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Small Aviation Business Success Strategies for Profitability

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

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MBA, Northcentral University, 2010

BS, Middle Tennessee State University, 2008

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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Abstract

Ninety-five percent of all aviation businesses are small businesses; from 2009-2012, small aviation business operations decreased by 10.2% and resulted in a loss of $4.4 billion in revenue. The purpose for this multiunit case study was to explore what strategies small aviation businesses leaders used to reduce or control operating expenses for profitability. The sample comprised 3 small aviation businesses located in Middle Tennessee. The conceptual framework for this study built upon systems theory and sustainability theory. The data were collected through semistructured interviews and company documents. Member checking was completed to strengthen creditability and trustworthiness. Based on the methodological triangulation of the data sources collected, 5 emergent themes were identified after completing the 5 stages of data analysis: buying or purchasing power, being customer focused, having the right employees, having the right equipment, and leadership. When small aviation business owners incorporate these themes into their business model, they may increase the prosperity of their companies, the employees, their families, the surrounding communities, and the local economy. The findings from the study may contribute to social change by providing insights and strategies for small aviation business leaders in reducing operating costs for profitability. The data from this study may contribute to the prosperity of the small aviation business leaders, their employees, their families, the surrounding community, the local airport, and the local economy. By reducing operating expenses, small aviation business leaders will have more money to invest in the local community and the economy.

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Dedication

This is study is dedicated to my family. Thank you for all of your love, patience, and encouragement throughout my doctoral journey. To my husband Nic, thank you for putting up with the long hours and late nights of writing and researching. To my dad, thank you for the phone calls and encouraging words.

I would also like to dedicate this study to all of the students, scholars, and doctors that led the way for people like myself to stand on their shoulders. Per Angusta Ad Augusta.

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Table of Contents

List of Tables

Section 1: Foundation of the Study

United States aviation business managers operate in an industry that is functional 24 hours a day, 7 days a week, 365 days per year, with 228,000 aircraft and 608,000 pilots (U.S. Department of Transportation, 2014). Some small aviation business managers lack strategies to reduce aviation operating expenses to improve profitability (Cui & Kuang, 2013). Aviation business managers face many problems each day, including threats to security, increasing fuel costs, limited fuel supply, and poor public perception challenge the aviation businesses (Cui & Kuang, 2013). Increasing profitability often requires reducing and controlling operating costs (Blackburn, Hart, & Wainwright, 2013).

In the study, I explored strategies that may help improve profitability in aviation businesses. Section 1 of this study includes: (a) the background of the problem, (b) the problem statement, (c) the purpose statement, (d) the research methodology and design, (e) the research question, (f) the conceptual framework, and (g) an extensive literature review.

Background of the Problem

In May 2011, there were six million business managers in the United States (Bureau of Labor Statistics, 2012). Of these six million managers, 1% were managers in aviation businesses (Bureau of Labor Statistics, 2012). There are 32 million people working in the aviation industry worldwide (Mantin & Wang, 2012). To increase profitability in aviation businesses in the U.S., managers must control or reduce their operating costs (Blackburn, et al., 2013).

Ninety-five percent of all aviation businesses are small businesses (Small Business Administration [SBA], 2014). In 2012, there were 4,136 small aviation businesses in the U.S. (U.S. Census Bureau, 2015). These small aviation businesses service 166 million passengers to 5,000 airports each year (Federal Aviation Administration [FAA], 2015). Small aviation businesses are vital to the U.S. and the world because other trades, goods, and recreation depend on air travel and transport (Mantin & Wang, 2012).

Problem Statement

Small aviation business operations are decreasing in the United States (SBA, 2014). During 2009-2012, small aviation business operations decreased by 10.2% and resulted in a loss of $4.4 billion in revenue (FAA, 2015). Between 2009 and 2012, aviation businesses employed 1.2 million people and contributed $150 billion to the overall gross domestic product (FAA, 2015). The general business problem is that some small aviation business managers are unable to manage airport operating expenses, which results in a loss of business profitability. The specific business problem is that some small aviation business leaders lack strategies to reduce airport operating expenses to improve profitability.

Purpose Statement

The purpose of this qualitative multiple case study was to explore what strategies aviation business leaders use to reduce airport operating expenses to improve profitability. The target population consisted of three aviation businesses located in Tennessee, incorporating aviation business leaders who have strategies to reduce airport

operating expenses to improve profitability. I interviewed three aviation business managers, completed a thorough review of the literature, and explored the firms' documents to methodologically triangulate the data. The implication for positive social change includes the potential for small aviation businesses to reduce airport operating expenses to improve profitability. Aviation business leaders, employees, members of the community, and patrons could benefit from reduced operating expenses by allowing for additional jobs, decreasing prices, and additional revenue to invest in the local community.

Nature of the Study

I chose a qualitative method for this study. Researchers conduct qualitative studies to explore insight into opinions, lived experiences, and personal values (Petty, Thompson, & Stew, 2012). I selected a qualitative study to gain insight into what strategies aviation business leaders use to reduce airport operating expenses to improve profitability. In qualitative studies, the research objective is to gain an in-depth understanding of human behavior and insight into why the behavior exists (Petty et al., 2012). A quantitative approach would have been appropriate if I were testing the theoretical constructs associated with systems theory, by either examining the relationship between theoretical constructs, variables, or predictions of profitability (Blackburn, et al., 2013). This was not the purpose of this study. The mixed methods approach combines both a quantitative and a qualitative form of inquiry (Torrance, 2012). Neither quantitative nor the mixed-methods were appropriate for this study.

I chose the case study design for this study. In the qualitative methodology, four research design styles are available, including phenomenology, narrative, ethnography, and case study (Denzin, 2012). The qualitative case study design was the best match for this study. The case study is an approach in which the researcher focuses on particular cases in social science that are relevant to the focus of research interest (Hetherington, 2013). Qualitative narrative design was not appropriate for this study because it included human actions in relation to social context as posited by Makkonen, Aarikka-Stenroos, and Olkkonen, (2012). Ethnography design was not appropriate for this study because researchers explore the beliefs, feelings, and meanings of feelings within a culture, as noted by Denzin (2012). Phenomenological design was not appropriate for this study because it included gathering data from participants to ascertain their world-views or lived experiences on distinguishable issues to cultivate common themes as discussed by Marshall and Rossman (2016). Case study research is a design of which to research emerging ideas from multiple sources or cases (Yin, 2012). For this study, I selected the qualitative case study design to gain a better understanding of strategies for reducing operating costs for small aviation business leaders to improve profitability.

Research Question

The overarching research question for this study was: What strategies do aviation business leaders use to reduce airport operating expenses to improve profitability?

Interview Questions

1. What strategies have you used to reduce aviation operating expenses in the aviation industry?

2. What are the key strategies you used to remain profitable?

3. What are some of your aviation operating expenses that are easy to reduce to remain profitable?

4. What are some of your aviation operating expenses that are difficult to control or reduce to remain profitable?

5. What strategies do aviation business leaders use to reduce aviation operating expenses to improve sustainability?

6. What additional information would you like to add regarding strategies aviation business leaders use to reduce aviation operating expenses to improve profitability?

Conceptual Framework

Galea (2012) noted that a conceptual framework creates a lens through which to comprehend the context of research. General systems theory is the basis of the conceptual framework for this study. Von Bertalanffy developed the concept of systems theory in the 1930s (Lewis, 2015). Von Bertalanffy (1972) explained the role the external environment played on a system or organization as well as how leaders respond to and are influenced by both specific and general stimuli of the environment. Lewis (2015) described the practical use of systems theory as a system analysis. Von Bertalanffy (1972) developed systems theory based on principles of interrelationships, such as wholeness or hierarchic order, to ensure the collective behaviors result in a final system product. Profitability in small aviation businesses is part of an organizational open system. In systems theory the researcher investigates principals common to entities and models to describe them (McManners, 2016).

Von Bertalanffy (1972) coined the term systems theory along with the concept suggesting that all parts of an entity contribute to a functioning system. Systems theory created a new perspective of science in the 1930s, which led to its wide applicability in many different disciplines (von Bertalanffy, 1972). Von Bertalanffy's (1972) systems theory is the result of components, that when linked together, are equal to or greater than the sum of its parts.

Systems theory consists of key components: (a) the objects, (b) the attributes, (c) the internal relationships, and (d) the environment of the system (von Bertalanffy, 1972). Serving as the researcher, I explored patterns in objects, attributes, relationships, and the environment of systems that successful aviation business managers practice. As relevant to this study, the systems theory states that the propositions advanced by the theory to allow participants to effectively explore strategies to reduce airport operating expenses to improve profitability.

Operational Definitions

Managers of small aviation businesses use acronyms that are unique to aviation. For this study, I used the following terms as defined. Also included below are common business terms.

