation is a factor that the researcher controls based on specific choices (Simon & Goes, 2013). I chose a population size that should be representative of the limited population I targeted with my research. I also understood that the locations I chose restricted the communication channels available to interact with my participants. These factors could have impacted the transferability of my study results.

Significance of the Study

Business managers in the resort industry and society can benefit from this study. First, business managers can identify new ways to effectively manage energy costs. Second, energy conservation strategies reduces society's dependence on fossil fuels and improves the overall environment by reducing harmful pollutants responsible for climate change. With the implementation of proper energy management strategies, organizations can minimize wasted energy without compromising the quality and comfort of their environment (Gupta, Gaur, Vyas, & Pandey, 2015).

Contribution to Business Practice

Business managers can benefit from this study by identifying effective strategies to manage energy usage to reduce cost. Furthermore, the results may provide an objective framework management can use when formulating their own energy management strategic plan. The intended audience was professionals in the resort industry, but research findings pertain to individuals managing both commercial and domestic facilities interested in effectively managing their energy costs. I included the diffusion of innovation theory to support the practical implications and solutions surrounding

sustainability. Research shows that organizations use the most effective strategies for managing energy costs, resulting in financial sustainability and supporting an overall positive social and environmental impact. By actively pursuing successful strategies to control and mitigate energy costs, organizations can reduce their financial burdens while contributing to positive social and environmental change.

Implications for Social Change

Society may benefit from the results of this study because energy cost reduction strategies do more than shield an organization from future profit decay. Implementing energy conservation strategies reduces our dependence on fossil fuels and improves the overall environment by reducing harmful pollutants responsible for climate change (Shaikh, Nor, Nallagownden, Elamvazuthi, & Ibrahim, 2014). Not only does energy conservation help reduce our dependence on our depleting natural resources; energy conservation sets a positive behavioral precedent for others to follow.

A Review of the Professional and Academic Literature

Researchers review academic and professional literature to ensure the validity of their study as a vital step in their research process (Bish, Kim, & Newton, 2015). Scholars use prior literature to provide an organized framework to effectively identify, evaluate, and compile existing data into a collaborative structure relating to and advancing a specific research topic (Shaikh & Karjuluoto, 2015). A researcher's literature review consolidates existing information in a way that promotes the brainstorm of new ideas and provides supporting themes relating to a research topic (Bish et al., 2015).

This literature review included existing data sources I identified, analyzed, and summarized to support the scope of my research. The goal of my literature review was to achieve a conclusion supporting common strategic themes that management in the Hawaiian resort industry can use to effectively manage rising energy costs. Additionally, I corroborated the work of previous scholars and researchers to further support my analysis and conclusion. Energy consumers across all demographics and market sectors can use the findings of this study to more effectively manage their energy costs.

To compile this literature review, I, as the sole researcher, used the following resources: ProQuest, ESBCO host, government data, academic libraries, Sage Publications, and Google Scholar. I also used Walden's internal library database to provide additional reference material including peer-reviewed documents, energy related literature, reference documentation, and historical dissertations. I gathered additional data using Thoreau Multi Database Search, Science Direct, ABI/Inform, Academic Search Complete, and Business Source Complete.

The aim of this literature review was to provide a synthesis of sources related to the conceptual framework associated with Everett Roger's diffusion of innovation theory and analyze this data as it relates to the research topic. I used this academic and professional literature to provide an overview of the diffusion of innovation theory as diffusion of innovation relates to the strategies used by business professionals to effectively manage energy costs in the resort sector. I used a total of 232 reference documents for this doctoral study. I compiled this literature review using 94 references, 85% of which were published in or after 2015 (see Table 1). I included in the entirety of

this doctoral study, 38% of peer reviewed sources published after 2015. I validated peer-reviewed references using Ulrichsweb Global Serials Directory in the Walden University Library.

Researchers use specific topical search terms to query and identify source data relevant to their study scope (Torraco, 2016). I used the following search terms for data mining references specific to my study: *rising energy costs, strategic innovation, innovation, hospitality, energy efficiency*, *energy crisis, energy strategies, diffusion of innovation, sustainability*, *energy innovation*, *energy strategies*, *social cognitive theory*, *organizational change management*, and *theory of planned behavior.* I included in this literature review an analysis of diffusion of innovation theory, diffusion of innovation's foundational framework, and a justification as to why diffusion of innovation is the most relevant theory for use in this study. I further justified the use of this theory by discussing in detail two alternative theories, social cognitive theory and theory of planned behavior, and analyzing them based on their potential application to my dissertation topic. Lastly, I described the resort industry and the challenges the resort industry faces in the commercial service sector and provide an analysis of energy costs as they relate to my scope of study.

Table 1

Reference Source Data Analysis

Section	< 2015	2015-2019	Total sources	% between 2015-2019
Literature review	*14*	*80*	*94*	*85%*
Proposal	*124*	*108*	*232*	*47%*

Diffusion of Innovation

I selected Roger Everett's diffusion of innovation theory as the conceptual framework for my study. Everett originally published the diffusion of innovation theory in 1962 as a vital change management theory for business owners and management to understand how change is adopted throughout a given system (Rogers, 2003). This ensures that owners and management can better ensure the probability of a successful adoption of a given strategic innovation (Adnan, Nordin, & Rezda, 2017). Everett's diffusion of innovation is rooted in 19th century methods and is one of the most widely used and cited theories when investigating strategic innovation adoption and implementation (Clarke, Murphy, & Adler, 2016).

Researchers typically use diffusion of innovation theory to determine factors relating to a decision outcome with a given social group (Bianchi & Figueiredo, 2017). Theorists use previous research to identify common variables that can impact innovation adoption by emphasizing 3 specific points to understand how diffusion is spread and adopted using a practice-based approach. These elements include (a) performances contain internal dynamics, (b) the power of the associations between features within a practice varies, and (c) the association with other methods provides significance for resistance against consciously introducing new elements (Mylan, 2014). Additional social system characteristics influencing whether a given innovation will be adopted include population, income, and growth (Eder, Mutsaerts, & Sriwannawit, 2015). Researchers also take into consideration the measure of time as time relates to the speed at which an

innovation will diffuse throughout a given network (Koebel, McCoy, Sanderford, Franck, & Keefe, 2015). Practitioners who understand the factors that influence successful adoption can increase the likelihood of success when introducing an innovation within a given social system.

Theorists describe diffusion as a practice in which an innovation is transferred through multiple channels over time among various members of a social system (Bianchi & Figueiredo, 2017). Theorists built the theoretical foundations of diffusion of innovation on four core elements: time, communication channels, innovation, and social systems. Theorists identified variation in this adoption criteria on an individual based on those at the early and late stages of the adoption curve (Eder et al., 2015). Different individuals and populations may recognize the same innovation differently, based on a multitude of circumstances surrounding the adoption (Adnan et al., 2017). Theorists identified critical social factors, such as user approval and esteem, that can affect a person's perceived advantage of a given innovation. Additionally, researchers identified four aspects that influence adoption: trialability, complexity, compatibility, and observability (Eder et al., 2015).

Researchers use diffusion of innovation theory to explain how innovation spreads through a given social system (Bianchi & Figueiredo, 2017). Theorists use diffusion of innovation to identify how an idea or innovation diffuses among a group of people in a specific culture (Eder et al., 2015). Individuals do not adopt innovations in the same manner or at the same time as other individuals within a social system (Adnan et al., 2017). Researchers who apply diffusion of innovation to energy innovation attempt to

understand how new ideas or innovations related to energy are accepted and adopted throughout a given social system. Theorists recognized 3 dimensions to be critical for this implementation: social, technical, and economic. Researchers apply these dimensions to provide a cost to benefit comparative analysis of the new idea or technology (Eder et al., 2015).

Managers trying to implement innovations specific to energy must consider the economic factors individuals consider when assessing whether they will adopt a given innovation, particularly in the low-income spectrum (Eder et al., 2015). Practitioners identified the perceived economic and sociopsychological benefits, including practical and cultural features as important factors individuals consider when adopting a given innovation (Mylan 2014). If individuals, particularly in the low-income spectrum, do not see an economic advantage prior to and shortly after adopting an innovation, they will most likely not adopt the innovation or abandon their existing adoption of an innovation (Eder et al., 2015). Managers who understand these factors can increase their likelihood of adoption when attempting to implement strategic innovation related to energy management.

Social dimensions are an important factor in the success or failure of an adoption (Eder et al., 2015). Practitioners of the diffusion of a given innovation report that the success of an implementation is highly dependent on the knowledge and awareness individual adopters perceive towards a given innovation (Koebel et al., 2015). Management can increase their likelihood of success by understanding how social dynamics impact adoption.

An individual who is well connected to a network will be more likely to provide increased exposure to an innovation, furthering the capacity of the individuals making up the network to assess the benefits and innovation risks, increasing the probability of innovation adoption (Koebel et al., 2015). Lack of acceptance by individuals and mutual understanding within this social network can jeopardize the success of a given innovation. Foreign actors who try to diffuse innovation in unfamiliar territory need to understand the local market and local population to further increase their probability of successful adoption (Eder et al., 2015). As individuals increase connections within the communication channels in a network, an innovation can diffuse faster through that network because innovation diffusion depends on knowledge and awareness about a given innovation (Koebel et al., 2015). Management can increase their likelihood of success by implementing strategic innovation in a well-connected social network.

Proponents of the diffusion of innovation theory argue that the success of an innovation and innovation adoption is based not only on that innovation's relative economic advantage, but also the means by which the innovation is introduced (Lundblad, 2003). Individuals who understand how to approach the introduction of an innovation into an organizational system can increase the probability of successful adoption. Theorists argue that successful introduction of an innovation relies on a multitude of factors, including communication channels, time, and structure of a given social system (Adnan et al., 2017). Practitioners of this theory need to use each key area as they are necessary to maximize the probability that a given innovation is adopted sustainably within a system (Askarany, 2016).

History of diffusion of innovation. Everett Rogers developed the most comprehensive and widespread application of diffusion of innovation. He defined diffusion of innovations as a process by which an innovation is communicated through channels over a period through a given social channel (Bianchi & Figueiredo, 2017). In 1962, Rogers first introduced the diffusion of innovation theory by establishing that diffusion of a given innovation relies heavily on the social channels used to implement such an innovation over time (Rogers, 2003). Rogers focused on the role human capital plays in the successful introduction, adoption, and sustainment involved in the innovation process (Bianchi & Figueiredo, 2017). For over 40 years, researchers expanded upon Roger's original work by focusing more on how diffusion of innovations can be used effectively in the change management of organizations (Aizstrauta, Ginters, & Eroles, 2015).

Over the past few decades, researchers used diffusion of innovation across various academic fields. In 1943, Ryan and Goss conducted the first of these studies to determine how hybrid seed corn diffuses among Iowa farmers (Aizstrauta et al., 2105). In 1969, Bass introduced the revolutionary paradigm that the adoption of an idea can be forecasted based on the number of previous adopters. His model forecasted based upon 2 parameters: innovation and imitation coefficients (Talebian & Mishra, 2018). Theorists further modified this model to address previous use cases previously not addressed by diffusion model including multigenerational products, pricing strategies, and pirated sales (Talebian & Mishra, 2018). Researchers evolved Everett's diffusion of innovation model to span across several approaches and paradigms.

Theorists further advanced diffusion of innovation by applying the fundamental principles in an organizational setting to increase the likelihood of successful innovation adoption (Vagnani & Volpe, 2017). Proponents of diffusion of innovation theory argue that that the variables outlined by various diffusion models likely predict the success of a given adoption of an innovation within a system, particularly when adopting strategies to increase competitiveness and sustainability within an organization (Fichter & Clausen, 2016). Rogers later expanded his model to include these later findings by classifying adoption decisions into the following four categories: optional, collective, authority, and contingent (Kim, 2015). Organizations can use this evolved diffusion of innovation model to increase their likelihood of innovation adoption success.

Strategic use of diffusion of innovation. Decision makers use the underlying framework making up the theory of diffusion of innovation to better understand how to effectively implement organizational strategies that maximize the economic return in a sustainable manner (Gruber & Koutroumpis, 2013). Management uses the foundations of diffusion of innovation to influence the organizational social hierarchy to achieve desired outcomes (Bish et al., 2015). Management use diffusion of innovation to increase the probability of adoption of strategies aimed at improving profitability, sustainability, and competitive advantage (Nieves & Diaz-Meneses, 2016). Depending on an organization's goals, firms can maximize their performance by strategically implementing innovations that align with their goals (Omerzel, 2016).

An organization's ability to understand how to implement innovations appropriately determines how useful the diffusion of innovation theory will be to them

(Becket & O'Loughlin, 2016). Theorists identified that when applying diffusion of innovation, economic factors, along with others, influence the adoption of innovations (Zhang, 2018). Researchers state that the main factors driving successful innovation implementation include: corporate culture, communication between managers and implementers, the amount invested in resources to diffuse the innovation, the current sociocultural and institutional environment, the age and position of change agents, and the individual characteristics of the implementers (Rudaleva & Petukhova, 2016).

Firms can directly add to their value by using strategic innovation directly to shield themselves from uncertainty and increase competitiveness in the market. Firms that innovate typically achieve higher growth rates bolstered by larger bottom lines (Spieth & Schneider, 2016). A firm can capture new value and maintain a culture of sustainability by aligning the firm's culture with a culture of innovation (Yang, Vladimirova, & Evans, 2017). Firms that successfully apply the concepts of diffusion of innovation successfully can leverage resources to mitigate risk and add value to their organization (Bendell, 2017).

Strategically innovative firms are more likely to achieve long tern sustainability and viability (Taneja et al., 2016). Innovations can be technological or non-technological in nature. Technological innovation includes product improvements while non-technological innovations encompass modifications in organizational form, practices, processes, or techniques (Fabic, Zekic, & Samarzija, 2016). When a firm links strategy with innovation activities that firm improves its capability to innovate (Ukko et al., 2016).

Innovations can be explorative or exploitative and can manifest in technological or non-technological form. Exploitative innovations take exploit existing knowledge and resources, while explorative creates value by exploring opportunities outside of an organization's primary wheelhouse (Popadic, Pucko, & Cerne, 2016). According to Sharmelly (2017), efficient innovation is a key contributor to business growth as well as market differentiation. Innovative firms typically hold a sustainable competitive advantage over their competitors and that competitive advantage contributes to superior company performance (Perez-Penalver, Aznar-Mas, & Montero-Fleta, 2018).

Firms use innovation as a key driver to ensure their ability to maintain a competitive advantage over competition because in today's market, the knowledge associated with innovation is one of the most critical resources when ensuring a competitive advantage (Dost, Badir, Ali, & Tariq, 2016). Firms face challenges including an increase in competition, globalization, and an ever-changing environment making innovation a vital component for growth, success and the survival for any business (Bhattacharya, 2016). Unfortunately, firms implementing new innovations fail at a very high rate with some reported failure rates as high as 93% (Zemaitaitiene, Tiskute, & Tvaronavieciene, 2016). Firms use strategic marketing to help mitigate some of the risks associated with diffusion failure (Florea, 2015).

Management can use diffusion of innovation and marketing hand in hand. For an innovation to be successfully implemented, managers must find ways to introduce that innovation into the impacted societal framework. Individuals that market an innovation will increase their implementation success rate as well as the likelihood of permanent

adoption (Florea, 2015). Theorists determined successful implementation and subsequent adoption is dependent on fulfilling a consumer's wants and desires in the products, ideas, or services available. Organizations that introduce consumer focused innovations that fulfill specific wants and needs are adopted more successfully (Ganglmair-Wooliscroft & Wooliscroft, 2016).

Theorists define innovation capacity as the ability of a firm to adopt and implement new ideas, products, or processes in a successful manner (Fidel, Cervera, & Schlesinger, 2016). Diffusion of innovation researchers identified that a firm's innovation capacity directly correlates with the ability to effectively implement innovative thoughts, processes, or technologies (Okon-Horodynska, Zachorowska-Mazurkiewicz, Wisla, & Sierotowicz, 2016). Innovation plays a vital role in the progress of an organization because without the ability to innovate, firms would exhibit little social or economic impact (Papazoglou & Spanos, 2018).

An organization's success partially depends on an ability to provide innovative products that satisfy a consumer's wants and needs. Understanding consumer innovativeness, or the variables that lead consumers to embrace new ideas, practices, or objects is vital to successful innovation (Ganglmair-Wooliscroft & Wooliscroft, 2016). An innovation can be a product or practice that potential adopters are aware of but not yet formed an attitude towards and adopted or rejected for themselves (Nehme, Perez, Ranjir, Amick, & Kohl, 2016). Consumers typically follow rational theory choice when deciding whether to adopt an innovation (Herfeld & Doehne, 2018).

Organizations and management analysts study the flow of knowledge within a market sector through the lens of diffusion of innovation as a competitive advantage of one firm over another (Papazoglou & Spanos, 2018). Firms can set themselves apart from their competitors and maintain a sustainable strategic advantage by effectively innovating (Robbins & O'Gorman, 2016). A firm's competition must be unable to replicate the benefits derived from a strategic innovation that creates a sustainable competitive advantage (Barney, 1991). An increase in a firm's performance can be tied directly to a strategic innovation if that innovation provides economic value, is difficult to imitate, and is relatively rare in the market (Ruivo, Oliveira, & Neto, 2015). To achieve a sustained economic advantage a firm must understand the success factors when implementing innovation throughout a market-based system (Papazoglou & Spanos, 2018).

Contemporary businesses not focusing on innovation may struggle to survive as the business environment they operate in is constantly changing (Kim & Chung, 2017). Given the importance innovation potentially impacts the bottom line of a firm, my focus for this study is the strategies used by management in the resort industry to control and mitigate rising energy costs. Resorts can maximize profitability and create a sustainable, competitive advantage through strategic innovation (Gyuracz-Nemeth, Horn, & Friedrich, 2016). Proponents of diffusion of innovation argue that not all innovation will benefit an organization or be implemented successfully (Zemaitaitiene et al., 2016). However, businesses that employ diffusion of innovation appropriately can enjoy long term sustainable benefits provided by an innovation (Rogers, 2003).

Organizations can use diffusion of innovation to improve the probability of success when implementing strategic initiatives (Smerecnik & Andersen, 2011). Diffusion of innovation can be applied across a multitude of industries and use cases to increase implementation and adoption success (Cooper, 1992). Managers can predict the success of a given strategy within an organization based on their ability to properly put those strategies into practice and adopted by individuals within that system (Askarany, 2016). Thus, managers in the Hawaiian resort industry can gain a better understanding of what strategies will be successfully adopted by an organization that will reduce energy costs and ensure future sustainability.

Limitation of diffusion of innovation. Theorists identified numerous limitations to the diffusion of innovation theory. Despite the widespread use of diffusion of innovation theory, researchers published relatively few studies that explore the breadth and depth potential this theory impacts different markets (Leitner, Warnke, & Rhomberg, 2016). Critics of this theory argue that innovation may lead to unintended consequences and is plagued by high failure rates (Neubig, Galindo-Reuda, & Appelt, 2016). Although, diffusion of innovation theory tests successfully in different contexts and scenarios, critics argue that results of research efforts are highly dependent on subjective data provided by participants, furthermore failed innovation efforts are often blamed on an individual that fails to adopt a given innovation (Yap & Chen, 2017). Rogers (2003) explained this by stating that researchers tend to garner a pro innovation bias expecting innovations to diffuse throughout a social system rapidly and completely with little resistance.

Researchers identified a gap in the span of research on diffusion of innovation as it pertains to organizations (Lundbland, 2003). This is particularly true regarding studies of innovation in the resort industry (Pena, Nunez-Serrano, & Velazquez, 2016). Research scientists rarely referenced information from studies focused on innovation to further analyze processes of diffusion nor used quantitative-empirical methods to analyze how innovations spread throughout a system within the resort industry (Herfeld & Doehne, 2018). This research study will help fill the gaps identified by researchers as it pertains to diffusion of innovation in the resort sector.

Critics argue that diffusion of innovation fails to consider how an individual's resources or social system impacts adoption. Particularly, they argue that individual adoption is influenced by the bureaucracy set in place by management within an organization, where diffusion is critical for success (Bergek, Berggren & KITES Research Group, 2014). Organizations typically implement modular innovations, where success is determined in an incremental successive basis making this type of diffusion is harder for analysts to track because of the comprehensive encompassing framework it depends upon (Bergek et al., 2014).

Practitioners of diffusion of innovation theory rely heavily on social acceptance for adoption to occur. The social standards society imparts towards a given innovation significantly impacts the likelihood of its adoption, even if rational means by which adoption should occur exist (Eder et al., 2015). Furthermore, from a consumer's perspective, adoption of an innovation adoption can backfire if that person experienced

adopting innovations that did not live up to their expectations (Claudy, Garcia, & O'Driscoll, 2014).

Diffusion of innovation is further limited in that it can only by resolved by measuring the effect of individual motives regarding adoption intent. Additional studies can be conducted on diffusion of innovation where an individual adopter cannot clearly see a beneficial and tangible outcome by adopting a given innovation (Claudy et al., 2014). In instances where perceived benefits do not come to fruition after adoption or are hard to quantify relapse may occur and adoption of an innovation can be abandoned (Koebel et al., 2015). These gaps in the diffusion of innovation can be resolved by exploring how personality traits guide the relationship between behavioral responses and innovation reasoning (Claudy et al., 2014).

Practitioners of diffusion of innovation study consumer approaches across a variety of sectors worldwide, but in most developing countries it is still difficult to apply. Also, the relative advantage to adopting better options at the expense of consumer satisfaction, higher costs or convenience also hinders proper applicability (Hyysalo, Johnson & Juntunen, 2017). Diffusion of innovation theory often defies the existing value structures if that value proposition tied to a given innovation is more complex than previously adopted innovations (Koebel et al., 2015). Although diffusion of innovation is not difficult to understand and apply, researchers need to follow innovation adoption for a period to understand how it impacts future adoption of successive innovations and whether relapse occurs (Hyysalo et al., 2017).

Consumers focus is no longer limited to small-scale renewable energy technologies. Consumers collaborate with others in generating new technology solutions. They share their knowledge, ideas, and creations with peers (Eder et al., 2015). This socializing innovation amongst peers further multiplies the exposure associated with a given innovation (Koebel et al., 2015). These actions by consumers sustain the proliferation and advancement of energy technology throughout a given social system.

However, much of the evidence from diffusion innovation theory, comprising of adopter categories, are not developed fully or openly apply to the acceptance of new behaviors among consumers, especially when pertaining to energy innovation (Hyysalo et al., 2017). The obscurity of this specific market segment among average consumers creates some obstacles once the diffusion of innovation framework is applied (Koebel et al., 2015). If the individual does not fully understand an innovation due to obscurity, they will be less likely to adopt even if rational justification exists (Hyysalo et al., 2017).

Alternative Theories

Alternative theories include the theory of planned behavior and social cognitive theory. I decided not to choose the theory of planned behavior for this dissertation due to its inability to take into consideration how and why innovations diffuse through a given population over time. This theory is used primarily for forecasting behaviors on an individual basis and would not be directly applicable when dealing with organizational strategic innovation. I chose not to use social cognitive behavior for this dissertation because it uses mimicry as the primary driver of adoption, which is marginally used when management implements and adopts strategic plans. Furthermore, the theory itself cannot

be effectively applied broadly in an organizational setting. Diffusion of innovation provides the framework needed to provide management with the best outcome regarding the adoption of energy conservation strategies through time and the drivers behind successful implementation and subsequent adoption.

Theory of planned behavior. In 1985, Icek Ajzen introduced the theory of planned behavior, a theoretical framework that predicts an individual's behavior intentions and actual behaviors (Sommestad, Jarkzenm, & Hakkberg, 2015). The theory of planned behavior is based on the premise that an individual's fundamental belief system influences their behavior (Pollard, 2015). How an individual's intention to behave in a particular manner is affirmed by their attitude towards the given behavior and by the subjective norms (Macovei, 2015). An individual's attitudes towards the perceived behavior controls including subjective norms, influence the decisions they make (Pollard, 2015).

The theory of planned behavior applies to individuals when they are presented with a choice to engage in a specific behavior (Sommestad et al., 2015). An individual is influenced through behavioral control based on their situation environment and the ability to access resources and opportunities such as knowledge, time, and money; all of which influence varying levels of control on their behavior (Clement, Henning, & Osbaldiston, 2014). In most studies utilizing the theory of planned behavior, there is a strong correlation around the internal and external drivers predicting behavior and whether that behavior occurs (Nygrén et al., 2015).

Researchers identified intention as a predictor of whether an individual will engage in a behavior (Macovei, 2015). An individual's primary intention to engage in a behavior becomes the central variable driving such a behavior (Clement et al., 2014). The stronger an individual's desire to engage that behavior, the more likely that person will likely perform that behavior (Pollard, 2015). The perceived influence an individual exhibits on their own behavior determines the extent they can regulate any given behavior to achieve an expected outcome (Clement et al., 2014). Theorists of planned behavior theorize that individuals should endorse certain behavior based on their perceived belief they can successfully engage in them (Pollard, 2015). The enhancement of perceived behavior control comes from a combination of self-efficacy and expected controllability (Clement et al., 2014).

Practitioners of the theory of planned behavior discovered through the application of various modeling techniques, that people's assessment of their attitudes towards specific topics and subsequent behaviors result from their fundamental beliefs about those specific topics and behavioral outcomes (Clement et al., 2014). A belief in this case is defined as the subjective plausibility the behavior will cause a certain outcome (Pollard, 2015). Specifically, the subjective value individual's place on each variable influencing such a decision and how those variables impact an individual's subjective possibility that the behavior choice will yield the outcome that they assume (Clement et al., 2014).

Researchers use the theory of planned behavior to identify the determinants of such behavior and predicting the influence and ultimate outcome on a behavior and an

individual's beliefs towards a given behavior that are freely accessible in memory affects positive or negative attitudes an individual may feel toward that behavior (Ajzen, 2015). Another aspect deals with behaviors of important influential individuals or groups and their perceived expectations towards a given behavior. This aspect is primarily affected by a person's motivation to conform to the social group in question (Nygrén et al., 2015). There is another type of consideration, focusing on controlling beliefs affected by the presence of factors that can affect a person's ability to successfully accomplish the behavior (Pollard, 2015). In addition to the apparent power of these elements to interfere or facilitate behavioral performance; readily accessible control beliefs generate a certain level of self-efficacy about the behavior (Ajzen, 2015).

Researchers consider the theory of planned behavior as one of the most acceptable social-psychological models for forecasting human behavior (Lortie & Castogiovanni, 2015). If an individual perceives they strongly control their behavior, they are more confident. Confidence in behavioral control typically leads to an individual carrying out a specific behavior effectively (Ajzen, 2015). The theory of planned behavior provides researchers with an unconventional approach to identify how consumers make decisions (Clement et al., 2014). Theorists using the theory of planned behavior identify the direct precursor of a specific behavior is the "intent" to execute that behavior. The theory also emphasizes the individual's perception towards that behavior (Ajzen, 2015).

History of theory of planned behavior. The theory of planned behavior was developed by Icek Aizen in 1985 to explain people's intention to behave in a certain way as a predecessor to their actual behavior (Sommestad et al., 2015). The theory of planned

behavior is an extension of the theory of reasoned action, which states that an individual's behavior is directly influenced by his or her behavior intention that is determined by one's norms and attitudes towards that behavior (Kassim, Anwar Arokiasamy, Isa, & Ping, 2017). The theory of planned behavior further matured the theory of reasoned action by introducing a new variable called "perceived behavioral control" into its framework (Kassim et al., 2017). Subjective norms characterize individual's insight about the relationship between a reference group and a certain type of behavior and what that specific group thinks about that behavior (Macovei, 2015).

Aizen evolved the theory of reasoned action to better explain an individual's behavior in a specific context, particularly when the person can't control their behavior (Kassim et al., 2017). An individual's perceived behavioral control considers the ease at which individuals struggle or embrace a specific behavior. This is affected by previous experience and expected obstructions to said behavior (Macovei, 2015). The addition of an individual's intention and perception provides further insight into an individual's choice to engage in a specific behavior.

The theory of planned behavior is an extension to the model framework used for the theory of reasoned action that focuses primarily on understanding behavioral intent behind the choices individual's make (Kassim et al., 2017). An individual's choice to engage in a behavior is driven by that individual's behavioral intention (Sommestad et al., 2015). This intention is made up of 3 determinants: behavioral attitude, perceived behavioral control and subjective norm (Alam et al., 2014). Macovei (2015) conducted an empirical study further supporting that intention is one of the best predictors of behavior.

The theory of planned behavior is affected by an individual's belief that they can control the prospects and resources needed to engage in a behavior (Alam et al., 2014).

Researchers used the theory of planned behavior to forecast behaviors engaged in by individuals across a variety of fields (Pollard, 2015). The theory of planned behavior is of the most used theories in explaining and predicting behaviors of individuals with over 5,000 citations since 1991 (Lortie & Castogiovanni, 2015). Because of its validated efficacy throughout the years, researchers use the theory of planned behavior to forecast actual behavior across multiple fields in an organizational setting (Synodinos & Bevan-Dye, 2014).

Strategic use of theory of planned behavior. The theory of planned behavior can help explain individual adoption behavior with respect to organizational innovation implementation (Banerjee, 2016). Firms can leverage the theory of planned behavior to effectively implement strategic innovations effectively throughout their organizations (Dezdar, 2017). Management can use the theory of planned behavior to improve their likelihood of success when implementing innovation relating to energy management by understanding the variables influencing an individual's behavior (Sommestad et al., 2015).

Management can apply the underlying concepts of the theory of planned behavior to leverage service and product offerings that resonate with the behaviors associated with likely adoption (Dezdar, 2017). By understanding the drivers of behavior and the variables that increase the likelihood of that behavior, management can increase the acceptance of innovations and improve market penetration of existing technologies

(Sommestad et al., 2015). Besides its implications for business models, it can assess consumer behavior based and can be further used to attract new customer segments. By overcoming both internal and external barriers, studies show that theory of planned behavior can help identify comprehensive product service offerings (Suzuki, 2015). Application of the behavioral drivers behind the theory of planned behavior impacts forecasting behavioral intentions across different sustainability frameworks including energy management, and environmentally friendly choice behavior (Synodinos & Bevan-Dye, 2014).

Researchers used the theory of planned behavior to explain environmental behavior intention (Wang, Zhang, & Li, 2014). Researchers used this theory to provide further insight into the behaviors behind green purchasing, recycling, conservation, and making eco-friendly choices. Specifically, researchers employ the theory of planned behavior to predict pro environmental behavior related to energy conservation (Clement et al., 2014). The primary driver used to determine whether an individual will make an environmentally conscious choice is the intention of that user to consciously behave in an environmentally friendly way (Macovei, 2015). Management trying to implement strategic innovation in energy use can increase the likelihood of success by aligning innovations with perceived expected outcomes.

The theory of planned behavior also provides a representative predictor for people making environment-friendly actions based on financial incentives and sensible justifications associated with such behaviors (Wang et al., 2014). The longer an individual keeps a given behavior at the forefront analyzing its consequences the stronger

the intention becomes, further adding to the likelihood that individual will engage in the behavior in question (Ajzen, 2015). Three factors influencing the justification to engage in any behavior are motivation, compliance with perceived norms, and the perception of behavioral control (Pettifor, Wilson, & Chryssochoidis, 2015). By understanding the variables influencing behavior management can increase their likelihood of successful implementation and subsequent adoption of innovation (Banerjee, 2016).

Limitations of theory of planned behavior. The theory of planned behavior isn't without its flaws. One confusing aspect of the theory of planned behavior is that respondents are confused when responding to surveys attempting to differentiate between behavioral intention and behavioral action. Respondents struggle discriminating self-reported behavior and behavioral intention, due to the weak relationship intention exhibits over behavior (Wang et al., 2014). Because of this, it is vital for researchers to establish a strong relationship between behavior and behavioral intention to ensure the validity of their findings (Macovei, 2015).

Researchers use the theory of planned behavior to identify individual internalized variables that are expected to influence the likelihood a behavior occurs (Aizen, 2015). The approach to this theory faces substantial criticism as it relies heavily on cognitive processing (Lee & Arumugam, 2016). Scholars criticized the theory because it disregards an individual's current state of mind before participating in a certain action, focusing on the needs that would affect behavior irrespective of expressed attitudes (Nygrén et al., 2015). Also, one's emotions at decision-making time are overlooked despite being

pertinent to the model, as emotions can impact beliefs and other elements of the model (Lee & Arumugam, 2016).

Another shortfall of theory of planned behavior is researchers can only use the theory to examine the correlation between behavioral intention and attitude which overlooks external factors that affect an individual's approach to a given decision and behavioral intention (Wang et al., 2014). An individual is influenced through behavioral control based on a multitude of internal and external variables, all of which influence varying levels of control on their behavior (Clement et al., 2014). Despite these determinants, many theorists conclude, it would be difficult to recognize all the factors that affect actual control over behavioral performance (Aizen, 2015). In most studies utilizing the theory of planned behavior, there is a constant variance around the drivers predicting behavior (Nygrén et al., 2015). Researchers attempt to get around this flaw by employing moral norms as a natural source of motivation for behavioral intention and an individual's attitude (Wang et al., 2014).

Additionally, the theory of planned behavior does not consider rationality on the decision maker's part (Aizen, 2015). The beliefs that lay the foundation of behavioral attitudes that are perceived to impact behavioral control and subjective norms can be poorly informed by unconscious biases, self-serving purposes, or other irrational practices (Wang et al., 2014). Furthermore, behaviors that are repeated become monotonous and the factors that once influenced a given behavior becomes routine without much conscious consideration (Ajzen, 2015).

The primary use of the theory of planned behavior is to predict behavior on an individual basis (Macovei, 2015). An individual's primary intention to engage in a behavior becomes the central variable driving such a behavior (Clement et al., 2014). Although applied on an organizational setting, this theory still heavily relies on influencing behavior at an individual level (Wang et al., 2014). Since my research study attempted to understand how management can effectively manage energy costs at an organizational level, I chose not to use this as my primary theory.