Fixed base operation (FBO): Fixed based operation is the main provider of services to general aviation operations. Fixed base operations are operations that function under a lease with the airport owner, and dispense fuel and provide four other services (Federal Aviation Administration, 2014). Fixed base operations can dispense Jet A and or Avgas. The four other basic services may include but are not limited to line service,

technical services, aircraft rentals, charters, aircraft management, aircraft sales, or flight instruction (Federal Aviation Administration, 2014).

General aviation (GA): General aviation is all civil aviation other than scheduled air services and nonscheduled air transport operations for compensation or hire. This includes instructional flying, business flying, pleasure flying, aerial work, and other flying (FAA, 2015).

SBA: The Small Business Administration is located in the United States and is an independent agency of the federal government that assists, advises, aids, and protects the interests of small businesses in America (SBA, 2014).

Small business: A small business is a firm with fewer than 500 employees (SBA, 2014).

Assumptions, Limitations, and Delimitations

Assumptions and limitations are factors that are out of control of the researcher. Assumptions are facts the researcher assumes are true, but cannot prove (Kirkwood & Price, 2013). Limitations are the potential weaknesses of the study (Marshall & Rossman, 2016). Delimitations are the bounds of the study (Podsakoff et al., 2012).

Assumptions

Assumptions are facts that readers assume but are not verified to be true. These include the importance of anonymity, confidentiality of participants, and how these concerns are preserved (Leedy & Ormrod, 2013).

There were three assumptions for this study. The first assumption was that communications between the participants and the researcher were open and honest

because participants had the assurance of privacy; their participation, responses, and identities were confidential. The second assumption was participants knew enough about the subject matter to understand the interview questions and were capable of providing adequate answers about the study questions. A third assumption in this study was that participants provided extensive information and perspective regarding their strategies to reduce aviation operating expenses to improve profitability. I encouraged participants to elaborate on the answers to their questions to gain as much detailed information as possible. A fourth assumption in the study was that participants understood the potential significance in helping other managers of small aviation businesses. I assumed that after I explained the informed consent protocol and the participants had time to ask all the questions and sign the consent form, then the participants understood the confidentiality of the study. The understanding of confidentiality was important for participants to give accurate, precise, and honest information.

Limitations

Limitations include deficiencies, conditions, or influences that cannot be controlled (Kirkwood & Price, 2013). Limitations are weaknesses in the study (Kirkwood & Price, 2013). Study participants may not have honestly expressed their thoughts because of concerns of confidentiality. The professional characteristics of managers of small aviation businesses confined the limitations of the study. Accordingly, the results were limited to small aviation business leaders with experience and may not be fully representative of the complete data that could arise from a broader approach to the aviation business industry.

Delimitations

Delimitations are the bounds of the study (Marshall & Rossman, 2016). A delimitation of the study included the geographic location, which was Tennessee. The study comprised small aviation business managers who have been operating for 5 or more years. The SBA (2014) defines small businesses as those with fewer than 500 employees. This study only included participant managers from small businesses with fewer than 500 employees. The focus was on utilizing the qualitative research method to explore a problem through settings, systems, people, and relationships. The findings of this study could be a tool to analyze the profitability strategies in small aviation businesses.

Significance of the Study

This study is of value to the practice of business because it may contribute to an increase in profitability and sustainability in small aviation businesses by identifying ways to reduce operating expenses. As of 2012, there were 32 million people working in the aviation industry worldwide (Mantin & Wang, 2012). Memphis, Tennessee is home to Federal Express, the largest cargo hub in the United States, and 74 public use airports (FAA, 2015). An increase in traffic around the Memphis hub would mean an increase in profitability. The strategies for reducing or controlling operating costs by small aviation business leaders are unknown. The economic health and well-being of the state of Tennessee's aviation industry is driven by aviation businesses. Ninety-five percent of aviation businesses are small aviation businesses (SBA, 2014).

Contribution to Business Practice

The study findings may help professionals contribute to an increase in profitability, which may encourage the growth of small aviation businesses. Statisticians predict aviation businesses to grow from 2015 to 2025; to sustain this growth, managers of small aviation businesses must create a sustainability plan (Cui & Kuang, 2013). Aviation business managers must look for ways to reduce or control operating costs to ensure continued profitability. Aviation business leaders confront a distinctive set of obstacles including poor public perception, the volatility of the industry, and uncertain future of rules and regulations (McManners, 2016). The goal of this study was to explore ways small aviation business can control or reduce operating costs. The results of this study is a list of proven ways to control or reduce operating costs to ensure continued profitability that might improve the practice of small aviation businesses. Business managers of small aviation businesses could use the findings of the study to improve their profitability by reducing operating costs.

Implications for Social Change

The implications for positive social change include the potential improvement of controlled or reduced operating costs in small aviation businesses (Blackburn, et al., 2013). With a significant operational cost reduction, small aviation businesses could be more profitable and thus, benefit by allowing for additional jobs, decreasing prices, and having additional revenue to invest in the local community.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to explore what strategies aviation business leaders use to reduce airport operating expenses to improve profitability. In 2012, there were 4,136 small aviation businesses located in the United States (U.S. Census Bureau, 2015); these small aviation business make up 95% of all aviation businesses (SBA, 2014). The purpose of this professional and academic literature review was to synthesize, compare, and contrast various articles that relate to the research question.

The purpose of this qualitative multiple case study was to explore what strategies aviation business leaders use to reduce airport operating expenses to improve profitability. Ninety-five percent of all aviation businesses are small businesses (U.S. Census Bureau, 2015). The goal of this professional and academic literature review was to summarize, compare, and contrast several sources that relate to the research topic. Accordingly, conceptual theories, small businesses, aviation businesses, success strategies, and problems in aviation are the key issues I explored in this qualitative study. The first part of the literature review discussion indicates the searched databases, successful search terms, a table of sources, and an outline of the main topics and sub-topics of the literature review.

Documentation

The Walden University Library online databases enabled the retrieval of peer-reviewed scholarly materials relevant to the theory of the study on leadership in aviation businesses. I searched ProQuest, ScienceDirect, and Business Source Complete

databases. The strategies used to retrieve relevant materials included searching by keywords, phrases, NAICS codes, SIC codes, subject terms, Boolean search, and date of publications, scholarly or peer-reviewed sources. I used these strategies in searches of multiple databases.

The keywords and subject terms that predicated successful searches included: *small businesses, systems theory, aviation, aerospace, airline, leadership, profitability, air travel, air transport,* and *success*. Successful search strings included the use of operations *and, or* to combine a subject term and date of publication. The database I used most frequently was the ABI/INFORM Complete database. I also used the following databases: (a) Emerald Management Journal, (b) Government databases, including the SBA and U.S. Census Bureau, (c) Google Scholar, and (d) SAGE Premier.

I narrowed the search parameters to include only recent publications and scholarly, peer-reviewed resources. The literature review incorporated relevant academic constructs on leadership and leadership within aviation businesses. The topic of this study, *Small Aviation Business Success Strategies for Profitability,* is the focus for the literature review in this portion of the doctoral study.

Synopsis of the literature review. The main topics of the literature review are systems theory, small businesses, aviation businesses, perceived success strategies, and perceived problems in aviation. The reviewed literature primarily contains studies related to systems theory, small business success strategies, and how leaders develop success strategies in the aviation business. The literature review also contains substantial information and theories on sustainability. This section includes information on current

theories, future directions, and potential impacts on small aviation businesses. The literature review contains 73 peer-reviewed or government articles, and 95% of the articles have a publication date after 2012. I reviewed a total of 143 articles, 94% of which have a publication date after 2012.

Conceptual Framework

The conceptual framework consists of systems theory and sustainability theory. Systems theory consists of four elements: the objects, attributes, internal relationships, and the environment of the system (von Bertalanffy, 1972). Another conceptual framework I applied to this study was sustainability theory. Sustainability theory consists of sustainable development focused on profit creation while maintaining social and environmental sustainability (World Commission on Environment and Development [WCED], 1987).

Systems theory. Systems theory by von Bertalanffy provides a method for viewing sustainability in aviation businesses. Systems theory focuses on complexity and interdependence of objects and their environment (von Bertalanffy, 1972). A discussion in the literature exists in small aviation business success strategies for profitability, and systems theory along with sustainability theory could help to provide the conceptual framework for the study.

The systems theory approach to profitability in small aviation businesses offers a better understanding of the lack of sustainability strategies in small aviation businesses content. A system such as aviation businesses must exhibit certain principles of interrelationships, such as wholeness or hierarchic order, to ensure the collective

behaviors result in a final system product (von Bertalanffy, 1972). Sustainability in aviation businesses is part of an organizational open system of aviation.