Social cognitive theory. In 1986 Albert Bandura proposed social cognitive theory, which theorized individuals within a society learn by observing others (Strauss, 2017). Social cognitive theory, which focuses on human learning and behavior, emphasizes learning by observing others and is shaped by the environment (Hasking & Rose, 2016). The theory offers a process of internalizing information and self-regulated learning, stressing on the fact that cognitions mature over time with experience (Sukhawaha, Arunopongpaisal, & Hurst, 2016).

Redmond (2010) used social cognitive theory to predict an individual's future behavior. Self-efficacy is a derivative of social cognitive theory, in which the individual's behavior, environment, and cognition directly interact with each other (Pousa & Mathieu, 2015). Social cognitive theory refers to learning that takes place in a social context with a mutual and active interaction of a person, behavior, and environment (Strauss, 2017). Social cognitive theory can boost self-efficacy by indirect learning, through observation of peers performing a specific task (Rezvani, Jansson, & Bodin, 2015). Researchers studying self-efficacy found that perceptions of efficiency not only can facilitate the

effects of external influences on results but can also affect people's choice (Pousa & Mathieu, 2015).

Individuals are proactive self-regulating organisms that are influenced by external factors and events (Haghshenas & Richards, 2016). Social cognitive theory is made up of four components which are interlinked to affect an individual's motivation and performance ultimately becoming a predictor of future behavior. Self-efficacy is the primary component of goal attainment and is related to the other 3 self-observation, self-reaction, and self-evaluation (Redmond, 2010). Furthermore, people, environment, and previous behavior continuously influence future behavior (Rana & Dwivedi,2015). Behavioral outcomes are highly influenced by the external forces influencing an individual (Strauss, 2017).

Practitioners of social cognitive theory further posits that as more members of a society expose an individual to a given behavior, the chances that said individual adopts that behavior increases (Hasking & Rose, 2016). Social cognitive theory identifies that individuals are likely to adopt a given behavior through mimicry of their peers (Hall, Chai, Koszewski, & Albrecht, 2014). Individuals that observe a given behavior are more likely to exhibit that behavior (Bandura, 2016). Managers can use external pressures to influence the behavior of peers by modeling the desired innovation or behavior in an observable manner (Ito & Kawazoe, 2018).

History of social cognitive theory. Psychologists originally founded social cognitive theory on an aggregated conception of human development, change, and adaption (Strauss, 2015). Social cognitive theory contributes to a causal structure based

on the triadic reciprocal connection of codetermination, human working is a product of the interaction of intrapersonal effects, an individual's behavior, and the environmental forces that are based on them (Bandura, 2016). With time, social cognitive theory applications gained momentum especially due to the recognition of intrapersonal influences that determine the conditions in triadic interplay (Sukhawaha et al., 2016). Social cognitive theory can also be seen to exhibit impeccable effects in shaping the lives of the people, especially the events or lives' course actions (Bandura, 2016).

Social cognitive theory expanded over time as research on behavioral change gained momentum. Researchers evolved social cognitive theory to show correlation between an individual's perceived self-efficacy and its's effect on behavioral change (Rezvani et al., 2015). Self-efficacy is a derivative of social cognitive theory, in which the individual's behavior, environment, and cognition directly interact with each other (Pousa & Mathieu, 2015). The theoretical framework from this evolution helped address cultural disparities, language barriers, and education, which can consequently influence the decision-making process of individuals (Rezvani et al., 2015). Research on self-efficacy found that self-perceptions of efficiency not only can facilitate the effects of external influences on results but can also affect people's choice of purposeful actions (Pousa & Mathieu, 2015).

Social cognitive theory increased the adoption rate of environmentally friendly behaviors, specific to energy use (Sawitri, Hadiyanto, & Hadi, 2015). As of 2016, social cognitive theory links multiple studies as having influence on behaviors associated with energy use (Szczvtko, 2017). Gifford and Nilsson (2014) identified value framework,

political views, goals, age, sense of control, sense of responsibility, cognitive bias, religion, norms, place attachment, gender, personal factors and urban-rural differences, along with cultural and ethnic variants as factors that influence environmentally friendly behavior.

Strategic use of social cognitive theory. Social cognitive theory offers a widespread framework for understanding an individual's behavior, linking an individual's perceptions and behavior with their environment (Kaminsky & Behrend, 2015). Social cognitive theory is usually used to predict future behavior, for instance, whether a person will engage in a specific action, such as adoption of an innovation (Redmond, 2010). Social cognitive theory reveals how individuals and other people control their behavior or reinforce their actions towards a given adoptive behavior in a manner that can be sustained over time (Harmon et al., 2014). Kaminsky and Behrend (2015) predicted behavior in their subjects in a professional setting by examining factors that influenced those specific behaviors.

Social cognitive theory is a model used extensively to assess the how individuals model their peers through mimicry (Hall et al., 2015). Reciprocal determinism is an essential concept of social cognitive theory, referring to the reciprocated interaction of person, environment, and behavior (Harmon et al., 2014). A significant part of the theory involves how individuals learn from observing others as it is applied to a framework consisting of social interactions, past experiences, and outside media effects (Szczvtko, 2017). An innovation is more likely to be adopted once accepted and adopted by an individual's peers (Harmon et al., 2014). Managers can use external pressures to

influence the behavior of peers by modeling the desired innovation or behavior in an observable manner (Ito & Kawazoe, 2018).

Sawitri et al. (2015) proposed that social cognitive theory can be used to explain environmental behavior, which can then be used by managers and decision makers when planning an environmentally innovative implementation. Management profoundly impacts influencing positive autonomous behavior in peers (Pousa & Mathieu, 2015). Ito and Kawazoe (2018) emphasized the fact that the social impact of environmental innovation cannot be fully evaluated without fully taking into consideration how it impacts the public perception of such innovation. Social cognitive theory targets an individual's capacity to purposely choose, implement, and accomplish their actions to objectify expected results (Sawitri et al., 2015).

Rana and Dwivedi (2015) examined social factors and how they influence the adoption of a new system within a commercial context. Ito and Kawazoe (2018) emphasized the fact that the social impact of environmental innovation cannot be fully evaluated without fully taking into consideration how it impacts the public perception of such innovation. By understanding how external factors, including public perception, influence behavior strategies can be implemented that will best ensure an expected behavior occurs (Rana & Dwivdi, 2015). Yoon and Tourassi (2014) used social cognitive theory to predict the depth and breadth of penetration a given innovation within a social network can further be leveraged into a competitive advantage. Environmental initiatives coupled with an effective marketing campaign maximizes increased the likelihood of successful implementation and adoption (Ito & Kawazoe, 2018).

Companies also leverage environmental innovation using social cognitive theory to gain a competitive advantage over rival businesses (Font, Garay, & Jones, 2016). Innovation is an integral part of economic behavior and a social-cognitive perspective can be used for understanding innovation and its subsequent adoption (Yoon & Tourassi, 2014). Commercial businesses using social cognitive theory were surveyed on their motivation for adopting strategies to effectively manage energy those surveyed tend to adopt initiatives that provide an economic benefit to the firm and a societal benefit for the community in which it operates (Font et al., 2016).

Limitations of social cognitive theory. There are several limitations to social cognitive theory, including the fact that it accepts that an individual will automatically change due to their environment, which is not always the case (Denler, Wolter, & Benzon, 2013). There are as many as 30 psychological barriers to behavior change (Szczvtko, 2017). There is a lot of uncertainty to what extent does each of these aspects influence actual behavior or if one is more significant than another (Denler et al., 2013).

Social cognitive theory not formally organized and is based exclusively on the dynamic interaction between the an individual and their environment (Denler et al., 2013). Traditionally, researchers using social cognitive theory concluded that behavior is based on external drivers, which is not always the case (Brooks & Meltzoff, 2015). There are numerous external factors identified that influence behavior change (Szcytko, 2017). Furthermore, there is a lack of holistic understanding of the primary drivers influencing behaviors among individuals (Szczvtko, 2017).

Social cognitive theory needs to be further developed to include human perception as it relates to innovation (Rezvani et al., 2015). Specifically, social cognitive theory fails to take into consideration an individual's cognitive bias when it comes to making decisions. Social cognitive theory ignores the though unconscious thought process on internal emotion, depending entirely on an individual's personality (Brooks & Meltzoff, 2015). It doesn't place any emphasis on emotion or motivation, or reference to experience (Rezvani et al., 2015).

Researchers use social cognitive theory to identify an individual's future behavior (Redmond, 2010). Although, commercial entities successfully used social cognitive theory to increase innovation adoption and implementation, this theory is only able to model specific behavioral outcomes on an individual basis (Harmon et al., 2014). Furthermore, it relies heavily on mimicry of existing behaviors previously adopted by an individual's peers (Hall et al., 2015). Since my research study relied primarily on identifying unknown strategies to manage energy costs broadly in an organizational level, I did not choose to use this theory.

Energy Sector Trends

As overall U.S. energy consumption remains constant, varying assumptions about rising energy prices based on resource type are considered and projected with time (U.S. Energy Information Administration, 2016). Energy return on investment (EROI) is a significant factor in determining the cost of energy being produced. Some analysts predict that oil prices will remain high or even increase as the EROI for extracted oil declines with the supply being controlled (Poisson & Hall, 2013). Conversely, natural gas

production will increase as this becomes a preferred energy source and it is predicted that by 2040, this resource type will account for 40% of U.S. energy production. The availability of an energy resource is interlinked to its prices and considerably affects the projection for U.S. energy price trends. (Baumeister & Kilian, 2016).

The EROI significantly impacts renewable energy investments. Most alternatives sources of energy yield a very low EROI and don't generate as much net economic or social benefit (Poisson & Hall, 2013). Low EROI is the reason that solar and wind energy prices in the USA are still priced high and are adopted only under energy mandates or when combined with government subsidies (Lambert, Hall, Balogh, Gupta, & Arnold, 2004). Despite this fact, non-hydroelectric renewable energy production is growing extensively, reflecting price drops by incorporating existing federal and state policies promoting the use of wind and solar energy. (Devabhaktuni et al., 2013).

Energy prices are usually more volatile in comparison to other commodities. The volatility of energy costs is not defined by the level of prices but is measured by the degree of variation (Apt, 2005). Volatility in the energy market is reflected based on the supply and demand within a given market. In terms of energy, there is a high level of volatility echoing excellent characteristics of supply and demand (U.S. Energy Information Administration, 2016). The primary reason of volatile energy costs is that many consumers' capacity to use other fuels when the prices fluctuate immeasurably is limited. Volatility also helps in defining the price uncertainty in markets. When the volatility rises, business costs rise as energy pricing is reflective of that volatility

(Oberndorfer, 2009). The uncertainty due to energy volatility impacts an organizations ability to properly strategize methods to mitigate that volatility (Hu et al., 2015).

Electric rates vary greatly depending on the industry and function. Volatility in the energy market causes the prices of energy to fluctuate throughout the year (Oberndorfer, 2009). Variations in electricity prices are dependent on multiple determinants that can impact energy price (Jessoe & Rapson, 2014). Energy prices are highly dependent on the resource type and the costs associated with its use (Zhao, Lee, Shin, & Song, 2013). Organizations adopt energy strategies and technologies based on comparative costs across varying technologies (Hansen, 2019).

Nonrenewable energy reservoirs are depleting at a faster rate than they can be replenished causing upwards pressure and increased volatility on energy prices (Richter, 2012). There is a high amount of uncertainty that can adversely impact the oil and gas markets (Phaungpornpitak & Tia, 2013). Analysts find that forecasting long term oil and gas prices is further complicated with the advent of renewables on the supply side and energy efficient technologies, including electric vehicles, on the demand side of the energy market (Weron, 2000). The transition to renewable energy systems is a long drawn out and complicated process (Jurasz & Campana, 2019). As economies switch focus on climate change, the energy market took to adopt massive initiatives to implement low-carbon energy generating systems (Weron, 2000).

Renewable technologies face scrutiny because they rely on long term contract agreements that may be priced higher than energy bought on the Real-Time Energy Market (Hansen, 2019). However, this type of rate certainty can provide a substantial

economic benefit in a highly volatile energy resource environment by providing price stability (U.S. Energy Information Administration, 2016). Analysts predict the average retail price of electricity in will continue to increase impacting customer classes differently based on their current rate structure and load profile (Muratori & Rizzoni, 2016). Analysts use comparative cost metrics on various strategic initiatives to identify and implement those that will best mitigate price volatility (Hansen, 2019).

The global uncertainty posed by policymakers and future regulations can greatly impact the energy prices paid by consumers. Energy prices are highly dependent on the regulatory policies surrounding the development and deployment of energy resources (Metcalf, 2009). The energy market is highly susceptible to regulatory change, specifically regarding government subsidies and how they impact the price of fuels (Phuangpornpitak & Tia, 2013). The risk associated with regulation and policymaking further adds uncertainty and volatility to the energy markets as global efforts to address climate change increase (Hansen, 2019). Policymakers impact energy pricing based on the governmental and economic regulations surrounding climate change and polluting emissions (Metcalf, 2009).

Rising energy costs pose a serious problem to the United States overall economic health. The risk factors in the energy market that can seriously impact its economic health include environmental impacts, investment quality, regulatory environment, and technological risks (Hansen, 2019). There is a growing need for energy as our population increases furthering the accelerating industrialization (Richter, 2012). Unplanned growth of energy usage can lead to serious consequences including a global economic recession

and overall threat to our current way of modern life (McCartney, Hanlon, & Romanes, 2008).

Power generation across the world is facing changes due to reliability, economic, and environmental concerns (Jurasz & Campana, 2019). Researchers argue that climate change coupled with rising energy cost will lead to many adverse changes in the industrial economy (McCartney et al., 2008). Despite having substantial drivers of change in the energy sector, organizational implementation of strategic energy management strategies remains low. Researchers interpret this low adoption of energy strategies as evidence that management systematically overlooks profit opportunities in the energy sector (Stucki, 2005).

Stucki (2005) stated that organizations face substantial barriers to entry when it comes to strategically addressing their energy use. Companies often are inexperienced at measuring their energy use, understanding the cost of taking no action to mitigate cost, and in conceiving strategies to appropriately address these costs. The regulatory policies to drive strategic implementation of energy strategies lack proper incentives to further drive change (Metcalf, 2009). Organizations lack the political and regulatory clarity needed to effectively make strategic decisions relating to addressing their energy use (Weron, 2000). Even though many energy management strategies are commercially feasible and economically viable, the volatility and uncertainty surrounding the energy market drives a lack of implementation and adoption (Painuly, 2001).

Commercial energy use. In 2013 in the United States, the average commercial business consumed approximately 6,278 kWh of electricity per month (Poullikkas &

Gadalla, 2013). Energy prices and bills are not directly interrelated as utilities structure their rates to shields its customers from price volatility (Nesta, Vona & Nicolli, 2014). To calculate the rate paid by a consumer, a facility's electricity usage is multiplied by the cost per kWh set by the utility provider (Hong & Rashed-Ali, 2013). The rate sought by utilities represents long term supply contracts meant to hedge the day to day volatility of energy prices (U.S. Energy Information Administration, 2016). In states with varying selection of energy choice, an open market exists for businesses and residents alike and can result in companies utilizing this energy choice to benefit from pricing discrepancies between suppliers in the Real-Time Energy Market (Poullikkas & Gadalla, 2013). These types of models can expose ratepayers to price volatility (Muratori & Rizzoni, 2016).

According to the U.S. Energy Information Administration, buildings in the commercial sector are responsible for approximately 44% of total energy consumption (Parpairi, 2017). Despite this high percentage of usage, energy management strategies, particularly in the building sector, are quite low despite the economic and competitive advantages such innovation can bring to an organization (Bodach, Land, & Auer, 2016). Energy reduction and cost control strategies are vital within any industry to respond to the current competitive market conditions and needs. There are a variety of drivers pushing industry to increase efforts to manage their energy usage effectively, including volatility and upwards pressure within energy pricing in industrial operations, increased government regulations on energy and its pollutants and increased accountability from the public and stakeholders (Vassallo, 2014).

Hawaiian Energy Market. Consumers pay high prices for energy in Hawaii for a multitude of reasons. Hawaii is unique in that it relies entirely on imports for nonerasable sourced energy, making its energy infrastructure and consumption different than any in the United States (Homer, 2017). Hawaii's energy sector tried to mitigate exports for energy reliance by increasing the deployment of renewable technologies (Devie & Dubarry, 2016). To further complicate matters, Hawaii's energy grid is sparse and remote adding to the cost of producing energy (Homer, 2017). The Hawaiian energy sector lacks the regulatory framework needed to incentivize strategic investments to minimize energy prices now and into the future (Weron, 2000). Despite this lack of regulatory incentivized framework Hawaii passed a mandate to be 100% renewable by 2045 (Sioshansi, 2018).

The Hawaiian energy market relies heavily on petroleum-based resources, which must be imported in to meet demand (Homer, 2017). According to analysts, approximately 90% of energy resources are imported to Hawaii from other parts of the world (Kim, Burnett, & Ghimire, 2015). Hawaii recognized its growing energy problem and in 2015 the state passed a law to go 100% renewable by 2045 (Sioshanisi, 2018). As Hawaii, shifts its power generation mix the uncertainty and volatility associated with the energy market will continue complicate the implementation and adoption of strategic energy management (Hansen, 2019).

Hawaii's adoption of renewable technologies for power generation leads to an entirely new subset of challenges. Renewable energy is an intermittent resource that must be seamlessly integrated with existing infrastructure to ensure no unnecessary power loss occurs (Devie & Dubarry, 2016). Furthermore, renewable energy is inefficient and very

expensive further leading to an increase in energy prices in Hawaii (Homer, 2017). The required mandate to go 100% renewable by 2045 requires significant change to an infrastructure that is heavily dependent on nonrenewable energy production (Sioshanisi, 2018). This integration into Hawaii's existing transmission system is costly and will further add pressure to Hawaii's already high energy prices (Homer, 2017).

The regulatory framework surrounding energy reduction strategies in Hawaii lacks proper incentives to drive implementation (Hansen, 2019). Investors are hesitant to invest in energy reduction technologies where such ambiguous framework and incentive structures exist (Takata, 2017). This leads to investors being slow to adopt technology that may otherwise be economically viable due to the ambiguity surrounding Hawaii's energy future (Weron, 2000). The organizations responsible for generating and selling power in Hawaii are driven to increase energy consumption at any cost as this is directly tied to their profitability (Hansen, 2019).

Hawaii's leading source of export earnings since 1972 is tourism (Tamirisa, Loke, Leung & Tucker, 1997). Hawaii's economy is heavily dependent on tourism further driving energy demand (Homer, 2017). The resort sector facilities rank in the top 5 energy consumers in the commercial sector (Parpairi, 2017). Energy consumed by buildings represented more than 40% of energy consumption in 2015 (Fratean & Dobra, 2018). In, Hawaii approximately 65% of energy produced is used by commercial buildings (Yalcintas & Kaya, 2009). Total consumption of energy in the commercial resort sector steadily increased while residential energy use remained largely unchanged (Tamirisa et al., 1997).

Most of the energy consumed in the Hawaiian resort sector is used for lighting and air-conditioning (Yalcintas & Kaya, 2009). Researchers shows that energy reduction strategies relating to lighting and HVAC are economically viable and substantially effective in mitigating rising energy costs in the commercial sector (Takata, 2017). However, Hawaii's lack of available information on the benefits of these types of strategies and financial incentives for implementation restricts organizational investment in strategies to mitigate and reduce energy use (Weron, 2000). Consumers are hesitant to make investment decisions relating to energy management when such ambiguity about the economic viability of such investments exists (Takata, 2017).

Strategic Energy Management. Energy reduction and cost control strategies are typically pursued by commercial entities for economic reasons (Lo, Li, & Wang, 2015). Energy reduction and cost control strategies are vital within any industry to respond to the current competitive market conditions and needs. When executed properly effective energy management can yield substantial savings, further increasing an organization's competitive advantage (Vassallo, 2014).

Energy efficiency can be improved in the industrial sector by implementing technical and non-technical innovations. Technical innovations can include reusing and recycling material and retrofitting or replacing old equipment to reduce heat loss or increase productivity per unit of energy consumed. Non-technical innovations include energy monitoring, energy auditing, and energy training for individuals and employees (Lo et al., 2015). Adoption of energy reduction strategies are dependent on their

successful social diffusion rather than through behavioral change or rational decision making (Andrews & Johnson, 2016).

The implementation of energy efficient behavior within an organization relies on the balance of relationship between innovation and adoption (Gerarden, Newell, & Stavins, 2017). Energy-efficient technologies propose significant promises for reducing financial costs and environmental damages linked to energy use (Clement et al., 2014). However, the adoption of an innovation does not necessarily follow rational decision making (Aizen, 2015). This gap in energy-efficiency adoption is due to behavioral explanations, market failures, and model and measurement errors (Gerarden et al., 2017). Previous literature related to fundamental elements of energy-efficiency and cost-minimizing choices largely depend on peoples' beliefs (Wang et al., 2014). Management that can balance people's beliefs with innovation can increase the likelihood adoption occurs, specifically within strategic energy innovation.

Firms taking a long-term economic outlook on the impacts of its energy usage as it relates to profitability are best prepared for a sustainable growth outlook (Grueneich, 2015). Strategic initiatives aimed and monitoring, controlling, and reducing energy usage can boost an organization's profit margin if implemented successfully (Azzone & Nocci, 1998). Furthermore, they increase the competitiveness of a firm in the sector it operates (Eccleson et al., 2011).

Benefits of Energy Management. Managing energy properly helps to save money as well as being beneficial in a lot of other ways. There are different levels of energy consumption, and it can be conserved in multiple ways (Vassallo, 2014). For

instance, turning off lights when not needed or switching to more energy efficient lights can help mitigate energy usage. At the corporate level, initiatives taken to mitigate energy costs can vary from adopting alternative energy resources, such as solar panels or through smart energy management systems, such as programmable thermostats (Allcott & Rogers, 2014). Adopting energy efficient innovations on a commercial level mitigates energy risk and contributes to further energy conservation efforts (Delmas, Fischlein, & Asensio, 2013).

Energy mitigation and conservation helps support the adoption of innovative alternative energy generation and management systems (Vassallo, 2014). Fossil fuels are finite and as supplies dwindle, prices will increase accordingly as most world's nations are still dependent on fossil fuels (Li & Lin, 2016). Nontraditional energy scarcity can create tensions between competing countries, causing problems at a global level. By engaging in energy cost reduction strategies firms can shield themselves from the uncertainty caused by nontraditional resources and impact the environment around them in a sustainable manner (Sun, Cai, & Ye, 2013).

Another reason corporations engage in energy conservation is that it aligns with their corporate sustainable responsibility and by using less electricity they generate less of a carbon footprint and adverse impact on the environment (Li & Lin, 2016). Fossil fuels are still one of the primary resources used and for energy generation and haven't yet been replaced by more sustainable sources of energy (Poisson & Hall, 2013). The more electricity we use, the quicker these resources will be exhausted. Current energy

production relies on dirty no sustainable energy resources that can lead to the potential to harm our environment through their production and use (Li & Lin, 2016).

The burning of fossil fuels releases environmental pollutants which adversely affect the environment. Sulfur oxides (*SOx*), carbon dioxide (CO^2) and nitrogen oxides (*NOx*), are produced as a direct result of fossil fuel burning, which deteriorate the ozone layer further increasing the effects of global warming (Asensio & Delmas, 2015). Energy conservation reduces harmful emissions improving air quality (Li & Lin, 2016). Climate change, brought on by fossil fuel emissions is directly been linked to the depletion of the ozone layer, increasing the earth's temperature, causing floods, droughts, and extreme weather conditions (Asensio & Delmas, 2015). By conserving energy, we can help curb emissions and reduce the negative impacts caused by global warming.

Energy conservation increased our domestic energy security. Countries that use their energy resources domestically and more efficiently, not only help stabilize and grow their present economy, but may also aid towards the adoption of new innovations geared towards mitigating the impacts of rising energy costs (Li & Lin, 2016). This research focusing on energy efficiency and domestic energy production aids in stabilizing energy prices and minimizing energy costs. Despite its best intentions, research of this size and scope can backfire, promoting domesticating low-cost energy production using alternative resources such as nuclear, which creates a byproduct of radioactive waste (Li & Lin, 2016).

Barriers to adopting energy management strategies. There are barriers to commercial enterprises adopting energy reduction and cost control strategies. These

barriers can be broken into the following categories: socio-cultural, policy, build-type, and geographic location (Doren, Giezen, Driessen, & Runhaar, 2016). Socio-cultural barriers involve participants on the supply and demand sides of energy usage and how they interact with one another. Policy barriers are dependent on legislation and incentives associated with influencing the adoption of energy strategies. The build-type barrier determines the potential for energy reduction and cost control strategies that can be effectively implemented. The geographic barrier determines the marginal benefit derived from energy strategies based upon climate conditions, building location, and build type materials available for that region (Doren et al., 2016).

Despite the economic and competitive advantages strategic energy management can bring to a firm its implementation and adoption remain quite low (Bodach et al., 2016). Additional studies identified additional barriers to adoption that include risk, imperfect information, hidden costs, and access to capital, split incentives, and bounded rationality (Lo et al., 2015). Adoption of energy reduction strategies are dependent on their successful social diffusion rather than through behavioral change or rational decision making (Andrews & Johnson, 2016). By understanding the barriers associated with adoption management can strategize their energy management plans effectively to remove as many barriers to adoption as possible.

Commercial Resort Industry

The resort industry is unique, in that it is a 24-hour operation with a mix of residential and commercial operations (Alén, Losada, & de Carlos, 2017). The resort industry offers a diverse range of amenities offered, client demands, and their 24 hours a

day, seven days a week, year-round operation schedule (Parpairi, 2017). The resort industry is a heavily experienced based service industry, with an emphasis on customer satisfaction (Mohammad et al., 2013). Resorts providing an enhanced customer experience will see an increase in customer satisfaction (Khan, Garg, & Rahman, 2015). Customer satisfaction is a primary indicator of resort profitability and competitiveness (Mohammad et al., 2013).

From the perspective of demand side economics, the resort industry represents a normal good with positive income-demand elasticity (Pena, Nunez-Serrano & Velazquez, 2016). The resort industry is strongly positively correlated with the economy. As the economy strengthens and individual incomes rise more individuals spend disposable income on travel (Pena et al., 2016). As leisure travel increases, business travel is expected to decline proportionately (Pena et al., 2016). The new consumer demographics of resorts are demanding value from accommodations when they travel (Losada, Alén, Nicolau, & Domínguez, 2017). This puts increased pressure on resorts to develop products and services that provide for their customer needs, maintain profitability of their operations, and maintain their competitive advantage (Chon & Singh, 1995).

This shift in consumer demographic changed how a resort must operate. The new consumer demographics of resorts are demanding value from accommodations when they travel (Losada et al., 2017). This value is represented by providing an affordable accommodation with services and products commensurate with expected needs. Today's travelers are looking for the best value their money can buy (Mohammad et al., 2013). In

order to survive resorts must strive to keep costs low without sacrificing customer satisfaction (Chon & Singh, 1995).

Researchers mostly ignore the market role resort development plays in current research. To fill this gap a new approach to resort development was needed. For this purpose, a new model, the resort development model was developed that focuses on expansion driven by target demographics (Prideaux, Berbigier, & Thompson, 2014). Resort area tourism development occurs in four sequential phases targeting different demographics beginning on a local level and slowly evolving its product offerings until it achieves saturation in the international market segments (Pang, McKercher & Prideaux, 2013). Each development phase will capture new market sectors ready to pay a higher price than the previous sector (Ma & Hassink, 2013). Once the resort's product offerings mature to capture an international consumer segment it enters a fifth phase focused on maintaining its market position (Prideaux et al., 2014).

Resort Industry Trends. In the 1990s the hotel industry went through a dramatic change and the environment it operated in changed dramatically. The retiring population of the West and families with dual-income-earning households started spending more time traveling for leisure (Losada et al., 2017). Furthermore, individuals were traveling for work less due to technological advances in communication and a shift to telecommuting (Pena et al., 2016). The new consumer demographics of resorts demand more value from accommodations when they travel (Losada et al., 2017).

In the early 2000s a trend emerged increasing demand for services in the hotel industry. Individuals were traveling more but staying shorter durations (Losada et al.,

2017). The preferences of these new consumers demanded more value for their money when staying at resorts (Mohammad et al., 2013). This higher volume of travelers opting for a shorter stay results in higher fixed costs per consumer in the hotel sector, and, lower profitability for the hotel (Losada et al., 2017). Furthermore, these shifting demographics put increased pressure on resorts to develop products and services that provide for their customer needs, maintain profitability of their operations, and maintain their competitive advantage (Chon & Singh, 1995). All these factors increase competition and lowers profitability in the hotel industry. As such, it is important that the hotel industry evolve its business strategy to increase profitability while maintaining its competitive advantage.

In 2015, some challenges facing the hospitality industry emerged including economic stability, the threat of war/terrorism, recession and stagnation, emergence of information technology and social media, wider distribution of tourism benefits, increased emphasis on non-economic value of tourism, and environmental and sustainability issues (Uysal, Sirgy, Woo, & Kim, 2015). These factors, along with shifting consumer preferences lead to an increased emphasis on corporate social responsibility within the resort industry (Mohammad et al., 2013). Corporate social responsibility is becoming a core concept in the resort industry because it is a significant factor in determining the competitiveness of a firm and whether a firm will survive into the future primarily because it is highly correlated with customer satisfaction and profitability.

Energy Use in the Resort Sector. Hotels are characterized by their massive consummation of natural resources to maintain daily operations including water,

nondurable products, and energy (Ouyan et al., 2018). In fact, hotel facilities rank in the top 5 energy consumers in the commercial sector (Parpairi, 2017). To put this into perspective, energy usage in the commercial sector accounts for approximately 45% of total energy consumption (Ouyan et al., 2018). Energy is used quite intensely in the resort sector due to the diverse range of amenities offered, client demands, and their 24 hours a day seven days a week year-round operation schedule (Parpairi, 2017).

Consumers are more aware of the planet, its resources, and inhabitants than ever before making corporate social responsibility in the resort industry, proper use of planetary resources is more important than ever before (Mohammad et al., 2013). Proper environmental management is a vital component of corporate social responsibility because it can generate economic benefits (Ouyan et al., 2018). Resort managers need to understand the effect of how the implementation of innovative sustainable strategies can influence the buying decisions of consumers, thereby increasing their competitive advantage (Mohammad et al., 2013). Engaging in proper corporate socially responsible activities leads to a positive relationship with company performance improving brand image, reputation, and a firm's competitive advantage (Ouyan et al., 2018).

The hospitality industry is one of the most energy intensive industries in existence (Yusof & Jamaludin, 2015). Implementation of energy reduction and cost control strategies can be challenging because it requires a clear vision, comprehensive planning, and viable implementation (Vassallo, 2014). Resorts that adopt environmentally sustainable practices are more profitable by reducing financial loss and capturing more tourist dollars (Alzboun, Khawaldah, Backman, & Moore, 2016). Furthermore, resorts

that demonstrate technological and organizational sophistication through their adoption of innovative practices can charge higher prices that consumers are willing to pay (Pena et al., 2016).

Resorts that adopt effective energy management strategies as part of their overall corporate social responsibility are classified as green resorts (Yusof & Jamaludin, 2015). In the resort industry innovation can occur in 5 different ways: product or service innovations, organizational or management innovations, market innovations, institutional innovations, and process innovations. Recent studies show that there is a positive correlation between innovation in the resort industry and profitability (Pena et al., 2016). Management in the resort sector can increase their profitability through innovations in energy management.

Transition and Summary

The previous section of this paper provided a theoretical framework on strategic innovation as it relates to the energy cost anatomy in the Hawaiian resort industry. The research goal of the previous section aimed at providing a logical foundation for exploring energy strategies to mitigate rising energy costs. The section began with an overview of theoretical framework to be applied to my research including alternatives that were considered. These theories were objectively assessed based on their strengths, weaknesses, and real-world applications in an organizational setting. This review of academic literature included the theories of diffusion of innovation, social cognitive theory, and the theory of constraints, their origins, and an assessment of their use as it applies to my research, and their real-world application.

Organizations that can strategically innovate can create a sustainable competitive advantage when compared to their competitors (Papazoglou & Spanos, 2018). Firms that strategically innovate effectively improve their performance and economic advantage Ruivo et al., 2015). Businesses that don't focus on innovation may struggle to survive as market conditions change (Kim & Chung, 2017). Firms that innovate in a manner that is not easily replicable can maintain this competitive advantage indefinitely until a competitor is able to replicate or innovate in a similar manner (Barney, 1991).

Strategic innovation in the resort sector correlates with higher profitability as tourists are willing to pay more for innovation that aligns with a positive customer experience (Pena et al., 2016). Energy innovation in this sector allows for capture of additional profits by providing tourists with similar service offerings at a reduced cost (Alzboun et al., 2016). These green resorts retain their competitive advantage through increased profits and decreased expenses through strategic innovation (Yusof & Jamaludin, 2015). By expanding on the foundation provided by the literature review and applying the methodology provided by the qualitative method discussed in Section 2 of this study, I have identified strategies used in the resort industry to effectively manage energy costs.

Section 2: The Project

This section includes the background of the research problem, my intentions and purpose for conducting mu research, a justification of the qualitative research design and methodology, and a review of existing academic literature. Furthermore, this section expands on my research by restating the purpose of my academic research, explaining my role as a researcher as it pertains to my study, and describes the methodology used for participant selection. Section 2 also includes research method and design justification, elaborates on population sampling requirements, and discusses how ethical parameters were incorporated into the study. Section 2 continues to discuss data collection instruments and how they were applied using sound data organization and analysis techniques central to my research topic regarding strategies used in the resort industry to effectively manage energy costs. Finally, Section 2 discusses validity and reliability within the research and summarizes key points of the study. It concludes with an overview of Section 3 and its respective components.