In a qualitative analysis, the principles governing the whole cause the behavior of the parts (von Bertalanffy, 1972). Adams, Hester, Bradley, Meyers, and Keating (2014) suggested that all key elements in a systems theory bind together in a systematic fashion. This study will include exploration of experiences from leaders in small aviation businesses in terms of success strategies representing part of the systems theory framework. Based on success strategies obtained from leaders in small aviation businesses in Tennessee, the study results may indicate what strategies may be successful for profitability in small aviation businesses.

The objects. Objects in small aviation businesses would include the different sectors within the industry. Small aviation businesses typically include FBOs and Special Aviation Service Operations or Special FBOs. FBOs must provide at least two services including but not limited to line service, technical services, aircraft rental, aircraft charter, aircraft management, aircraft sales, or flight instruction (FAA, 2014). Special FBOs may offer only one service and may include aircraft painting, avionics, aircraft sales, flight training, and aircraft maintenance (FAA, 2015). In each sector, there are also different positions: leaders/managers, workers, and operators (Mantin & Wang, 2012). As part of systems theory, these different sectors and positions are the objects.

The attributes. Attributes in the small aviation business system would be the different functions each sector and positions work to perform. In the FBO sector, managers and workers would work together to make sure each airplane was serviced and

each customer was treated as they wish (Li & Trani, 2014). These would be the qualities or properties of the objects in small aviation businesses. These attributes would explore how a given object relates to other aviation businesses.

The internal relationships. Internal relationships of the objects in the system define how the system operates with each of its parts, which in turn makes a whole (von Bertalanffy, 1972). The internal relationships of aviation businesses include how each sector provides a service for another sector. For example, FBOs provide fuel for airlines, air carriers, and the flying public (Li & Trani, 2014). Air traffic controllers provide safe movements for all airplanes and ground operations (Tobaruela et al., 2014). Each object in the aviation business system relies on the internal relationship it has with another object in the system.

The environment. The objects of the system exist in an environment in which they must relate to one another. The public and the government have put strain on the environment in the form of an increasing demand for the reduction of crude oil consumption by aviation business (McManners, 2016). After growth of the industry and the effects of 9/11, the public demanded a change in economic and environmental sustainability (McManners, 2016). The United States experienced a demand for less dependence on foreign crude oil; as a result, the aviation industry must set goals for reducing consumption of crude oil, or developing a renewable form of energy (Goll & Rasheed, 2011). Systems theory aligned with the study in exploring the elements and parts that come together as a whole for small aviation business owners to achieve profitability.

Sustainability theory. Sustainability theory emerged in 1987 based on years of management practice focused on economic, and shareholder gain (WCED, 1987). After years of neglect, businesses harmed people and the environment (Lonzo, 2015). Sustainability theory is a three-dimensional standard that incorporates stakeholder, environmental, and economic values in businesses (WCED, 1987). The concept developed by WCED emerged as an integral concept among corporate leaders in businesses (Smith & Ramirez, 2012). As the literature on sustainability theory expands, ideals such as education, learning, and training emerge as integral factors to long-term success (Iwaniec, Childers, VanLehn, & Wiek, 2014).

Sustainability theory involves the combination of community and organizations in equally beneficial environments (Childers, Pickett, Grove, Ogden, & Whitmer, 2014). Leaders can adjust sustainability theory to meet the needs of their organization (Smith & Ramirez, 2012). Theorists presented various approaches to sustainable development measures including a stakeholder-first approach, corporate strategy, and environmental awareness (Eccles, Ioannou, & Serafeim, 2014). Sustainability theorists encourage economic development and management practices, while protecting and preserving the environment; the underlying motive is protecting the environment while ensuring a profit (WCED, 1987).

As businesses begin to implement sustainability theory in practice, the literature on the theory expands; factors such as education and management have emerged as a key to long-term business success (Iwaniec et al., 2014). From the early 19th century, business leaders focused mainly on wealth creation and profit, not looking at people or

the environment (Lonzo, 2015). Later in the 21st century, leaders began to create a more holistic approach focused on people and the future (Lonzo, 2015).

A need arose for new theory involving the alignment of corporate strategies using people, the economy, and the environment in business models (Du & Viera, 2012). This new theory is aligned with the modern corporate definition of sustainable development (Du & Viera, 2012). Sustainable development incorporates maintaining corporate profitability while protecting people and the environment (Klewitz & Hansen, 2014). Businesses must adhere to sustainability initiatives to ensure economic viability (Schaltegger, Lüdeke-Freund, & Hansen, 2012; Sisaye, 2012). Businesses in any industry can attain sustainability goals (Leszczyhska, 2012). The adoption of sustainability strategies indicates that by exercising careful use of environmental resources, businesses and individuals may achieve long-term profits and wellbeing (Hakim, Bujang, & Ismail, 2014).

Leaders work toward adopting more holistic approaches of sustainability by adjusting priorities for the 21st century economy (Makipere & Yip, 2008). The sustainability model for the 21st century encompasses methods related to multiple stakeholders (Carter & Greer, 2013). Researchers created proposals to integrate and overcome the financial dimension as the only indication of a business's future prospects and contributions to society in the mid-1990s (Carter & Greer, 2013). John Elkington developed the triple bottom line theory in the late 1990s to show stakeholders the accurate value of a company (Carter & Greer, 2013). The triple bottom line consists of three pillars: social equity, economic security, and ecological integrity (Carter & Greer,

2013). Since the triple bottom line emerged, companies such as GE, Proctor and Gamble, Unilever, 3M, and Cascade Engineering measured their sustainability impact, which includes profitability, shareholder value, and stakeholder value (Carter & Greer, 2013)

The triple bottom line sustainability (TBLS) is now growing and gaining respect and more businesses are focusing on local or global methods for achieving sustainability (Smith, 2012). This means organizations must explore research and practitioner viewpoints on sustainability and related organizational leaning. This also means businesses must change from industrial-age mindsets and remove cultural and structural barriers to progressing sustainability practices (Smith, 2012).

Warren-Myers (2013) suggested that leaders restrict decisions to invest in broad-scale sustainability by the amount of evidence of the relationship between sustainability and market value. Evidence of the relationship between sustainability and market value exists and analyzed through advanced modeling (Warren-Myers, 2013). Valuation rarely includes sustainability in financial markets and the reporting of asset values. It can be stated that the need for TBLS emerges (Smith, 2012).

Smith (2012) explained how business leadership needs to move toward TBLS using people, organizations, and society as a whole and how individual worldviews called our ecological selves allow for creations and conditions for confronting global environmental challenges. The terms single- and double-loop learning describe sustainability initiatives (Smith, 2012). Single-loop learning is action oriented, incremental, and routine (Smith, 2012). Single-loop occurs within existing mental models and policies with underlying assumptions (Smith, 2012). Double loop learning involves

changing mental models, policies, and assumptions regarding day-to-day routines (Smith, 2012).

Pourdehnad and Smith (2012) agreed that aviation businesses must focus on double-loop learning. Pilots and leaders in aviation businesses are decision makers. Pilots must use the DECIDE model to make day-to-day decisions. Pilots use the DECIDE model to detect change, estimate the need for change, choose a desirable outcome, identify successful actions, do the necessary action, and evaluate the effect of the action (Pourdehnad & Smith, 2012). Unlike pilots, small aviation business leaders do not have a set model to follow. Leaders should decide, act, monitor, detect, diagnose, prescribe, evaluate, and retain model for sustainable decision-making (Pourdehnad & Smith, 2012). Sustainability theory aligned with the study in exploring the elements that contribute to profitability through sustainability for small aviation business owners.

Small Businesses

Researchers at the SBA defined a small business as a firm with less than 500 employees (SBA, 2014). According to Lam and Harker (2013), in addition to small businesses, other categories of businesses include very large (more than 500 employees), large (200 to 500 employees), medium (50 to 200 employees), and micro (fewer than 10 employees). Accordingly, small to medium sized enterprises (SMEs) often fill the SBA requirements for small businesses (Kumar & Rao, 2015).

Researchers at the SBA stated that approximately half of all new small businesses survive 3 years or less, and one third survive 10 years or more (SBA, 2014). Moreover, every time a small business fails, employees lose jobs, local and state governments lose

tax revenues, and stakeholders lose revenue (Fritsch & Noseleit, 2013). Small businesses have a higher employment than large businesses for employees age 65 or older, disabled people, people with less education, and people from rural areas (Yallapragada & Bhuiyan, 2011). Small business owners create two out of every three jobs in the United States economy (Yallapragada & Bhuiyan, 2011).

The high prevalence of small business failure in the United States in the first 5 year demonstrates the importance of examining why small businesses remain successful in this timeframe. Small businesses employ such a large percentage if the workforce; therefore remaining in business is vital for the United States economy (Price, Rae, & Cini, 2013). For this study, business success will refer to an aviation business that remained profitable after 5 or more years in business.

Innovation. Small businesses not only create jobs, but foster new ideas through innovation. Innovation adds vigor to the marketplace (Cronin-Gilmore, 2012). Small businesses are fundamental to innovation, jobs, and growth of the economy (Gale & Brown, 2013). Shukla and Shukla (2014) expressed the importance of small businesses on the United States competitiveness through innovation, the creation of jobs, and growth of the economy. Small businesses are important to large businesses since small businesses produce 13 times more patents per employee compared to large businesses (Cronin-Gilmore, 2012). In addition to being innovative, small businesses leaders are more flexible and respond to the demands of customers (Eccles et al., 2014; Sahut & Peris-Ortiz, 2014; Von Schomberg, 2013). Innovation is the ability to create alternatives

through differentiation (Von Schomberg, 2013). Organizations must innovate and improve to survive (Bello & Ivanov, 2014).

Aviation Business

Aviation businesses are unlike other businesses in that the aviation businesses rely on fuel for operation (McManners, 2016). Aviation businesses need aviation-specific strategies for success and profitability. Historically, aviation leadership occurred from innovation (de Brito Neto, 2015). This innovation included new aircraft construction, breaking records, creating new processes for production, and even new methods of flight (de Brito Neto, 2015). Aviation leaders are still innovators in the same respects, but also in service and customer satisfaction (de Brito Neto, 2015).

Annually, more than 2.2 billion passengers fly on the world's airlines for vacation or business, about 15,000 aircraft service 10,000 airports (Sarkar, 2012). Aircraft transport more than one third of the world's manufactured exports and aviation businesses generates 32 million jobs worldwide and contributes 8% of the world's gross domestic product (Sarkar, 2012).

Aviation business strategies. Aviation leaders created several strategies that are special to aviation businesses. These innovations changed the way airlines, airports, and others in the industry operate and contribute to the sustainability of the industry (Ford et al., 2014). Crew Resource Management (CRM), transformational leadership, and other strategies can benefit other industries as well.

Crew resource management. Since 9/11, leaders in the airline industry created intra-crew communication and coordination. This was a result of improvements

suggested by a review of accidents and incidents. Flight attendants and pilots now use CRM programs to enhance in flight communications (Ford, O'Hare, & Henderson, 2014). Ford et al. (2014) determined these results through a survey that questioned 112 pilots and 230 flight attendants worldwide.

LaPoint (2012) suggested that hospitals mirror the Crew Resource Management (CRM) used by airlines. In the 1970s, the airlines created a way to effectively as well as efficiently communicate information to each other using CRM (Aebersold, Tschannen, & Sculli, 2013). CRM addressed poor communication, leadership, and decision-making for crews aboard airlines. Airlines have modified this policy with advances in technology, but are still in place (LaPoint, 2012). LaPoint conducted a quasi-experiment study-implementing airline CRM in the hospital environment in instances such as operating rooms. The results of this study showed that airline CRM improved leadership in the hospital environment and enhanced decision-making. Aebersold et al. (2013) conducted a similar study with nursing students using the airline industry's model of CRM with students finding students benefited greatly from CRM communication of patient status.

Organizational culture. Leadership research showed that a relationship exists between leader's behavior and the follower's task to exceed expectations (Kamisan & King, 2013). This increased organizational performance in the aerospace industry (Newcomer, Marion, & Earnhardt, 2014). Transformational leadership correlated with organizational culture. This study indicated that leaders should step outside the organizational culture to initiate changes (Newcomer et al., 2014). The leader's behavior did affect the organizational performance of the organization. This study found that

leaders expect employees to perform their personal best on all occasions and exceed expectations (Newcomer et al., 2014). The aerospace industry is very competitive and requires employees to perform their personal best. Newcomer et al. (2014) suggested leaders could solve this problem by creating an environment made up of many different cultures.

Kamisan and King, (2013) conducted a similar study with AirAsia concluding that employees lead by example. Airline leaders found that they gained the trust and respect from employees using transformational leadership styles (Kamisan & King, 2013). In 2013, everyone working at AirAsia was required to use transformational leadership.

The workplace in 2009 had the largest diversity of generations among any other time. In aviation, this is a critical area for investigation. Payton (2015) examined the preferences of the Millennial generation. The Millennial generation was born in the 20th century and entered the workforce in the 21st century (Payton, 2015). This study surveyed 290 aviation personnel including flight students, professional pilots, air traffic controllers (ATC), aviation management technicians, and aviation administrators. The survey found that Millennials prefer complex combinations of relationships, personal growth, and organizational structures (Payton, 2015). Millennials desire personal freedom with less managerial intervention (Payton, 2015).

The airline industry presents leaders with several challenges such as, few entrants, highly competitive environments, and dynamic lifecycles. Global alliances among airlines present the airline industry with competition as well as social networking

(Casanueva, Gallego, Castro, & Sancho, 2014). Social describes the inter-organizational networks through which business relations between airlines exist. Leaders use these social networks for joint marketing, codesharing, and similar ventures (Casanueva et al., 2014). When airlines agree these arrangements, the process of social embedding begins with members' experiences. Structuring follows experience and life cycle of the airline (Casanueva et al., 2014). This allows new airline employees to learn from veteran airline employees. This arrangement also provides members to communicate across borders traditionally set by airlines. Occasionally, relationships will hinder structural properties and have an impact on their competitiveness (Casanueva et al., 2014).

Perceived Small Business Success Strategies

Profitability is key to small business success. Sustainability is planning for the future (McManners, 2016). For small business to be profitable, leaders must look forward to the future for sustainable activities (Du, Pan, & Zuo, 2013).

History of sustainability in small aviation businesses. The history of the sustainability of aviation dates back to when people discovered practice uses for aviation that improved the way of life for future generations (McManners, 2016). These people were innovators looking toward the future, and methods they could create a way for individuals and goods to fly (McManners, 2016). This need for flight and growth of the industry led to innovation, forward thinking, and sustainability (McManners, 2016). The sustainability of the aviation businesses began when the development met the needs of the present without compromising the needs of future generations (Komiyama & Takeuchi, 2013). When the Wright brothers developed the concept of controlled flight,

future generations benefited from their discovery by creating a new generation of innovators (McManners, 2016).

A need for sustainability education. Students graduating from aviation programs move into careers that have significant management components (Cui & Wang, 2013). As a result, aviation management courses have evolved aviation curricula to prepare graduates for these positions. These post-secondary training programs should focus students on the preparation to perform various administrative and supervisory roles (McManners, 2016). Programs should prepare students for government communication roles as well as private sector positions like airport and airline managers as well as fixed base operators (Cui & Wang, 2013). Before 2016, leaders focused on the problem at-hand, thus, not contributing to the sustainability of the aviation industry. Present leaders need to ensure economic, environmental, and social sustainability are prominent in the aviation industry (McManners, 2016). Sustainability in the aviation industry needs improvement to provide for future generations (Cui & Wang 2013). Sustainability insures the future will continue growth and safety in aviation businesses. The three types of sustainability include social, financial, and environmental sustainability.

Social sustainability. Sustainability is the economic development that meets the needs of the present generation without compromising the future (Schmitt & Gollnick, 2016). Creating industry sustainability would incorporate social, economic, and environmental sustainability. The current state of sustainability shows signs of improvement in the future (McManners, 2016).

Growth strategies for sustainability. In the current market, growth is inevitable. Fuel and aircraft sales are increasing, and the FAA is creating a new market called Business Aviation. Business Aviation created opportunities for organizations that previously used roads or airlines for travel (Schmitt & Gollnick, 2016). Sustainability included corporate social responsibility, citizenship, and improved management of social and environment impacts (Hubbard & Lopp, 2015). Leaders could increase the benefits for stakeholders by ensuring resources for continuance (Hubbard & Lopp, 2015). Growth of the industry depends on the adaptability of the industry to current demands for social sustainability (Bergthorson & Thomson, 2015).

Safety and security strategies for sustainability. Since 9/11, aviation businesses collaborated with government officials, to develop and implement security measures, and prevent future terrorist threats. The improved security measures improved the social aspect of aviation, as people are not as afraid of flying as they once were (Mantin & Wang, 2012). If the public views aviation as safe once again, the industry will achieve social sustainability through safety (Goll & Rasheed, 2011).

Corporate strategies for sustainability. Corporate sustainability is a business strategy to create long-term shareholder value by implementation of opportunities, and management of risks from economic, environmental, and social issues (Amini & Bienstock, 2014; Lozano, 2015). Leaders must force organizational wide sustainability efforts to achieve progress (McManners, 2016). McManners (2016) and Amini and Bienstock (2014) suggested that corporate sustainability should be achievable in most industries, in different sized companies, with various employees. Organizations typically

do not take social and community sustainability into consideration when decision-making (Santoyo-Castelazo & Azapagic, 2014). Organizations typically regard social aspects and employee relations separately, but both relate to a business's reputation as it pertains to sustainability (Santoyo-Castelazo & Azapagic, 2014).