Purpose Statement

The purpose of my qualitative multiple site case study was to explore the strategies used by professionals in the resort industry to effectively manage energy costs. The population for my study included 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii that have successfully managed energy costs. Business managers in the Hawaiian resort industry can benefit from the results of my study by identifying new implementation strategies to effectively manage energy costs. The implementation of these strategies may shield an organization

from financial losses due to rising energy costs and improve the overall environment by reducing harmful pollutants that are responsible for climate change.

Role of the Researcher

A researcher's role is to maintain the quality and value of the conclusions derived from a study (Isaacs, 2014). Qualitative researchers play a significant role in how data is collected and interpreted (Swafford, 2014). As the sole researcher in this qualitative study, I managed all aspects of this study from data collection to interpretation of data and publishing study results. As a participant in the energy sector, I regularly interact with professional and advocacy groups for consideration on energy policy within the state of Nevada. My role in the energy industry allows me to participate and influence the internal policymaking within the utility that I work that may impact ratepayers in the state directly as well as ratepayers outside of the state indirectly, as adopted policies within one utility typically serve as a framework for others. However, I maintain no direct relationship with prospective participants.

Researchers use informed consent to provide participants with an overview of the nature of the research and the involvement requested of the participant, language to ensure adequate comprehension by the participant as it relates to the research and language emphasizing the participant's voluntary involvement in the research (Dankar, Dankar, & Gergeley, 2019). I used informed consent with the participants of my study and completed Protecting Human Research Participant Training (see Appendix A). The Belmont Report outlines basic ethical standards for human subject research as it relates to informed consent (National Commission for the Protection of Human Subjects of

Biomedical and Behavioral Research, 1979). The ethical standards outlined by the Belmont Report include respect for persons, beneficence, and justice (Dankar et al., 2019). I used the Belmont Report to provide a framework of overarching standards to protect participants in my research study.

Researchers may inadvertently influence the objectivity of their study (Fassinger & Morrow, 2013). A researcher may subconsciously exhibit their attitudes, ideals, world views, and philosophies within their research (Fassinger & Morrow, 2013). Research bias can occur at any stage of the research process. It is important that the researcher not only be aware that inherent bias exists but also take steps to mitigate any personal prejudice that might influence data query and subsequent analysis (Malone, Nicholl, & Tracey, 2014).

Researchers use bracketing to identify personal biases influenced by personal experience, cultural factors, assumptions, hunches, and interests that may influence their review of data collected (Fischer, 2009). Researchers use reflexive bracketing to identify personal biases held prior to conducting research that may impact their research to minimize the impact of personal biases on their research (Gearing, 2004). Through reflective bracketing, I identified that I hold bias based on adopting energy reduction strategies that are economically sound, align with green technology adoption, and reduce the subsequent carbon footprint of the implementer. The reflexive recognition of these bias assisted in evolving my preconceived notion towards a comprehensive approach when implementing strategies to effectively manage energy costs for various market sectors.

Active listening techniques further reduce bias by enabling participants the opportunity to provide clarification on responses and further expand on question specific narratives (Drabble, Trocki, Salcedo, Walker, & Korcha, 2015). The nature of an interview process may create bias based on the imbalance of power that could be felt by the participant based on perceived social, economic, or ethnic characteristics (Anyan, 2013). Unintended bias through transactional power dynamics between parties needs to be mitigated by the researcher to ensure appropriate response and analysis occurs throughout the study process (Karnieli-Miller, Strier, & Pessach, 2009).

Without having formal training to conduct interviews, researchers can use the act of mindfulness during an interview to identify and attempt to mitigate any subjective influence that may present itself during a qualitative interview (Pezalla, Pettigrew, & Miller-Day, 2012). Researchers that continually reflect on biases identified through bracketing can take steps to mitigate preconceptions that could skew the research process (Fischer, 2009). Mindful researchers recognize and minimize personal influence that may be caused by personal biases during the data collection, analysis, and interpretation processes (Marshall & Rossman, 2014). Further attempts at mitigating this perceived imbalance of power included setting up the interview in an unintimidating setting and requesting that participants address me by my first name. Research collected in an unbiased manner improves its validity and veracity (Amerson, 2011). I used active listening and mindfulness to mitigate personal bias I might have included in the research study.

A well thought out interview protocol is a necessary tool to guide the researcher when developing defining interview script scope parameters. Furthermore, the structure of a protocol reminds the researcher of the importance of obtaining informed consent from participants. (Jacob & Ferguson, 2012). My interview protocol (see Appendix B) included open ended questions to provide a targeted exploration platform for an open-ended narrative response. An open-ended question structure allowed me as a researcher to best define strategies needed to collect information pertinent to effectively managing energy costs in the resort sector. Using a semi structured interview protocol to collect data coupled with the above strategies helps to mitigate impacts related to personal biases (Malone et al., 2014).

Participants

Researchers select participants for their study that hold relevant and applicable knowledge directly pertaining to their research question (Katigbak, Foley, Robert, & Hutchinson, 2016). Research participants should be selected based on their professional responsibility, personal accountability, and level authority when it comes to making decisions relating to business processes and competitive strategy (Bewley & Schneider, 2013). I selected participants based on their professional responsibility, personal accountability, and level of authority as it relates to making decisions on energy management strategies. For my multiple qualitative case study, 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii successful at managing energy costs were selected.

Researchers highlight the importance of gaining access to ideal participants for their study. Researchers can use technology and networking to gain access to their ideal participants (Katigbak et al., 2016). A gatekeeper is an individual in a position of power that provides a researcher with permission and access to individuals within an organization (Caretta & Riaño, 2016). I identified 5 gatekeepers in the resort sector whose organizations achieved success in managing their energy usage. Gatekeepers are responsible for making decisions within an organization that serve its best interests (Rattani & Johns, 2017). Researchers must access and build relationships with gatekeepers, which is critical to the success of a study (Brooks & Jean-Marie, 2015). I gained access to gatekeepers through the proper communications channels referenced on their respective organization's websites. In conjunction with IRB approval, I wrote a letter of cooperation to document the approval of an organization's gatekeeper to move forward with contacting eligible participants for my study (see Appendix C).

Once the gatekeeper agreed and signed the letter of cooperation, I asked the gatekeeper to provide me with the contact info of possible participants with expertise in the phenomenon I was studying. Researchers select participants for their research study that contain knowledge directly relating to the phenomenon being studied (Katigbak et al., 2016). Each participant was sent an introductory letter through email (see Appendix D), followed by a phone call. This was replicated on a weekly basis for a period of 3 weeks or until I received a response from a given participant. I assumed that nonresponsive potential participants did not want to participate in my study.

Participants can substantially impact the quality of data a researcher collects due to the nature and scope of their interaction during the study process (Halcomb & Peters, 2016). Researchers that provide a positive experience to participants ensure a fulfilling data collection process (Hay-Smith, Brown, Anderson, & Treharne, 2016). I formed a positive relationship with the participants early in the research process. My positive relationship with participants included providing them with a detailed overview of my study, action items that must be fulfilled to complete my study, and their rights as a study participant. Strategies to establish working relationships with these individuals included sending an invitation email to eligible participants and following up with a telephone call over Skype (see Appendix D). Participants were provided information regarding my personal interest in the research topic, and a follow up meeting time to conduct the interview was scheduled based on an individual's availability.

Research participant selection should align with the overarching research question. Researchers should be able to justify the selection of participants included in their study (Cleary, Horsfall, & Hayter, 2014). I used participants that supported the research question: What strategies do professionals in the resort industry use to effectively manage energy costs?

Research Method and Design

The research methodology that I chose for my study was a multiple qualitative case study design. Qualitative case studies support the qualitative exploratory properties required to identify the current best management practices, explore distinctive trends within an industry, and collect and compile the information businesses require when

implementing strategies to effectively manage costs (Adetutu, 2014). Scholars and practitioners alike recommend using the case study design to identify information associated with phenomena and associated variables in a real-world context (Crowe et al., 2011). The intent for my research was to increase the business knowledge associated with effectively managing energy costs in the Hawaiian resort sector; therefore, a qualitative case study design was an appropriate method for my research.

Research Method

I used the qualitative research method for my study. Researchers use the qualitative design method to gain strategic insight on a given query (Ogawa & Pongtanalert, 2013). Energy intensive companies lack strategic expertise needed to effectively manage their energy consumption (Rudberg, Waldemarsson, & Lidestam, 2013). According to Reddy (1991), one of the major barriers to effectively manage energy use is the inability to deliver economically viable energy management strategies to the market. These market failures result from behavioral anomalies whereby decisionmakers act based on decision utility versus experienced utility. Limited research exists regarding why there is such a large energy gap as it relates to effective energy management (Gillingham & Palmner, 2014). Researchers use qualitative studies to explore and diagnose instruments to identify and extrapolate trends as they related to strategies decisionmakers use to effectively manage their energy use (Kapoulas & Mitic, 2012).

The qualitative research method explores social phenomenon and attempts to explain it through planning and discovery (Reybold, Lammert, & Stribling, 2013). The

quantitative research method uses standard data processes to derive credible conclusions from numbers and data (Gibbert & Ruigrok, 2010). Qualitative research methodology relies heavy on numerical sampling and statistical manipulation to achieve research goals. Contrary to the quantitative research methodology, qualitative research achieves its research goals through observation and collection of data as it pertains to an individual's real-life perception of a phenomenon (Reybold et al., 2013). Mixed method research methodology contains characteristics of both qualitative and quantitative data collection and analyses (Green et al., 2014). The qualitative research method provides researchers with the focus and flexibility needed to identify and extrapolate themes from an individual perspective (Gibbert & Ruigrok, 2010). I chose qualitative research methodology since I was attempting to identify strategies business managers use to effectively manage energy costs.

Qualitative research provides an effective mechanism to research and interpret phenomenon in an in depth and comprehensive manner (Reybold et al., 2013). Data collection methods used for qualitative research provide participants with the opportunity to provide insight into a specific phenomenon, adding to the body of knowledge inquired upon (Nite & Singer, 2012). A qualitative case study that includes multiple participants with expertise relating to the research question provides the best feedback to researchers (Vaughan, Leming, Lui, & Jaselskis, 2013). Therefore, in selecting research methodology, a multiple qualitative case study was the best choice for identifying effective energy management strategies within the resort industry.

Research Design

Qualitative research collected through case studies provides researchers with the best mechanism to discover trends and best management practices relating to business strategies to control costs (Reddy, 1991). The qualitative case study is popular amongst practitioners when evaluating organizational learning and applying it to a larger class of similar units (Baskarada, 2014). A qualitative case study allows a researcher to collect data from participants on a given phenomenon as it relates to experiences, perspectives, and histories (Kemparaj & Chavan, 2013). Researchers develop interview questions based upon the foundational information acquired through a literature review (Shaw, Skully, & Hart, 2014). Participant data analyzed using an interpretive approach provides researchers with the best data to determine the strategies used to manage costs (Horppu et al., 2017). Researchers use the case study model for interpretive identification and understanding of common themes developed through participant query (Lukka, 2014).

Phenomenology and ethnography were possible research designs for my study. Ethnography requires that a researcher conduct their study utilizing immersive field research within the given cultural environment to understand the circumstantial factors surrounding a given research topic that are not specifically addressed by the research question (Azevedo & Ferreira, 2013). Phenomenology requires that a researcher focus on experiential data collected through participant inquiry (Charmaz & McMullen, 2011). The case study design is a scalable methodology that promotes data gathering on a multidimensional level providing a diversification of perspective on a research topic (Easton, 2010). The tools used by a qualitative design support the goals of my study

through exploration, data collection, and analysis. A case study design facilitates an inquiry driven data collection methodology that provides multiple perspectives relating to a research question that can later be synthesized and analyzed to establish trends and best management practices relating to controlling costs (Reddy, 1991).

Researchers reach data saturation in a qualitative study when additional data collection yields no additional insights into a research topic (Saunders et al., 2018). In the instance that data saturation was not achieved through initial data collection, I followed up through member checking to allow participants an opportunity to expand on their answers. Since member checking yielded sufficient data saturation, I did not expand my identification of themes. Data saturation ensures the replication of thematic overlap and subsequent conclusions should additional studies occur (Fusch & Ness, 2015).

My study included interviewing 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii successful at managing energy costs. Furthermore, data collected in my study used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews. Using methodological triangulation in a research study enhances the level of data saturation (Fusch & Ness, 2015).

Population and Sampling

I used purposeful sampling to collect data for my study. By using a purposeful sampling strategy versus a random sampling strategy, I increased the likelihood of recruiting study participants with knowledge on the phenomenon I was investigating.

Researchers use purposeful sampling to obtain data from participants based on their extensive knowledge gained through personal experience (Gentles, Charles, Ploeg, & McKibbon, 2015). Researchers collect data that represents relevant and accurate data as it directly relates to the research question (Solomon & Casey, 2017). The more information study participants can provide that is directly related to the phenomenon being researched, the fewer study participants are needed (Patton, 2015). The participants represented a qualified population based upon their professional responsibility, executive accountability, and the participant's level of financial investment within their organization.

I used a sampling technique providing my qualitative study with the most meaningful data from participants related to the phenomenon being studied. Researchers use random sampling techniques in quantitative research to search for and identify patterns in a numerical data where the population is set through mathematical equations to determine an adequate sample size (Fugard & Potts, 2015). However, researchers in qualitative case studies, may achieve the same intended result by selecting individuals or a group of individuals that can provide meaningful insight into the phenomenon being investigated (Patton, 2015). As a researcher conducting a qualitative multiple case study researching a phenomenon, purposeful sampling was selected as my sampling method.

Researchers can achieve data saturation when the data being collected becomes repetitious (Pourghane, Ahmadi, & Salimi, 2017). Researchers ensure the validity and reliability of their data through data saturation (Wang, Gellynck, & Verbeke, 2016). A researcher using a qualitative methodology will cease data collection once they achieve

data saturation and no more meaningful data can be extracted through the data collection process (Gligor, Esmark, & Gölgeci, 2016). In the instance that data saturation was not achieved through initial data collection, I followed up through member checking to allow participants an opportunity to expand on their answers. Since member checking yielded data saturation, I did not expand my identification of themes or collect additional data.

Millward, Asument, and McDowall (2010) used a participant pool of 6 participants with direct experience relating to their research question to fulfill the recommended data collection requirements to enable meaningful data extraction. Baatz, Relf, and Nowak (2018) used 6 participants working directly with energy to provide insight into a future strategic outlook on a distributed level. My study included interviewing 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii successful at managing energy costs.

Researchers should select participants based on specific parameters that minimize the risk they will provide improper or unauthentic data (Khan, 2014). Researchers select individuals on the premise that participants will be able to provide meaningful and insightful information as it relates to the research topic (Mountford & Kessie, 2017). Although the participant job titles and job responsibilities varied, each person selected was employed in a role in strategy development and implementation within their organization. The purpose of the research interview questions included collecting demographic information to ensure participants meet the qualification thresholds to participate in the research. Subsequent questioning gained insight into participants' opinions related to strategies to effectively manage energy costs

Researchers should be able to justify the selection of participants included in their study (Cleary et al., 2014). I used participants that supported the research question, what strategies do professionals in the resort industry use to effectively manage energy costs? Researchers select participants for inclusion in their study that contain insight into their research question (Palinkas et al., 2015). I used professionals within the resort industry with direct responsibility managing energy costs. Alam et al. (2019) used participants that had direct responsibility and accountability for developing energy strategies within their organization. I interviewed 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii successful at managing energy costs.

Ethical Research

A researcher is obligated to ensure ethical standards are identified and pursued when conducting research particularly using a qualitative methodology. Collecting data from participants needs to be treated with dignity, integrity, and protect the anonymity of the queried participants (Nardin, Zallman, Sayah, & McCormick, 2016). Researchers use informed consent to ensure proper measures are taken to ensure participants are treated in an ethical manner during the research of the study (Graham, Powell, & Truscott, 2016). Informed consent provides a means of communication between the participant and researcher and intends to improve comprehension throughout the process of data collection (Gordon, Mullee, Skaro, & Baker, 2016). Participants were provided the opportunity to review my consent form (see Appendix E) to ensure the fundamentals of the study are covered. Selected participants were given the option to reply to my email confirming they have provided consent.

Researchers must provide participants with the opportunity to accept or deny participation in the study or withdraw at any time without reason. (Hinnekens, Vanhee, De Schryver, Ickes, & Verhofstadt, 2016). Researchers should provide participants a copy of their signed consent form that includes language surrounding their voluntary participation in the study (Nilsson et al., 2016). The letter of consent I provided to participants explicitly states that participants may either accept or deny participation in the study or withdraw at any time without consequence.

Participants were notified that they would not be compensated for their time or participation in my study. Although, research shows incentives increase the level of participation within a study (Begley, McCarron, Huntley-Moore, Condell, & Higgins, 2014). Researchers found that incentivizing participation can be counterproductive to research goals (McNaughton, Adams, & Shucksmith, 2016). The letter of consent I provided participants explicitly stated that participants will not be compensated for their participation.

Data remains secured and will remain within my possession for a period of 5 years after the study concludes. The data collected throughout the research process has been be stored on an encrypted flash drive and stored in a fireproof safe that I maintain sole possession of. Once this time expires all files and documentation associated with my study will be in a safe and secure manner by wiping the flash drive and subsequent formatting to ensure no traceable data remains. These steps ensured my compliance outlined by Walden University Institutional Review Board throughout the study process.

Walden's International Review Board assigned the following number to my study 05-06-20-0627148.

I have taken steps to protect the confidentiality of the data collected from participants in the study. Concealing unique identifiers associated with the data collected ensures the researcher handles participant data with discretion (Raman & Pramod, 2017). I was the only individual to handle the data collected and the data was transcribed using pseudonyms and coded to remove any unique identifiers.

Data Collection Instruments

Researchers are often the primary instrument used to collect data when conducting a qualitative research study (Pezalla et al., 2012). As the sole researcher on this study, I was the primary instrument for data collection. Additionally, I used interviews, internal archival documentation, and field notes taken from direct observation as other instruments for my study.

Data collection methods included in-depth open-ended semistructured interviews, member checking, response clarification, internal archival document analysis, and field notes taken during direct observation. An open-ended interview is a qualitative collection tool that provides an in-depth subjective narrative in response to a targeted line of questioning aimed at examining a specific topic (Kemparaj & Chavan, 2013). A comprehensive line of questioning provides the researcher an opportunity to further clarify and inquire participant narrative to ascertain further insight in a phenomenon (Chenail, 2011). By asking the same questions to a different spectrum of participants provided the representative breadth and depth needed to explore a specific topic (Yin,

2018). I used in-depth open-ended semistructured interviews in my data collection process to ensure I gathered a subjective narrative from various participants in a structured format to identify strategies used to effectively manage energy costs.

Researchers use document analysis to examine, evaluate and provide interpretation on data material collected during the exploratory phase of qualitative research (Bowen, 2009). Researchers use document analysis as a resource that can generate empirical data for case studies that can provide the contextual framework to analyze interviews facilitating methodological triangulation (Prøitz, 2015). Document analysis is a continuous exercise applied throughout the data collection process. Archival documents provide context for the line of questioning used during the responsive interview process (Owen, 2014). I collected and analyzed internal archival documents as part of my data collection process.

Combining document analysis with the data collected through the interview process is important to validate data accuracy during data interpretation, theme identification, and triangulation (D'Angelo & Brunstein, 2014). A qualitative case study using a comprehensive interview methodology provides the means for collecting data to address a given research question (Yin, 2018). By leveraging document analysis to further explore qualitative interviews researchers can explore participants' experiences as they relate to business strategy implementation and adoption (Owen, 2014). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews.

I interviewed 10 professionals with direct accountability for energy management across 5 resorts in Nevada and Hawaii that have successfully managed energy costs. Researchers use member checking provide participants with an opportunity to review the summation of their data and ensured the researcher's interpretation properly reflect the participants' intent. (Koelsch, 2013). I allowed participants to review my summation of the data collected to ensure its validity and provide any additional feedback not captured in the initial interview. Through member checking, researchers can further validate their interpretation, conclusions, and credibility (Doyle, 2007).

My interview questions were written after an extensive review of literature relating to energy management strategy adoption and implementation as it relates to the resort industry. My interview questions, which are listed in Appendix F, were written in using an open-ended narrative framework. Interview questions that are written in an open-ended manner allows for participants to provide a narrative in a manner that allows for maximum participant engagement during discussions (Jacob & Ferguson, 2012). Using digital communication devices as a means of communication allow researchers to improve participation as it minimizes distance and scheduling availability limitations (Holt, 2010). Researchers record interviews to ensure the accuracy of their transcriptions (Bouges, 2013). I used Skype and a recording application to conduct my interviews.

The data collected utilizing the research instrument enabled the discovery process to occur to identify strategies to effectively manage energy costs. The semi structured format of the interviews facilitates a researcher's discovery during the exploration phase of their research (Owen, 2014). I applied active listening techniques during my interviews

including confirming statements made by participants and asking additional questions for further clarification. Researchers use active listening to provide opportunities for additional understanding of participants' perspectives and allow for increased reliability (Carlson, 2010).

Data Collection Technique

Researchers often use an open-ended line of questioning in a multiple qualitative case study (Yin, 2018). The semistructured nature of interview questions provides researchers with a platform for data collection that would best facilitate exploring what strategies management use to control costs (Jacob & Ferguson, 2012). I used semistructured interviews using and open-ended line of questioning for my multiple qualitative case study.

Researchers encourage the use of record archives, tangible objects, interviews, documents, and observation of participants and resources to provide evidence to support a case study (Yin, 2018). The data collection procedure for my research included conducting interviews using Skype with 10 professionals with direct accountability for energy management across 5 resorts successful at managing energy costs. Bhandari, Rose, and Wilson (2019) used qualitative data using semi structured open ended interviews to determine participant barriers to adopting energy innovations as its primary data collection method. Similarly, I used semistructured open ended interviews as a primary data collection technique.

Traditionally, face-to-face dialogue served as a researcher's preferred data collection method (Holt, 2010). However, recent technological advances expanded the

data collection options available to researchers (Hanna, 2012). Telephone interviews are appropriate when conducting studies that require fluid responses to a specific line of questioning (Block & Erskine, 2012). Researchers use interviews conducted over Skype when face-to-face interviews are not possible (Heath, Williamson, Williams, & Harcourt, 2018). I conducted telephone interviews using Skype for my study. Telephone interviews using Skype increase participant response while removing influential bias posed by the traditional face-to-face interviewing method (Holt, 2010).

In my multiple qualitative case study, I used telephone interviews using Skype with participants using a line of standardized open-ended questions as the data collection tool for my study. Anyan (2013) recommended using the same standardized list of open-ended questions to collect data for a qualitative interview process. My primary data collection method was telephone interviews using Skype with participants using the 8 open-ended questions (See Appendix F).

Researchers use member checking to verify data collected an allow participants to provide further in-depth insight into data provided during the interview process (Reilly, 2013). Member checking is used to provide clarification on data collected through the interview process (Barusch, Gringeri, & George, 2011). I allowed participants to review my interpretation of the data collected to ensure its validity and provide any additional feedback not captured in the initial interview. Member checking for data accuracy can occur with participants reviewing the data collected on a one on one basis or in a group setting (Barusch et al., 2011).

Researchers use triangulation to validate data and further support data resiliency (Reilly, 2013). Researchers use methodological triangulation to facilitate validation of data collected through multiple methods within a single research study (Casey & Murphy, 2009). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews.

The questions asked during the interview served as the primary data collection method in my study. The interview questions were structured to identify resort manager's attitudes and perceptions directly relating to strategies relating to effectively managing energy costs. The semi structured interview questions (see Appendix F) served as the primary data collection instrument in my study. The primary data collection technique for my study involved collecting data from various mediums including interview notes, audio files, marketing material, organizational websites, and field notes.

Data Organization Technique

I was the only person handling the collecting, categorizing, and interpreting data collected during the data collection process. Researchers use computer assistive software to provide support in identifying frequent themes in multiple data sets in an objective manner (Castleberry, 2014). NVivo 12 includes robust features to input, categorize, and code data input into the system for an objective analysis (Bazeley & Jackson, 2013). NVivo 12 provides additional credibility and rigor through its objective analytical platform that is oftentimes missing in qualitative research studies (Poulis, Poulis, &

Plakoyiannaki, 2013). Furthermore, computer assisted qualitative data analysis software provides data redundancy and security features ensuring the preservation and protection of participant data throughout the research process (Wen-hui et al., 2013). I utilized NVivo 12 to store and organize the data collected through the research process.

Researchers use computer assisted qualitative data analysis software to organize and analyze collected data (Rockar & Kohun, 2011). NVivo 12 is a computer assisted qualitative data analysis software that facilitates multiple input formats including audio, video, text, and internet sites (Leech & Onwuegbuzie, 2011). I used NVivo 12 to store, organize, and analyze summarized interviews, internal archival data summaries, and field notes taken through direct observation in an accessible and secure manner.

The qualitative research method explores the nature of scientific inquiry without requiring the explicit use of numeric data (Leech & Onwuegbuzie, 2011). Data gathered using qualitative methods must be transcribed and coded in a manner that allows for researchers to identify common reoccurring themes (Bazeley & Jackson, 2013). I summarized data collected during interviews in a word document after member checking was complete. I also summarized my field notes taken from direct observation in a word document. Furthermore, I summarized the internal archival data based upon my review and analysis into a word document. The summarized data was then be uploaded into NVivo 12 for further analysis of thematic overlap. Using NVivo 12, I identified and coded the summarized interviews, internal archival data summaries, and field notes taken through direct observation based on reoccurring themes directly related to managing energy costs. These reoccurring themes were the basis of the results found in my study.

Data remains secured and will remain within my possession for a period of 5 years after the study concludes. The data collected throughout the research process has been stored on an encrypted flash drive within a fireproof safe that I maintain sole possession of. Once this time expires all files and documentation associated with this study will be in a safe and secure manner by wiping the flash drive and subsequent formatting to ensure no traceable data remains. These steps ensured my compliance outlined by Walden University Institutional Review Board throughout the study process.

Data Analysis

Researchers use triangulation as a strategic method to increase the validity, reliability, and legitimacy of their research (Moon, 2019). Researchers can use one of 4 different types of triangulation within their research study. These include methodological triangulation, investigator triangulation, theory triangulation, and data source triangulation (Denzin, 2012). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews. Data collected during my study was triangulated using methodological triangulation to ensure reliability, validity, and data saturation. Qualitative researchers may use field notes taken during direct observation, interviews, and internal archival documentation for methodological triangulation (Denzin, 2012).

Researchers triangulate data collected from various data sources to provide a more complete picture (Moon, 2019). Researchers can use multiple types of sources to achieve methodological triangulation (Decrop, 1999). Researchers previously achieved

methodological triangulation in the resort industry using internal archival documents, field notes taken through direct observation, and structured interviews (Decrop, 1999). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews.

I used semistructured interviews as the primary data collection tool for my study. Understanding strategies to effectively manage energy costs was the goal of these semistructured interviews. Semistructured interviews differ from unstructured in that they include one specific subject and open-ended questions that allow for fluidity of conversation specific to a topic area (Rubin & Rubin, 2012). A qualitative research study methodology supported the goal of exploring strategies to effectively manage energy costs within the Hawaiian resort industry. Semistructured telephone interviews using Skype are an additional means of collecting data through the qualitative research process (Holt, 2010). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews.

The secondary method of data collection will include direct observation of energy management strategies currently in place at resort facilities. Direct observation is a means of performing data collection in the qualitative research process (Gordon, 2011). I conducted walkthroughs of resort facilities in Nevada that successfully managed energy costs and took field notes of observations made relative to my research question. Researchers take field notes during direct observation, as these notes capture data

gathered through the direct observation process (Phillippi & Lauderdale, 2018). Furthermore, direct observation provides researcher with additional context that can be used to clarify and validate data collected through the interview phase (Phillippi & Lauderdale, 2018). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews.

The third method involves reviewing internal archival documentation relating to the representative resorts used in the study. Researchers commonly use several different document types in their research including advertisements, press releases, newspapers, books and brochures, and background papers to perform systematic analysis of the data collected (Bowen, 2009). I collected archival data directly relating to participants representative organizations. Researchers use document analysis of archival data as a resource that can generate empirical data for case studies that can provide the contextual framework to analyze interviews facilitating methodological triangulation (Prøitz, 2015). I used methodological triangulation to support my findings by identifying an overlap in themes taken from my review of internal archival documentation, field notes taken from direct observation, and data collected through interviews.

Data formats are expected to include audio files, field notes, raw documents, summaries and numeric codes to protect the identity of interview participants. NVivo 12 provides researchers that ability to facilitate multiple data formats in a single software (Edhlund & Mcdougall, 2013). Researchers use computer assisted qualitative data

analysis software to query data and extract common themes from a complex data set in an efficient manner (Bazeley & Jackson, 2013). I used NVivo 12 to store, organize, and assist in analyzing the data collected throughout the data collection process.

The data collected through my study was organized using computer assisted qualitative data analysis software. Researchers use NVivo 12 to assist in organizing data and analyzing that data for reoccurring thematic elements to be used when thematic coding occurs (Edhlund & Mcdougall, 2013). NVivo 12 is a data management tool that classifies information using words, phrases, and other data elements relating to the overarching research question (Edhlund & Mcdougall, 2013). I used NVivo 12 to organize and anonymize the data for further analysis and interpretation.

The qualitative research method by nature yields a substantial amount of data that must be organized, analyzed and interpreted in a manner that can be easily be replicated throughout the study (Thompson, 2002). Researchers use computer assisted qualitative data analysis software because it provides flexibility, thematic continuity, and increased rigor when applied to a dataset (Lewins & Silver, 2009). Furthermore, these types of software are built to provide a user-friendly interface that can be easily navigated to organize, analyze, and interpret data central to the research question (Cembra-Fierro & Wilson, 2011). Researchers identify emerging themes code overlapping elements that share common attributes that relate to the overarching research question (Gibbs, 2013).

Data analysis includes verifying, reducing, and displaying data in a conclusive manner (Rettie, Robinson, Radke, & Ye, 2008). Researchers must take raw datasets and organize, analyze, and code the data collected in a replicable manner (Thompson, 2012).

Researchers analyze and code data through an iterative process (Rettie et al., 2008). Researchers typically use computer assisted qualitative data analysis software because it provides the flexibility, rigor, and thematic continuity needed to analyze and code data in a manner conducive to the research question (Rademaker, Grace, & Curda, 2012). I used NVivo 12 for data storage, organization, and analysis.

I used 8 research questions compiled using a semistructured interview process, data validation, observation and document analysis as the instruments to collect data. NVivo 12 can be used to organize and analyze the different mediums of data collected in an intuitive and efficient manner (Bazeley & Jackson, 2013). Using NVivo 12 provides an intuitive platform to organize, identify, and analyze recurring thematic elements for coding and classification (Sung, Hepworth, & Ragsdell, 2013). Each thematic element is classified as a node based on its attributes (Leech & Onwuegbuzie, 2011). Computer assisted qualitative data analysis software help researchers to synthesize and analyze qualitative data to uncover insights relating to the central research question (Cambra-Fierro & Wilson, 2011).

Researchers identify overlapping words, phrases or ideas within their data set to provide classification of common themes relating to the overarching research question (Hu, Torr, & Whiteman, 2014). I used NVivo 12 to analyze the dataset for reoccurring words and phrases and generated a report based upon the frequency % of those occurring. A researcher achieves reliability in these results through participant data validation and subsequent data entry as per the procedural protocol provided by the NVivo 12 user

manual (Bazeley & Jackson, 2013). NVivo 12 was the primary tool I used to store, organize, and analyze data.

Reliability and Validity

Reliability

Researchers emphasize reliability in their studies to support the dependability of study related outcomes and conclusion (Fan, 2013). Researchers in the qualitative field establish reliability by utilizing a thorough and explicit protocols for data collection (Su, Gammelgaard, & Yang, 2011). Expert validation can be used to remove ambiguity from a study and provide the clarity needed to ensure data collection can be conducted in an efficient and meaningful manner (Morin, 2013). Researchers use detailed methodology to increase the likelihood that other researchers can replicate conclusions provided they are given similar data and conduct their study in a similar setting (Merey, 2012). An interview protocol (see Appendix B) provided a basis for reliability for my study.

Researchers can ensure the validity of the data collected by sending a copy of the summarized interview to participants to provide them with an opportunity to review and verify the accuracy of data collected (Carlson, 2010). Member checking, response uniformity, and triangulation provide a mechanism to test and confirm the selected data instrument for reliability (Casey & Murphy, 2009). Participants that provide similar responses further corroborate the research instrument and provide additional support for data accuracy (Stevenson & Mahumut, 2013). A continuous feedback loop with participants and the data provides further support improving the reliability of a study (Harvey, 2015). Reliability improves as researchers and participants engage in the

looping check and recheck process throughout the research process, also known as the dialogic approach (Harvey 2015). The mechanisms that ensured reliability in my study included member checking, data saturation, and methodological triangulation.

Validity

Researchers in the qualitative field use member checking to ensure consistency and trustworthiness of the data collected throughout the exploration process (Golafshani, 2003). Researchers that include robust reliability and validity protocol in their research mitigate bias and increase overall transparency of the study results (Singh, 2014). Researchers find it important to ensure the validity and reliability of their study to maintain trustworthiness and neutrality with their audience (Golafshani, 2003). Researchers ensure a study is valid by ensuring their research is credible, transferable, confirmable, and achieved data saturation (Bennett & McWhorter, 2016; Yin, 2018). I used a robust reliability and validity protocol to ensure research validity.