Financial sustainability. Since the 1980s, organizations have been looking towards the future in terms of sustainability. Leaders recognized the need to provide stakeholders with useful options for the future. In 2005, the winds and rain from Hurricane Katrina caused the New Orleans area to experience an energy shortage in the United States through the effects of the oil production sites in the area (Köhler, Waltz, Marschedar-Weidemann, & Thedieck, 2014). In the United States, leaders are in a regular political debate over the dependence on other countries for oil production and consumption (Bergthorson & Thomson, 2015). Government organizations and private sector organizations look for biomass possibilities for sustainable fuel alternatives. If products are not environmentally friendly, soon customers will discontinue purchasing those products; instead, companies need to look for environmentally friendly products (Köhler et al., 2014). Many companies such as steel production have high-energy consumption, thus even more reason to look for an alternative source of energy. Schmitt and Gollnick (2016) suggested that financial sustainability is the ability of a business to maintain profits long term, and have the ability to incur a loss for a short time. Santoyo-Castelazo and Azapagic (2014) noted that leaders in businesses complete life-cycle analysis to determine if the resources, time, and costs of completing the project balance with the useful life of the project. Santoyo-Castelazo and Azapagic (2014) also argued

that leaders use scenario planning and forecasting to predict the long-range futures and project development.

Environmental sustainability. Aviation businesses face serious environmental opposition. Organizations condemn aviation businesses for CO_2 emissions it emits (McManners, 2016). The aviation industry only contributes 2-3% to the global emissions (Schmitt & Gollnick, 2016). In addition to CO_2 emissions, aviation also accounts for other greenhouse gasses that contribute to climate change (Schmitt & Gollnick, 2016).

In aviation businesses, leaders are working to create drop-in fuels that are plant based not to become dependent on oil for fuel supplies (McManners, 2016). Drop-in fuel is a fuel alternative that manufacturers add to jet fuel as much has 50% add-in and is interchangeable in jet engines (Bergthorson & Thomson, 2015). The problem with the current drop-in fuel is the alternative is it is two to five times more expensive than jet fuel (Abeyratne, 2012).

Leadership sustainability. The key to developing sustainability in aviation businesses is leadership. Without the appropriate leadership in aviation businesses, organizations will not be able to keep up with increased regulations, possible threats to the industry, or changes in the economy (Schmitt & Gollnick, 2016). Leaders in small aviation businesses must develop methods for new leadership, implement sustainability strategies, and create a profitable business (McManners, 2016).

To achieve sustainability in small aviation businesses, leaders must make new strategies, implement new strategies, and thus, implement change (Cui & Wang, 2013). To achieve these goals, leaders must train new leaders and develop communication

strategies (Santoyo-Castelazo & Azapagic, 2014). Leaders must also be innovators to create new strategies on demand (Nodeson, Beleya, Raman, & Ramendran, 2012).

Strategy-making leadership sustainability. Many organizations struggle to train and retain top-level knowledgeable leaders and employees, which creates a sustainability issue. By increasing organization sustainability, employee morale will increase, and employees will enjoy their jobs (Santoyo-Castelazo & Azapagic, 2014). Neugebauer, Figge, and Hahn (2015), stated that businesses used both emergent strategy making and deliberate strategymaking. This study found emergent strategy making was quicker, adapted easier to environmental changes, was more autonomous with decisions and actions, but had less control and higher intangibility than deliberate strategy (Neugebauer et al., 2015).

Deliberate strategy has clear objectives, articulated visions, and directions, with specific means and ends (Neugebauer et al., 2015). Leaders must be aware of both of these models and combine them appropriately into their organizations. When developing strategy, organizations need to look at several critical perspectives. Leaders, managers, and nonmanagers often provide insight into developing strategy for organizations (Neugebauer et al., 2015). Lundy and Morin (2013) agreed that change is intentionally moving from a defined state to another and leading a change requires processes, tools, and techniques to manage people. Leaders must be quick to respond and adapt to changes in the environment for strategy development (Lundy & Morin, 2013). This method employs responsible leadership, governance, and deliberate leadership (Neugebauer et

al., 2015). By using this method, leaders of organizations create responsible leaders in the present-day and for the future.

Empowering employees. Moerschell and Lao (2012) found that sustainability improved in different industries when employees felt psychological empowerment. These empowerment skills include proficiency, personal impact on the organization, meaning, and self-determination. These skills affected the transformational leadership within the organization (Moerschell & Lao, 2012). Lochmiller (2013) agreed that empowering employees to encourage on another could create emergent leaders. Leaders are beginning to use leadership coaching in the 2016 economic climate (Lochmiller, 2013). The coaching technique uses an analytical approach that employs strengths, weaknesses, opportunities, and threats (SWOT) for leadership coaching. The goal of leadership coaching is to exercise leadership and management principles to plan (Lochmiller, 2013).

Innovative leadership. Sustainability often requires innovation; innovation in the 2016 economic environment often creates trouble for leaders (Nodeson et al., 2012). Leaders encourage employees to be risk takers by experimenting with instruments and gadgets (Nodeson et al., 2012). Moerschell and Lao (2012) suggested that leaders emerge when a change or event occurs, often caused by time, urgency, and rapidly changing conditions. Leadership relates to decision-making and the minutes following the subsequent event. Leaders develop first and second plans (Moerschell & Lao, 2012). Leadership theory follows psychology and arises out of paleontology, causing situational awareness born from naturalistic decision-making (Moerschell & Lao, 2012). Leaders that encourage innovation must recognize that employees will answer them with

resistance within the organization (Nodeson et al., 2012). The effective and efficient method of innovation requires leaders to grasp innovative perspectives of employees of all angles (Nodeson et al., 2012). This study followed crisis responders, critical incident specialist, and wilderness trainers and found that leadership emerges when a change occurs, and someone needs to make a decision (Moerschell & Lao, 2012). Individuals often have a strong sense of responsibility towards other, through interviews, Moerschell and Lao (2012) found that leaders did not distinguish their responsibility from those of subordinates. Moerschell and Lao (2012) also suggested that emerging leaders were consultative and cooperative, but still remained in control of the situation. The situational fact of the threat of danger was the biggest impact on leaders during a change. After the change was in place, the leaders still had a sense of responsibility and wanted to remain in the leadership role for the good of the other team members (Moerschell & Lao, 2012).

Change leadership sustainability. Leaders must focus on employees when creating and implementing sustainability changes. Lundy and Morin (2013) stated that change could be useful for increasing the implementation success rates, increasing employee performance, reducing time of production, and reduction of costs. Change leads to stress and anxiety, which causes employees to resist (Lundy & Morin, 2013). If an employee reacts negatively to change, it may be difficult for the leader to change the employee's opinion; but if the leader is proactive, the employee might not perceive the change as negative (Lundy & Morin, 2013). To prevent this, leaders should consider these items before implementing the change. Leaders should encourage managers to build teams and work to implement the change while having the employees' needs in mind

(Lundy & Morin, 2013). Leaders or organizations must cultivate the skills and knowledge of employees to keep up with the fast pace of innovation (Nodeson et al., 2012). Leaders must have a strong sense of direction to lead employees toward innovation to achieve organizational goals (Nodeson et al., 2012). As this process occurs, leaders emerge. The process of change involving initiative also allows outside leaders or managers some extent of control over the change without being the facilitators (Lundy & Morin, 2013). Outside leaders can provide additional resources or information regarding the change. These resources can include creative processes, training employees, organizational values, and organizational goals (Lundy & Morin, 2013). Leaders or managers can motivate employees to be creative in this change process, which might lead to future change (Nodeson et al., 2012).

Perceived Problems in Aviation

The current problems in aviation businesses exist in terms of social, financial, and environmental sustainability**.** Aviation businesses may operate with a set of leadership strategies that do not match or align with their focus for the future in terms of financial sustainability (McManners, 2016). The main concern for sustainability in aviation businesses focused on fuel alternatives (McManners, 2016). Other sustainability issues exist in aviation businesses in terms of social and economic sustainability.

The significance of the applied business problem in this study may be applicable because of a lack of education and training on dynamic industry specific topics (McManners, 2016). Aviation businesses are dynamic ever-changing businesses in which leaders must look ahead to the future to ensure not only financial stability, but also social

and environmental responsibility (McManners, 2016). Furthermore, aviation businesses needs aviation-specific strategies for sustainability or a leadership plan to address financial, social, and environmental issues to ensure sustainability in the future.

Increased rules and regulations. Leaders in the FAA create rules and regulations to ensure passenger safety and improve the aviation industry (Cui & Wang, 2013). Occasionally, new rules or regulations make sustainability and profitability more difficult for leaders in small aviation businesses (McManners, 2016). Leaders of the airline industry, airport leaders, and maintenance leaders must follow and remain up to date with these new rules and regulations (McManners, 2016).