Credibility. Qualitative researchers can add credibility to their study by checking with study participants to ensure their perspective are captured accurately (Munn, Porritt, Lockwood, Aromataris, & Pearson, 2014). Researchers use member checking to establish credibility within a study (Schipper et al., 2014). Qualitative researchers establish credibility when a participant confirms their findings (Rosenthal, 2016). Researchers that use member checking can gain additional insight into their study (Welch, 2017). I allowed participants to review my interpretation of the data collected to ensure its validity and provide any additional feedback not captured in the initial interview.

Transferability. Researchers' findings are meaningful under different settings ensured their data is transferrable (Rapport, Clement, Doel, & Hutchings, 2015). Qualitative researchers can ensure transferability of their findings when they are directly meaningful and applicable to other groups (Pompeii, 2015). Researchers can achieve a greater correlation of transferability by providing a detailed description of their study methodology and findings (Vermeulen, Niemann, & Kotzé, 2016). Researchers that achieve transferability of their research study provide value to multiple stakeholders across multiple disciplines (Smith et al., 2015). I provided an adequate amount of detail about the methodology and findings of my study to ensure transferability occurs.

Confirmability. Researchers provide confirmation of their findings through validating the accuracy of the data provided by participants of the study (Polit & Beck, 2010). Researchers ensure neutrality in the study process through confirmation of the data collected in the research process (Rich, Viney, Needleman, Griffin, & Woolf, 2016). I used methodological triangulation to ensure the confirmability of the data collected. Researchers use triangulation from various sources to confirm and validate data collected (Moon, 2019). I used semistructured interviews, direct observation, and internal archival documents to achieve methodological triangulation for my study.

Data saturation. Researchers reach data saturation in the research process when the data collected does not produce any new themes relating to the research topic being (Saunders et al., 2018). Researchers use data saturation to improve the reliability and validity of their study (Fusch & Ness, 2015). When a researcher reaches a point of data saturation, they will cease with any additional data collection efforts (Boddy, 2016). In

the instance that data saturation was not achieved through initial data collection, I followed up through member checking to allow participants an opportunity to expand on their answers. Since member checking yielded data saturation, I did not expand my identification of themes or collect additional data.

Transition and Summary

The information provided in Section 2 provided and expanded context for my research study through purpose restatement, explanation of the role of the researcher, and selection criteria and justification for participant selection. Additionally, the information found in Section 2 included research method and design particular to my study, methodology to determine and appropriate sample size, and provided the framework necessary to ensure ethical standards are met throughout the research process. Additional details included the methodology used to collect, organize and analyze data during the study process.

Querying data using NVivo 12 provides an opportunity to query multiple data sets to identify reoccurring themes within the dataset (Bazeley & Jackson, 2013). Cross referencing is used by researchers to identify common themes provides increased credibility to the study and increases the transferability of the data for future research (Hall & Ryan, 2011). The information contained in Section 3 provides study findings, significance of the study as it relates to the resort industry, and how these study findings provide implications for social change.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple site case study was to explore the strategies used by professionals in the resort industry to effectively manage energy costs. The strategies used by professionals to manage energy costs have proven to reduce energy costs and improve profitability and sustainability for their organizations. As a result, multiple energy management strategies have been identified that energy professionals use to effectively reduce energy costs. After interviewing participants, conducting field visits, and reviewing relevant documentation, I identified 3 core themes vital to the success of energy management strategies within the resort sector: (a) technology implementation, (b) data analytics, and (c) behavior modification. These themes represented variables energy professionals should focus on to effectively implement strategies within their organization to reduce energy costs.

Presentation of the Findings

The overarching research questions was: What strategies do professionals in the resort industry use to effectively manage energy costs? To answer the research question, I conducted semi structured, telephone interviews with 10 professionals with experience successfully managing energy costs in the resort sector. During the interview process, I followed the interview protocol listed in Appendix B. I called and spoke with each participant individually and asked each participant to answer the questions listed in Appendix F. I informed each participant that I would be recording their interview and their feedback would be integrated into the results of this study. The semistructured

interviews were scheduled and conducted at times that were requested by the research participants. The interviews took place over a 2-day time span. The first day was set aside to conduct the interview with little to no interruption to the participant. The second day was set aside to confirm what was described during the interview and ask clarifying questions where needed.

I used methodological triangulation as the appropriate configuration for this study. Researchers use triangulation to examine multiple data sources (Wilson, 2014). Interview data were triangulated with archival documentation applicable to the representative organizations of each participant. Furthermore, interview data were triangulated with field notes taken during site visits at 3 representative resorts in Nevada. I chose methodological triangulation to identify and understand business strategies to effectively manage energy costs.

The data collected from the participants was coded from P1 through P10. Field notes taken during observation were also used, as well as archival documentation supporting business strategies to effectively manage energy costs. Yin (2017) outlined a multiple step analysis process for researchers to use in their studies: (a) collection, (b) dismantling, (c) aggregation, and (d) interpretation. I followed each of these steps to collect and analyze the data.

Interviews were recorded and transcribed after each interview using Trint. I then provided participants with an opportunity to review these transcripts for accuracy and took this opportunity to ask any clarify questions. The data collected were then input and aggregated into NVivo 12. I used NVivo 12 to organize the data for analysis. NVivo 12

allowed me to query the data for overlap based on reoccurring themes. This resulted in 6 thematic elements that were then further analyzed for overlap.

The data I collected were analyzed and interpreted to draw conclusions significant to my study topic. Through this process, 3 main themes consistently emerged: (a) technology implementation, (b) data analytics, and (c) behavior modification. These 3 themes appeared consistently during my analysis on how to effectively manage energy costs.

Theme 1: Technology Implementation

All 10 study participants articulated how important the implementation of technology is to effectively manage energy costs. Sub themes focused on passive versus active energy management techniques to reduce an organization's reliance on energy. Additionally, participants emphasized how self-generating and energy recapture technologies can be used to offset energy demand through self-generating energy resources.

Researchers have shown that passive or fixed energy management technologies are effective in cutting energy costs (Adua, 2020). Participants stressed that a successful energy management strategy includes implementing passive or fixed technologies within their organization. P1 and P3 explained that the installation of energy efficient equipment can be an effective strategy in managing energy costs. P1 stated "one-time measures to install efficient equipment is the best passive strategy." P3 emphasized looking into upgrading HVAC systems as "heating and cooling alone is responsible for 60% of energy use".

Organizations that implement passive building techniques reduce their need for energy management strategies as their energy usage is already minimized (Camarasa, Kalahasthi, & Rosado, 2020). Participants further emphasized the impact passive techniques can have in minimizing energy costs. P5 recommended implementing passive building design and construction techniques to minimize the need for artificial light. P7 reaffirmed this by stating "passive design takes benefits from the building's site, climate, and material to minimize energy use." Furthermore, P10 discussed the importance of using energy efficient material when constructing or improving upon facilities stating certain building materials can be used to "evenly regulate surface temperatures, even when exposed to heat." Passive construction techniques helped participants effectively manage their energy costs.

Research has shown that self-generating assets including solar and wind are increasingly being adopted as alternatives to the traditional energy mix (Ahmad & Zhang, 2020). P2 discussed building self-generating assets in the form of utility scale renewables to "cut out the middlemen and return the highest Return On Investment for an organization." P9 reaffirmed this by stating "the installation and usage of solar power technology has the most effect on energy costs." P6 highlighted that some facilities have been built where "100% of the facility is powered via solar cells." Participants emphasized implementing energy generation technologies to offset cost.

Participants also took advantage of energy recapture technologies. P9 stated that for his organization "the installation of waste heat recovery systems helps manage energy

costs." P5 reaffirmed this by explaining "waste heat recovery systems and blowdown control systems can improve process heating, thus reducing energy costs." Additionally, P6 says his organization uses "solar powered water heaters" to help recapture waste energy and offset energy costs.

Participants emphasized that actively managing energy using software and automation yields the highest cost savings for an organization. P4 used "peak demand reduction programs and energy management systems… to reduce facilities' energy costs." P8 used energy management software to "continuously monitor energy use to automate the implementation of energy conservation measures."

Half of the participants emphasized the importance of staying on top of the most up to date technology available to manage energy usage, with P3 stating that "renewable technology constantly changes and improves." P5 recommends using "up-to-date equipment in good working condition." P9 contributed: "upgrading to new energy-efficient technology can always contribute to energy conservation and manage long-term energy costs." Furthermore, these 5 participants emphasized the importance proper operation and maintenance had on the effectiveness of previously installed technology. P6 emphasized this importance by stating equipment "not serviced can consume way more power than needed."

Pena et al. (2016) confirmed that there is positive correlation between technological innovation in the resort industry and profitability. Resorts that implement technological innovations are more profitable by shielding themselves from financial loss (Alzboun et al., 2016). During my visit to the 3 resort facilities in Nevada, I observed use

of solar and LED technology. I also noted that some facilities provided visual representations such as kilowatt hours saved, or case studies of technologies being implemented through various marketing channels. Thus, it is necessary for leaders in the resort sector to implement technological innovations to reduce their energy cost and thereby increase their profitability. The literature provided supports and authenticates theme one.

Theme 1, involving technology and how it is effectively adopted by energy management professionals, further confirms the theory of diffusion of innovation presented by Rogers. The success or failure of an innovation is highly dependent on the attributes of the social system in which it is implemented and its relative economic advantage (Lundblad, 2003). Koebel et al., (2015) stated that the success of an innovation is dependent on the perceived knowledge and awareness an adopter has for the innovation. Therefore, communicating the economic advantage to a given audience in an observable and transparent manner is essential. Eder et al., (2015) stated that an innovations success is dependent on its trialability, complexity, compatibility, and observability.

P1 articulated the importance of communicating the value of adopting any new technology. P1, P2, P4, P6 and P9 stressed the importance of providing proper education when implementing an innovation. Stakeholders that are actively aware of an innovation and understand its benefits are more likely to adopt an innovation (Vargo, Akaka, & Weiland, 2020). Wang et al. (2016) reaffirm that lack of communication and proper education are significant barriers organizations face when adopting strategic energy

initiatives. All but one individual stressed the importance the social dynamic has when successfully adopting technology to manage energy costs.

Theme 2: Data Analytics

All 10 study participants articulated how important data analytics is when implementing successful energy management strategy. Sub themes focused on collecting, analyzing, and modeling data to guide strategic decisions. Additionally, participants emphasized the importance of energy management systems that continually monitor data and alert a user should intervention be required.

Participants stressed the importance of baseline data to understand the most optimal strategic path moving forward. P1 recommended conducting a "wide-scale survey and interview effort at the beginning to understand how people on site are utilizing energy." P3, P8, and P9 emphasized the importance of collecting baseline data through an energy audit, with P3 stating, "an energy audit is the most important strategy that every company should consider." P4 stated that most organizations that fail "lack sufficient baseline data." Measurement and verification of energy data provides professionals with the data required to understand and manage the risks within a project (Owolabi, Nsafon, Roh, & Huh, 2020). This was further reaffirmed by some of the case study documentation I reviewed.

Six of the 10 participants interviewed relied on financial modeling and analysis to guide future decisions relating to strategically managing energy costs. P3 stated that organizations need to consider, "even though the initial cost for employing these measures might be larger, the payback period of these measures when you consider

projected net savings to the business will show that they are a good investment." P6 recommended organizations look at available incentives as "another benefit one can avail is vie the federal solar tax credit which allows you to deduct 26% of the cost of installing a solar energy system from your federal taxes." P8 stated that, on average, their energy management strategies yield "between 10 and 30% return." But economics should be only one of the factors that lead organizations to move forward with a strategy to manage their energy costs. P7 insisted that organizations look beyond solutions that reduce cost and consider those that also reduce risk and carbon emissions. Professionals use energy modeling to guide decisionmakers on how to best manage their energy profile (Fattahi, Sijm, & Faaij, 2020).

Energy management strategies require new business models that treat energy as a service (Blazquez, Fuentes, & Manzano, 2020). Seven out of the 10 participants had success using energy management systems to monitor, analyze, and provide guidance on how to effectively manage energy costs in real time as if it were a service. P7 and P10 insist organizations use data to build an effective strategy, with P7 recommending organizations "use collected data to build a strategy that manages cost s and consumption on a daily, weekly, monthly, and annual basis." P9 stated, "tracking energy usage through advanced monitoring technology to determine energy consumption trends." P4 recommended going even further by "analyzing demand charges….to identify and solve what causes high peak demand and expensive utility bills."

A few of the participants utilize Artificial Intelligence and automation to manage their energy costs. Smart grids can automatically adapt to their surroundings to maximize

energy usage in a given system (Gimpel, Graf, & Graf-Drasch, 2020). P8 recommended, "an energy management system can continuously monitor energy use and can automate the implementation of energy conservation measures." P5 said that entities need to choose the proper energy management system, "to take advantage of consumption periods and help ensure energy optimization." P5 also stated that "machine learning and Artificial Intelligence technologies have helped to develop an advanced energy management system recommending energy strategies, load distribution, and peak hour planning."

Organizations use modeling to guide strategic decisions relating to their energy use (Fattahi et al., 2020). Hansen (2019) confirmed in the literature that organizations adopt energy strategies based on comparative metrics of financial returns. Furthermore, organizations typically pursue energy reduction and cost control strategies for economic reasons (Lo et al., 2015). Every case study I reviewed used some form of economic return to measure the success of strategic initiatives focused on energy. Firms fail to adopt strategic energy management strategies due to their lack of knowledge surrounding the economics associated with such initiatives (Wang et al., 2020). Thus, it is necessary for leaders in the resort sector to engage in data analytics to guide and maintain strategic initiatives as they relate to managing energy costs. The literature provided supports and authenticates Theme 2.

Theme 2, involving data analytics by energy management professionals, further confirms the theory of diffusion of innovation presented by Rogers. Koebel et al., (2015) emphasized the success or failure of a given innovation is dependent on the knowledge

and awareness individuals have towards a given innovation. Lundblad (2003) stated that successful innovations are ones that yield the greatest economic advantage. Therefore, using data analytics to assess and guide energy management decisions that yield a favorable financial return. P1, P3, P7, and P10 recommend utilizing data analytics to guide decisions that are the most optimal and efficient use of resources. All participants highlighted the fact that economic returns drove the methodology utilized with data analytics.

Researchers have found that stakeholders increasingly adopt practices rather than individual products (Kristensson, Pedersen, & Thorbjørnsen,2020). In support of the second theme, all 10 participants mentioned the importance data analytics played in their energy management strategy. As a result, the participants identified that information is a key driver in any organization's energy management strategy. Hansen (2019) alluded to the importance financial metrics have when identifying the most effective strategic initiatives in managing energy costs. This was further supported by the internal documentation I reviewed from representative organizations.

Theme 3: Behavior Modification

Only 8 of the 10 participants mentioned the importance of influencing human behavior to manage energy costs. The energy management professionals exemplified the importance process control, and regulation had on strategically managing energy costs. Other participants emphasized the importance of utilizing education to achieve their desired energy management results.

Goh and Ang (2020) stress the importance strategic energy management and planning has when implemented at an organizational level. P10 stated, “real, holistic changes will not be attainable without direct involvement and support from leadership.” P4 reaffirmed this by stating energy management “is all about the concerns of decision-makers”. P9 suggested successful energy management strategies occur, “by establishing an effective cross functional team leader and having a dedicated team underneath.” P3 states than organizations should, “make an investment plan for energy efficient equipment”. P9 and P10 discussed developing a holistic strategic plan to guide organizational priorities and set guidelines on how to manage energy costs.

Participants emphasized the importance regulations and policies have on their strategic energy management. Participants recommend looking to the utility for local incentives with P1 recommending organizations “find on-bill financing” and P8 stating “energy audits in Hawaii are subsidized 85%”. P9 reaffirmed this by stating “companies can take benefit of pricing and policies available in that state through any energy supplier”. P6 recommends “looking at federal tax credits” to help support funding energy management strategies. Only P7 mentioned that favorable building code and zoning requirements influenced their energy management strategy favorably. Researchers have found that stricter regulatory environments lead to increased adoption of energy management strategies (Hille, Althammer, & Diederich, 2020).

Five out of the 8 participants emphasized the importance education has in the success of implementing an energy management strategy. P1 stated that “educational outreach efforts can work, but if there aren’t constant reminders or consequences then

their impact can be lost over time." P3 stated that "educating the employee for energy conservation is a long-term strategy that each company should consider." P9 stressed the importance of having, "effective employee training programs to engage all employees." P4 claims that a large barrier to effective energy management occurs when "information is difficult to be accessed by all stakeholders in the facility and best practices are known by few in the causing a knowledge gap."

Some participants utilized behavioral nudges as part of their energy management strategy. P7 found success in recognizing achievements with successful energy management implementation. P1 found success in strategies that "marry technical improvements with behavioral nudges, rather than one or the other". P6 recommended leaving, "reminders in the room asking guests to switch off power when leaving a room." These behavioral nudges help remind stakeholders the importance of proper energy management as Wang et al., (2020) found that ignorance is one of the primary reasons energy management strategies fail.