After government airline deregulation in 1978, the government relieved leaders of controlled entry and price relations. This also caused a new problem for the sustainability of the aviation industry with fewer rules and more competition (Cui & Wang, 2013). Post-9/11, the Department of Homeland Security and the Transportation Security Administration also created rules and regulations for leaders to follow (Cui & Wang, 2013). Air traffic controllers were often indiscreet; therefore, the FAA created new rules and regulations for airlines regarding duty times and fatigue (Tobaruela et al., 2014). While the FAA intended these regulations to improve the industry, they made sustainability more difficult.

Rules and regulations before airline deregulation. President Carter signed the Airline Deregulation Act on October 25, 1978 (FAA, 2014). The Airline Deregulation Act removed all entry and price regulations that the government placed on the airline industry almost 40 years prior (Avent-Holt, 2012). The passage of the act caused a

significant reorganization of the aviation industry in the United Sates, including fewer rules and more competition (Li & Trani, 2014). The Airline Deregulation Act exposed customers to the market forces in the aviation industry and removed regulations for new airlines. The act halted agreements between airlines and removed restrictions to new airlines created by the Civil Aeronautics Board (CAB) (Avent-Holt, 2012). While the government required deregulation to reduce prices for passengers and generate more routes, this lessened the sustainability of airlines and aviation corporations.

Rules and regulations post-deregulation. Prior to Airline deregulation in 1978, airlines in America provided reasonably decent jobs, profits, and customer support, and an effective infrastructure for economic and community development (Schmitt & Gollnick, 2016). Sustainably for aviation business seemed promising. Post deregulation, many airlines experienced significant turmoil from the price-cutting competition, catastrophic events such as 9/11, and inconsistent fuel prices, conflicts with unions, bankruptcies, and company and aircraft liquidations (Avent-Holt, 2012). Many airlines could not endure these devastations and closed (Schmitt & Gollnick, 2016).

On the other hand, the consumer passenger industry can benefit from deregulation in terms of lower rates (Tretheway & Markhvida, 2014). Employees of legacy airlines have lower wages, fewer benefits, and more stressful working conditions. Airlines chose larger volumes of small aircraft, thus putting more pressure on antiquated air traffic control technology (Tobaruela et al., 2014). Air traffic control was unable effectively and efficiently to deal with increasing traffic volume (Tobaruela et al., 2014).

The effects of September 11, 2001. The terrorist attacks on the United States in September 11, 2001 had a significant impact on the sustainability of the American society. The immediate response of the U.S. government was a complete shutdown of all commercial air travel in the U.S. (Goll & Rasheed, 2011). The initial decline in demand of air travel was 30% and billions of dollars in economic loss (Mantin & Wang, 2012). The terrorist attacks produced a veritable deal of uncertainty for the future of the aviation industry (Goll & Rasheed, 2011). May and Jochim (2013) argued that the development of the DHS provides a preeminent example of the challenges of creating policy regimes that focus policymaking on a common goal across assorted subsystems. The need for such an agency was in place; a common purpose, engaged stakeholders, and institutional redesign, but failed to look at all sides of the struggle. Instead, the agency created general policies for industries, including the struggling aviation industry, to follow (May & Jochim, 2013). The purpose of the DHS was to increase passenger safety and security but instead produced a decrease in air travel due to the new regulations. This decreased the profits of aviation businesses. Decreasing profits caused many companies to furlough or lay off workers and employees this declined the sustainability of aviation businesses (May & Jochim, 2013).

The effects of the Colgan Air 3407 crash. The FAA created a greater strain on the sustainability of aviation businesses by placing more regulations into effect based on the Colgan Air crash in 2009 (Huff, 2012). Members of the National Transportation Safety Board attributed the probable cause of the accident to the captain's inappropriate

response to the activation of the stick shaker (Huff, 2012). This led to an aerodynamic stall from which the airplane did not recover (Huff, 2012).

These new regulations addressed the flight type, time, duty period, minimum 10-hour rest periods, cumulative trip and flight times, fitness for duty, and Fatigue Risk Management Systems (Huff, 2012). Again, the FAA created this regulation in attempts to help improve safety standards, but placed another burden on the aviation industry (Goll & Rasheed, 2011). The new regulation incorporates the latest fatigue science and sets different requirements for pilot flight time, duty period, rest based on their first flight, the number of scheduled flight segments, and the number of time zones they cross (Huff, 2012).

After deregulation, sustainability and profitability of small aviation businesses declined due to fewer regulations and more competition for airlines (Goll & Rasheed, 2011). Post-9/11, sustainability weakened due to an increase in regulations set by the DHS. Airlines furloughed and laid-off employees to reduce costs (Goll & Rasheed, 2011). Then, airlines hired pilots with fewer flight hours to lower costs, resulting in the Colgan Air crash. As a result, the FAA created new regulations regarding rest periods (Goll & Rasheed, 2011). The aviation industry faced many changes in regulations that all led to a decline in sustainability and profitability (McManners, 2016).

Constraints to training and education. A student's education affects the methods of leadership and sustainability practices used in businesses. In 2014 in the United States, the number of public universities that offer graduate level degrees in business grew to 383 (National Center for Education Statistics, 2014). The lack of

aviation management programs demonstrated a need for education aviation leaders and sustainability. With new leaders enter the workforce in aviation management; many older generations remain active in the industry (McManners, 2016). The aviation industry contains a multitude of different generations.

Lack of education for leadership positions. According to the Bureau of Labor Statistics (BLS, 2012), in May 2011, the United States had an estimated 6,183,820 business leaders. Of these 6 million leaders, only 1% was leaders in the aviation industry (BLS, 2012). In addition, in 2014, 383 public universities in the U.S. offered graduate level business programs, but only six universities offered graduate programs in aviation (National Center for Education Statistics, 2014).

Pavel, Robertson, and Harrison (2012), conducted a similar two-part study on the Dunning-Kruger effect in Southern Illinois University Carbondale (SIUC) University's aviation students. Pavel et al. (2012) indicated that individuals with lower skill or knowledge levels have unrealistic positive images of their capabilities compared to their peers.

Future directions of sustainability. For organizations to promote sustainability in the future, they must examine energy alternatives. In 2016, scientists are working in the fields of biofuels, recycling, technology for energy storage, and alternative sources of energy (Bergthorson & Thomson, 2015). All of these fields require more research and engineering before they will become worthy alternative forms of energy (Köhler et al., 2014).

Current sustainability practices. With few current sustainability practices in place, aviation businesses in the United States will decline (Schmitt & Gollnick, 2016). Businesses commonly burn coal and fossil fuels because of reasonable costs and quantities of resources (Rutkauskas, 2012). The common practice creates excessive amounts of emissions and greenhouse gasses (Rutkauskas, 2012). Global consumption is rising, while organizations and nations look for a more sustainable solution (Gohardani, Elola, & Elizetxea, 2014). If leaders of organizations do not make the change to a cleaner form of energy, customers will purchase from more environmentally friendly organizations like those in the Australia or other countries (Schmitt & Gollnick, 2016).

Renewable fuel alternatives. Biofuel production could reduce the United States' dependence on foreign oil. Biofuels are alternate energy sources derived from plant materials and of other types of biomass (Köhler et al., 2014). Biofuels came into prominent existence as a homegrown alternative to petroleum. Biofuels have seen criticisms and praises. Scientists are investigating the use of energy created from municipal and industrial wastes for biofuel production (Köhler et al., 2014). Recycling is a form of reusing products that are more efficient than producing more products. Recycling or reusing products, such as newspapers, aluminum cans, and plastic containers can reduce products going into the waste streams, thus reducing emissions (Bergthorson & Thomson, 2015). Scientists found ways of converting urban and industrial wastes to produce liquid fuels for other energy applications (Köhler et al., 2014).

Improvements in sustainability technology. Scientists predicted global energy consumptions to increase 40% in the next 20 years, and double by 2050 (Gohardani et al., 2014). Fossil energy resources could meet this requirement through burning coal. CO_2 emissions in the atmosphere would need to accommodate twice their pre-anthropogenic values by 2050 using present technology (Gohardani et al., 2014). These statistics suggest not only a negative impact on the climate, but also significant world competition for these limited resources (McManners, 2016). Energy price increases would require energy intensive commodities like fertilizer or manufacture of steel and metals expensive to produce and sell (McManners, 2016). The prices of energy would also be a geopolitical problem and maintain social consequences, making energy an issue of national security in the future (Gohardani et al., 2014).

Reducing carbon emissions. Scientists are working to develop energy production methods that produce fewer carbon emissions than previous methods (Gohardani et al., 2014). Alternative energy methods require more efficient production methods, recycling or reusing materials, biofuels, alternative sources of energy, and energy storage methods (Köhler et al., 2014). These methods might give organizations a more sustainable future than current methods.