Organizations attempting to implement energy reduction and cost control strategies require clear vision, comprehensive planning, and viable implementation (Vassallo, 2014). Participants emphasized the importance education and access to information have in modifying behavior. Researchers state that a significant barrier to strategic energy management adoption is lack of knowledge (Wang et al., 2020). Batel (2020) reaffirms this by through findings that strategic energy initiatives aren't adopted due to ignorance on behalf of the adopter. Archival documentation further supports the findings that behavioral modification is important when trying to implement a sustainable

energy management strategy. The literature provided supports and authenticates the third theme.

Theme 3 further supports Rogers' diffusion of innovation as it relates to behavioral modification. Organizations that understand how to implement innovations effectively have the best success with diffusion of innovation (Becket & O'Loughlin, 2016). Furthermore, practitioners can increase their likelihood of success with an innovation by understanding the social factors that influence adoption (Rudaleva & Petukhova, 2016). Therefore, using behavioral modification to influence the social dynamics which an innovation is implemented can increase its likelihood of success. P1, P4, P6, and P9 explicitly mentioned utilizing social dynamics to influence stakeholders to adopt and maintain strategic innovation. Most of the participants emphasized the importance social dynamics played in the success of a given innovation.

In support of the third theme, most participants mentioned the importance behavior modification played in their energy management strategy. Herfeld and Doehne, (2018) highlighted the importance education plays in strategic innovation as individuals typically follow rational theory choice. Stakeholders increasingly adopt practices rather than individual products (Kristensson et al., 2020). Participants utilized multiple forms of behavioral modification to drive the success of their energy management strategies.

Overall Findings Applied to the Conceptual Framework

The findings revealed strategies professionals in the resort industry use to manage energy costs. These findings supported the conceptual framework of diffusion of innovation. Rogers (2003) stated that the success of a given innovation is dependent on

the social system dynamics it is implemented within. Practitioners of the diffusion of innovation indicated a correlation between the knowledge and awareness individual adopters perceive towards a given innovation and its likelihood of being adopted (Koebel et al., 2015). Furthermore, researchers have found that stakeholders increasingly adopt practices rather than individual products (Kristensson et al., 2020). The findings of my study have shown that the most successful energy management techniques involve adoption of good practices rather than products.

Theorists of diffusion of innovation recognized 3 dimensions to be critical for this implementation: social, technical, and economic (Eder et al., 2015). Adopters of a given innovation do so based on their understanding of the innovation (Vargo et al., 2020). Per Rogers (2003) diffusion of innovation theory practitioners identified the perceived economic and sociopsychological benefits as important factors individuals consider when adopting a given innovation (Mylan 2014). As more and more members of a social system adopt an innovation the awareness of its benefits spread leading to more adoption (Vargo et al., 2020). The findings of my study confirm that information is the primary driver of strategic innovation within the resort sector. Therefore, Rogers diffusion of innovation theory is applicable.

Applications to Professional Practice

Leaders in the Hawaiian resort industry could benefit from the study findings because it provides supplemental information on how to effectively manage energy costs provided by energy management professionals that have had success in effectively managing energy costs. According to Parpairi (2017), hotels rank as one of the top 5

energy consumers in the commercial sector. The commercial sector accounts for 45% of total energy consumption (Ouyan et al., 2018). The findings of this study support that there are core effective strategies that can be implemented to effectively manage energy costs by leadership in the Hawaiian resort sector. Organizations that adopt effective energy management strategies benefit from an improved brand image, reputation, and competitive advantage (Mohammad et al., 2013). Leaders in the Hawaiian resort sector can maintain profitability and sustainability by implementing strategic innovations using (a) technology implementation, (b) data analytics, and (c) behavior modification. The findings of this study further validate other researchers by showing professionals in the resort sector effectively manage energy costs by applying strategies focused on technology implementation, data analytics, and behavior modification.

The results of this study could be relevant across different industries and market segments by providing insight on successful strategic initiatives to effectively manage energy costs. Research shows that organizations systematically overlook opportunities effectively managing their energy use (Stucki 2005). Each of the themes identified support strategies organizations might have overlooked to effectively manage energy costs. Furthermore, researchers have shown that knowledge and awareness typically drive successful innovation (Koebel et al., 2015). Organizations that educate themselves on effective strategic energy management are more likely to have success. By actively pursuing successful strategies to control and mitigate energy costs based on the successes of others, business managers can approach and implement strategies based on best management practices.

Recommendations for Action

The objective of this qualitative multiple case study was to explore strategies used by professionals in the resort sector to effectively manage energy costs. The results of this study include 3 major strategic themes professionals can use to effectively manage energy costs: (a) technology implementation, (b) data analytics, and (c) behavior modification. I noted some recommendations to professionals to effectively manage their energy costs.

Individuals looking to implement effective energy management should carefully review the results of this study and pay attention to how information played a role in the success of effective energy management strategies. Researchers state that a significant barrier to strategic energy management adoption is lack of knowledge (Wang et al., 2020). The 5 resorts I chose for this multiple case study were successful at understanding the key role knowledge and social dynamics played in the success of their energy management strategies. Each participant I interviewed relied on making knowledge accessible, transparent, and understandable as part of their success. Unfortunately, firms implementing new innovations fail at a very high rate with some reported failure rates as high as 93% (Zemaitaitiene et al., 2016). Professionals frustrated with their lack of success in implementing effective energy management strategies should pay close attention to this study and the role diffusion of innovation and information play with successful energy management professionals. These findings can help guide professionals in other industries on how to successfully implement strategies to effectively manage energy costs.

Implications for Social Change

Society could benefit from the applying the results of this study to their everyday lives to shield them from rising energy costs. There is a growing need for energy as our population increases (Richter, 2012). Furthermore, energy prices are expected to rise due to high electricity demand (Pitt et al., 2018). The resort sector is unique in that its energy use profile is driven by both residential and commercial behavior (Alén et al., 2017). Readers can utilize the results of this study across any market segment to adopt or modify their energy use behavior reducing their exposure to an increase in energy costs.

Society can further benefit by reducing harmful pollutants responsible for climate change. Non-renewable resources are being depleted faster than they are being replenished putting upwards price pressure on energy (Richter, 2012). Furthermore, as society shifts its focus on climate change, the energy market is looking at adopting low-carbon energy alternatives (Weron, 2000). Implementing energy conservation strategies reduces our dependence on fossil fuels and improves the overall environment by reducing harmful pollutants responsible for climate change (Shaikh et al., 2014).

The results of this study could benefit organizational leadership in how they approach strategies to effectively manage energy costs within their respective industries. As more industries adopt effective energy usage strategies, they can help mitigate the negative consequences associated with climate change (Jurasz & Campana, 2019). Furthermore, this shift towards proper energy management can help maintain our overall economic health and current way of modern life (McCartney, Hanlon, & Romanes, 2008).

Recommendations for Further Research

The purpose of my qualitative multiple site case study was to explore the strategies used by professionals in the resort sector to effectively manage energy costs. The target population included 10 professionals across 5 resorts in Nevada and Hawaii that have successfully implemented effective energy management strategies within their respective organizations. I chose the resort sector as it is a business sector that shares similarities across a multitude of market segments, including residential.

The findings from my study may extend beyond the resort sector for numerous reasons. First the findings of this study to mitigate energy costs could be applied across other industries and market segments. Future researchers should focus on how transferrable and applicable the results of the study are to additional market segments. Specifically, how transferrable my study results are to the residential homeowner.

Second, there are a multitude of different research avenues future researchers can explore. For example, researchers could identify how changes in societal and technological trends impact the need to effectively manage energy costs. As societal trends impact the regulatory framework that influences global energy prices. Additionally, advances in technology impact the economic feasibility and access to energy management solutions.

I will share a summary of my findings to my research participants hoping it will encourage further discussion of my results. Furthermore, my study will be published on the ProQuest/UNI dissertation database for future researchers to reference. Additionally, I

plan on presenting the results of m findings at conferences and seminars and may seek to publish my findings in a peer reviewed journal.

Reflections

The DBA program has provided me with a challenging opportunity to evolve my understanding of business principles as they relate to energy management. Even though I had prior experience in the energy field the doctoral process gave me additional insight from other professionals as they experienced successes in their respective organizations. I came to the realization that active information discovery and dissemination is vital to the initial and continued success of any energy management strategy.

My goal as a researcher was to collect data in an objective manner without imparting my personal bias or preconceived notions on the data. I paid careful attention to the data collection methodology to ensure the legitimacy of my study results. Furthermore, my core understanding of organizational change has evolved during this doctoral process. Each participant provided valuable feedback that challenged my fundamental beliefs and for that I was appreciative. Prior to completing my study, I held the belief that economic feasibility was the primary driver of successful strategic innovation in energy management. I was surprised to find that accessibility to information prior to and during implementation within a given social network was the key driver of success on strategic energy management initiatives.

Conclusion

Effective energy management strategies are vital to an organization’s success. The overarching research question posed by this multiple qualitative case study was:

what strategies do business managers in the Hawaiian resort industry use to effectively manage energy costs? I conducted semi structured interviews using Skype to collect data from participants. I also conducted site visits where I was able to document observations in field notes. I also reviewed archival documentation to further supplement my results. I took this data and applied methodological triangulation to validate the themes identified by this study.

Study findings revealed that energy management professionals within the Hawaiian resort sector utilize 3 core strategic themes to effectively manage energy costs: (a) technology implementation, (b) data analytics, and (c) behavior modification Energy management professionals rely on information to increase the probability of successful innovation adoption through a social network. Leaders in the Hawaiian resort industry that utilize this research study to implement effective management strategies can increase their profitability through effective energy management.

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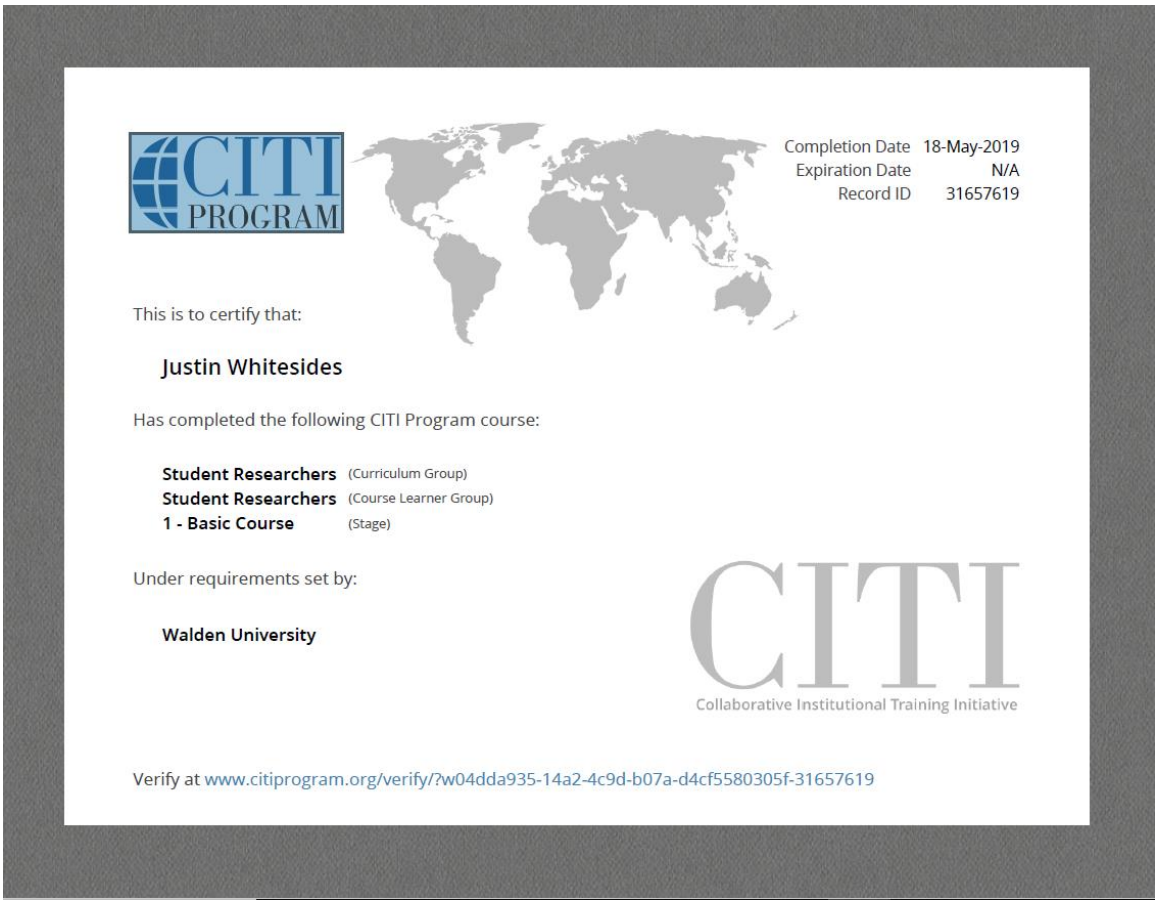
Appendix A: Protecting Human Research Participant Training Certificate



CITI PROGRAM

Completion Date 18-May-2019
Expiration Date N/A
Record ID 31657619

This is to certify that:

Justin Whitesides

Has completed the following CITI Program course:

Student Researchers (Curriculum Group)
Student Researchers (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Walden University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w04dda935-14a2-4c9d-b07a-d4cf5580305f-31657619

Appendix B: Interview Protocol

Interview Title: Exploring strategies to control energy costs in the Hawaiian resort sector

Start the interview process by greeting the participant, introducing myself, and thank them for volunteering to participate in the interview process. Next, notify the participant of my intention to record the interview and address any questions or concerns and then begin recording. Lastly, explain the research topic and goals and see if the participants posit any questions or concerns before the interview process begins.

1. I will remind the participants of the voluntary nature of the study and let them know they can remove themselves from the interview process at any time and for any reason.
2. I will make sure that participants review the interview questions and ask any follow up or clarifying questions prior to signing the consent form.
3. I will ensure that I provide the participant a copy of their signed consent form for their records.
4. I will inform the participants of the 45 minutes to an hour time duration recommended for the interview and remind them that this interview will be recorded via audio.
5. Once this is completed, I will begin initiation of the interview process.
6. I will explain to the participants that their interviews will be transcribed, and I will provide them with a transcription of the interview for data validation and

clarification purposes.

7. Once the interview concludes I will thank them for their time and ask them for any additional questions or concerns which I will address before I stop the recording process.

Appendix C: Letter of Cooperation

Community Research Partner Name
Contact Information

Date

Dear Justin Whitesides,

Based on my review of your research proposal, I give permission for you to conduct the study entitled Effectively Managing Energy Costs in the Hawaiian Resort Industry. As part of this study, I authorize you to interview staff directly or indirectly responsible for managing energy costs within our organization. Individuals' participation will be voluntary for this study and at their discretion. I also understand and authorize the release of internal documentation at the discretion of the participants as it relates to the study. These documents could include case studies, presentations, memos, and marketing material directly related to the study.

We understand that our organization's responsibilities include providing contact information to eligible participants and allowing for their participation in this research study. I understand that this interview will be conducted through Skype. I also understand participants may be asked to release internal documentation relating to the study and give them permission to do so at their discretion. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not be naming our organization in the doctoral project and that no identifiable information will be provided in the report that is published in ProQuest. I understand that a brief single page summary written in common, every day English will be provided to me through email once the study has been complete.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,
Authorization Official
Contact Information

Appendix D: Introductory Letter

<Date>

<Address Block>

Dear Participant,

My name is Justin Whitesides; I am a doctoral student at Walden University pursuing a Doctor of Business Administration degree with a focus in Sustainability, Change Management, and Project/Portfolio Management. My academic research is focused on exploring strategies to manage energy costs in the Hawaiian resort sector to ensure prolonged sustainability within your market sector. I researched your organization and am impressed by your firm and, would like to invite you to participate in this study; I believe your knowledge and experience managing energy costs will contribute greatly to this study.

I am looking for participants that maintain professional roles with direct or indirect responsibility and accountability in managing energy costs within your firm and are interested participating in this study. This would include positions that provide guidance on or maintain decision making powers over strategies surrounding managing energy and how it is consumed on the business and consumer level. For your convenience, I attached an informed consent form that will provide additional insight on this study. Interested participants will be interviewed via Skype. The interview should last approximately 45 minutes to an hour. With your permission, interviews will be recorded, transcribed, and summarized to ensure accuracy. I will provide you with an opportunity to review the transcribed data for verification and clarification purposes,

which should last no more than 15 minutes. The data collected during this interview process will remain confidential.

Should any questions or concerns arise please do not hesitate to reach out to [redacted] or feel free to call me at [redacted]. I appreciate your time and consideration and look forward to speaking with you real soon.

Kind Regards,

Justin Whitesides

Appendix E: Interview Questions

1. What strategies did you find to be the most effective to manage energy costs?
2. What strategies did you find to be the least effective to manage energy costs?
3. What strategic technologies do you use to effectively manage energy costs?
4. What passive strategic techniques do you use to effectively manage energy costs?
5. In which sector of your business do you typically focus your strategies to effectively manage energy costs?
6. What is the biggest strategic limitation on effectively managing energy costs?
7. What is your long-term strategic plan to effectively manage energy costs?