Biofuels as an alternate energy source. In 2007, the CEO of International Air Transport Association (IATA) requested a zero emission future for aviation (Köhler et al., 2014). Corn-made ethanol seemed to be the key to the biofuel question (McManners, 2016), then grain prices increased. Again, scientists must look for a sustainable biofuel. Scientists discovered alga as a biofuel alternative for aviation. For the same volume of

fuel, algae-based fuel would produce approximately 13% of the CO2 released by current petroleum based fuel systems (Nair & Paulose, 2014). Algae biofuels would also take less space for production. Production would take place in algae nurseries that do not take up large plots of land to harvest as compared to other fuel alternatives (Nair & Paulose, 2014).

Transition

Small aviation businesses are dynamic and need to align current business strategies with sustainability strategies (McManners, 2016). The purpose of this qualitative case study was to use semistructured interviews to identify the success strategies used by leaders in small aviation businesses for profitability. The sample include three participants in leadership positions at small aviation businesses located in Tennessee. The interviews allowed insight into lived experiences and personal perceptions of the participants in hopes to develop success strategies for small ablation business profitability. Small aviation business leaders can then use the strategies obtained from this study for future endeavors.

The significance of the applied business problem in the study may be applicable not only in terms of profitability, but also in terms of sustainability for small aviation businesses. Section 2 contains a description of the pertinent qualitative inquiry methodology, overall approach, and rationale. Section 2 will include the design of the study, research approach, interview questions, data gathering procedure, and data analysis. Section 3 will contain the finding of the research study. Section 3 will include

an overview of the study, presentation of the findings, practical applications, implications for social change, recommendations of actions, and reflection of the study.

Section 2: The Project

Aviation businesses are part of the dynamic aviation industry with ever-changing rules and regulations (McManners, 2016). Profitability of small aviation businesses are vital for continued success during changes in rules and regulations. Tennessee contains 142 heliports and 74 public, general aviation airports (FAA, 2015). Section 2 includes the purpose of this project with an in-depth discussion of the data collection and analysis method. Section 2 includes: (a) the purpose statement, (b) the role of the researcher, (c) the participants, (d) the research method and design, (e) the population and sampling procedures, (f) the data collection procedure, (g) the data analysis technique, and (h) a discussion of the reliability and validity. The purpose statement explains the purpose of the study and its significance.

Purpose Statement

The purpose of this qualitative multiple case study was to explore what strategies aviation business leaders use to reduce airport operating expenses to improve profitability. The target population consisted of 3 aviation businesses located in Tennessee, incorporating aviation business leaders who use strategies to reduce airport operating expenses to improve profitability. I interviewed three aviation business leaders, completed a thorough review of the literature, and explored the firms' documents to methodologically triangulate the data. The implication for positive social change includes the potential for small aviation businesses to reduce airport operating expenses to improve profitability. Aviation business leaders, employees, members of the community,

and patrons could benefit from reduced operating expenses by allowing for additional jobs, decreasing prices, and additional revenue to invest in the local community.

Role of the Researcher

In a qualitaive case study, the researcher is the data collection instrument (Covell, Sidani, & Ritchie, 2012). The role of the researcher includes being the designer of the study according to Walden University guidelines. The role of the researcher also includes selection of the appropriate research methodology and design, recruitment of participants, and collection and analization of the data. In accordance with those guidelines, approval of the research proposal from the Institutional Review Board (IRB) occurs prior to executing interviews.

Research operations include the implementation of ethical and communication limitations, known as best practices with the participants, while maintaining the confidentiality and anonymity of all participants (Cairney & St Denny, 2015; de Jong, Van Zwietan, & Willems, 2012). All email communications, document communications, and telephone communications associated with the doctoral study are under direct researcher control.

A system of self-regulation and oversight requires a developed sense of assurance and accountability from all participants (Leedy & Ormrod, 2013). This study required an understanding of the challenges of profitability in aviation businesses, and I asked only respectful and meaningful questions in my interviews with participants. To maintain the guidelines established by the Belmont Report, participants must give consent prior to any participation. Cooper and Schindler (2013) suggested explaining that the participant will

have access to the findings of the study. This study included all of this information in the letter of consent that all participants read and signed (see Appendix B).

Integrity in research leads to confidence in the accuracy of the information given by a participant (Houghton, Casey, Shaw, & Murphy, 2013). The justice, beneficence, and respect in research relates to the treatment and conditions of participants in research (Office of the Secretary 1979). Participants involved in research must receive assurances that researchers will act responsibly, as explained in the Belmont Report (Office of the Secretary, 1979). The Belmont Report includes regulations for the protection of human subjects (Office of the Secretary, 1979). The Belmont Report contains three primary areas of application including informed consent, assessment of risks and benefits and the selection process of subject for the study (Office of the Secretary, 1979).

Professional relationships with participants are conceivable when the research question pertains to a generalized problem or the researcher's own profession (Lance, Verreynne, & Griffiths, 2012; Swar, Moon, Oh, & Rhee, 2012). I am not a manager at a small aviation business in 2016, but 8 years of personal experience produced an extensive research network of personal, professional, and educational contacts as well as collaborations, and lived experiences. The study's participant pool was restricted to leaders of small aviation businesses located in Tennessee.

Qualitative researchers should minimize error and mitigate researcher bias (Leedy & Ormrod, 2013). To mitigate bias, the researcher should remain in a state of epoche, or remain free from judgments about the phenomenon (Chan, Fung, & Chien, 2013; Moustakas, 1994). I remained in a state of epoche and controlled my reactions to the

participants' responses to mitigate bias. Qualitative researchers rely on specific protocols when conducting interviews, this achieves commonality and aids in the consistency and reliability of the data (Foley & O'Conner, 2013) I followed the same protocol with each participant to mitigate personal bias.

Participants

I used a purposeful sampling method for the study until the data was saturated, as discussed by Palinkas et al. (2015). Saturation occurs when participants of interviews do not provide any additional information (Walker, 2012). The participant selection process included 45 qualified small aviation business managers for the participant pool. A government website called the National Plan of Integrated Airport Systems (NPIAS) was a target used to gain access to potential participants. Tennessee small aviation business leaders manage 142 heliports and 74 public, general aviation airports including the busiest cargo hub in the nation (FAA, 2015).

First contact with participants was the invitation to participate email (see Appendix C). Then, contact with each potential participant occured with an email welcoming him or her to the study process (see Appendix D). Later, a second email (see Appendix E) included attachments with instructions and information, along with the informed consent form (see Appendix B). After the participant accepted the invitation to participate in the study, and returned the signed electronic informed consent form (see Appendix B), I began data collection.

The selection criteria for participants in this study included five major qualifications. These qualifications were that participants were (a) a manager at an

airport, (b) had at least 3 years of experience, (c) had experience with implementation of profitability strategies, (d) were in a management position at a small aviation business located in Tennessee, and (e) were the available to be contacted by phone or in person.

Following the participant screening process, I established a working relationship with the participants through unstructured email and telephone communications. Open communication, a willingness to answer all questions, and assurances of security and confidentiality led to a trustful, friendly, working environment (Barabino, Deiana, & Tilocca, 2013; Englander, 2012; Lohle & Terrell, 2014). Participants have the right to withdraw at any time and demonstrated the willingness to participate in the study, as prescribed by Dincer and Dincer (2013); Kutsch, Tyson, and Hall (2014); and Mitchell and Wellings (2013).

Ethical research protocols include a comprehensive disclosure of all research practices, policies, and information that lead to a trusting atmosphere (MacKenzie, Buckby, & Irvine, 2013; Wisdom, Cavaleri, Onwuegbuzie, & Green, 2012; Yin, 2012). The interview recording and transcription process took place using a digital recorder; all other information transfer is in writing. All data relevant to the research project is on a single password-protected system, backed up for security purposes.

In similar studies, MacKenzie et al. (2013) demonstrated purposeful sampling to explore business research in virtual worlds. Pasian, Sankaran, and Boydell (2012) employeed purposeful sampling to analyze emergent factors in project management. Turkson and Coffie (2013) utilized the purposeful concept in their study of business organization desicision-making.

There were minimal risks for participants during the interview process. There were no anticipated psychological, economic, professional, or physical risks to the participants. During the interview process, participants received no more additional stress than one would expect in a private conversation in daily life. The only risk was giving up personal time for interviews and additional time to validate transcripts. Member checking was done throughout the interview process to validate the observations of the researcher with the lived experiences of the participant.

The rule for determining suitable sample size in case study research is to find a point of saturation (Bernard, 2013). Saturation means continuous redundancy occurred or no new data provided further insight (Lohle & Terrell, 2014). Data saturation occurs after data collection where no new information emerges (Bowen, 2008).

Research Method and Design

In qualitative research, the researcher seeks to answer *how* and *why* to selected research questions (Cooper & Shindler, 2013). Yin (2011) stated that researchers using qualitative research methods obtain information through participant interviews, observations, documents, and other materials.

Research Method

In this study, I used the qualitative research method using the case study design to explore the profitability strategies used by managers of aviation businesses located in Tennessee. All qualitative methods focus on a phenomena that occur in natural settings, and involve studying the phenomena in all their complexity (Leedy & Ormrod, 2013). In qualitative research, the researcher takes a holistic view of philosophies, events, and

procedures, rather than using predefined variables, and develops a comprehensive understanding of the phenomenon under inquiry (Bryman & Bell, 2015). In qualitative research, researchers explore numerous forms of data from various angles to construct a meaningful illustration of a complex and multifaceted situation (Leedy & Ormrod, 2013). A qualitative methodology was appropriate for this study because the research question involved an exploratory investigation that focused on behaviors and strategies used by small aviation business managers.

Several similar studies indicate that the qualitative research method is appropriate for this type of study (Leedy & Ormrod, 2013). Marsh (2013) used a qualitative approach to enter dialog with participants to extract meaning for lived experiences. Marsh (2013) conducted a study to generate theory from the experiences of others, not the researcher. Yap and Webber (2014) performed another qualitative study to investigate and analyze the perceptions and lived experiences to discover leadership practices involved in creating positive corporate culture. Lu et al. (2014) conducted a qualitative study to determine the reusability of typical electrical products to help improve profitability.

The qualitative method enabled me to gain insight about a particular phenomenon, develop new concepts and perspectives about the phenomenon, and discover the problems that existed within the phenomenon. In their qualitative studies, Marsh (2013), Yap and Webber (2014) and Lu et al. (2014) gained insight, developed new concepts and perspectives, and discovered problems that exist within a phenomenon. Qualitative research methodology involves the attempt to explore the way things are and how other perceives them (Cooper & Schindler, 2013). The qualitative method was appropriate for

this study, as this study focused on human characteristics and factors related to the research question. Conventionally, quantitative research methods focus on using a random sample of a broad population (Leedy & Ormrod, 2013).

Quantitative and mixed methods methodologies were not appropriate for this study. Quantitative research is a numerical study based on data to find a relationship between data and observations (Leedy & Ormrod, 2013). A quantitative methodology was not appropriate for the study because the purpose of the study was to explore successful profitability strategies for leaders in aviation businesses (Cooper & Schindler, 2013). A mixed methods study involves combining the phenomena of qualitative research and the technical aspects of quantitative research into one encompassing study (Cooper & Schindler, 2013). In mixed methods research, the researcher researches, collects, and analyzes quantitative and qualitative data (Cooper & Schindler, 2013). Quantitative and mixed-method research contain the component of testing of fixed hypotheses and was not relevant to my exploratory research approach (Echambadi, Campbell, & Agarwal, 2012; Houghton, Murphy, Shaw, & Casey, 2015; Leedy & Ormrod, 2013).

Research Design

I used the qualitative case study approach for this study. Researchers use the case study approach to describe and understand a particular case (Hetherington, 2013). Researchers can also use the case study research design approach to develop conceptual categories to link to a theory or describe in depth issues from a larger problem (Hetherington, 2013).

When using the case study design, a researcher may choose the multiple case design or a single-case design. The multiple case design includes two or more case studies in which the researcher deliberately tries to test the conditions under which other researchers may replicate the same findings (Yin, 2014). Yin (2014) suggested that the use of a multiple case study might require a significant investment of time and resources beyond the means of a single student or research investigator. The multiple-case study design was suitable for this study because I explored profitability strategies through interview data and company documents from small aviation business owners.

In this study, I explored multiple cases of profitability strategies for small aviation businesses. McManners (2016) suggested that aviation businesses are different from regular businesses in that they are susceptible to changes based on various factors beyond forecasted control. In this qualitative case study, I explored profitability in small aviation businesses.

In qualitative case study research, researchers attempt to gain particular insight into the social research topic (Leedy & Ormrod, 2013). Case study researchers rely on lengthy interviews and observations with selected sample participants (Yin, 2011). I used the qualitative case study design for the study because researchers focus on analyzing particular cases of profitability in small aviation businesses (Yin, 2014). I analyzed profitability strategies in small aviation businesses through researched cases and data from participants; therefore, I selected the case study design for this study. The case study design involves the researcher studying a particular person program, or event in depth for

a defined period of time (Leedy & Ormrod, 2013). Data saturation will occur when interview participants do not provide any new information (Walker, 2012).

A similar study included determining the perceptions of ethical leadership in the corporate environment through the lived experiences of training department staff using open-ended questions and follow-up questions (Yap & Webber, 2014). Open-ended questions allow participants to talk freely and create a sense of trust (Yap & Webber, 2014). Another qualitative study included a focus on ethical decision-making in the business environment (Marsh, 2013). Martinov-Bennie (2012) conducted a case study on business sustainability assurance using open-ended interviews, as did Leszczynska (2012). The researchers of these studies used open-ended questions to obtain the type of data to answer the research question.

The other four design methodologies include phenomenology, ethnography, narrative, and grounded theory (Leedy & Ormrod, 2013). In phenomenological studies, the researcher relies on the lived experiences of others (Leedy & Ormrod, 2013). The phenomenological design would not provide the insight into the case of profitability in small aviation businesses. A more in-depth study was required for this problem. In ethnography design, researchers explore a group that shares a common culture for months or often years (Leedy & Ormrod, 2013). Ethnography design would not provide the right data for this study because it included lengthy fieldwork and observing groups and cultural interactions (Moustakas, 1994). Ethnography is a cultural study and the focus of study is on a single case rather than culture (Bernard, 2013). In narrative research design, researchers identify the life stories and experiences as told chronologically (Leedy &

Ormrod, 2013). The narrative design was not appropriate because it focuses on biographical information (Egginton, 2012). Grounded theory design was not applicable for this study because it included concept and theory generation (Hussein, Hirst, Salyers, & Osuji, 2014). This would have not been useful in exploring profitability strategies in small aviation businesses.

Population and Sampling

In any research study, it is important to understand the population that is most appropriate for the study (Yin, 2011). The population of this study consisted of small aviation businesses managers located in Tennessee. Maurice and Burleson (2012) stated that the population for a study should be representative of the entire population. The chosen population was appropriate for the study because the population must be representative of small aviation managers located in Tennessee, as specified in the problem statement. The study population included small aviation business managers including FBO managers and airport managers. According to NPIAS, Tennessee contains one of the largest populations of small aviation businesses in the United States; therefore, the population is appropriate for the study (FAA, 2014).

Sampling Method

I used a purposeful sampling method in this study. For a purposeful sampling method, researchers use their own judgment to select participants from the population based on culture, communication, and technology (Cooper & Schindler, 2013). The goal of purposeful sampling is to ensure the population and sample produce the most plentiful, relevant, and valuable information to address the research question (Leedy & Ormrod,

2013). This method of sampling was appropriate for this study because sampled participants must be successful business aviation leaders with current profitability strategies (Cui & Wang, 2013).

The eligibility criteria for this study was (a) a manager at a small aviation business, (b) have at least 3 years of experience, (c) have experience with implementation of profitability strategies, (d) participants must have been in a manager position in Tennessee, and (e) participant must have the availability to be contacted by phone or in person. These criteria ensured a selected sample of small aviation business managers with knowledge of profitability concepts (Cooper & Schindler, 2013). To gain access to participants, NPIAS lists all of the names and the contact information for the population (FAA, 2015). The NPIAS maintains a list of all current airports, airport managers, and aviation businesses in Tennessee. The NPIAS and all of its contents are available to the public (FAA, 2015). The sample consisted of three managers of successful small aviation businesses leaders located in Tennessee who met the sample criteria. I asked participants more questions to saturate the data until there is not new information, themes, or coding as pointed out by Fusch and Ness (2015). My strategy was to start by emailing and calling each small aviation business manager.

Sample Size

To determine the appropriate sample size is to find a point of saturation, or the point at which no new data provides further information on the topic (Bernard, 2013; Lohle & Terrell, 2014). The objective of creating a sample size is to estimate an applicable number of participants for the study design (Rao, 2012). To gain insight into

profitability strategies used by small aviation business managers required substantial information about stratgies and implementation to enhance growing aviation businesses (McManners, 2016).

The samples size should include participants until the data is sufficient to meet saturation standards, or the data becomes repetitive (Dworkin, 2012). A sample size of three participants with the use of methodological triangulation and member checking was sufficient for this study. The number of participants was justified by Yin (2011) that narrower levels of data collection are often best for studies of complex topics requiring multiple types of responses. Qualitative research focuses on the meaning of life events not just the occurrence of these events (Yin, 2011). Participant experience and knowledge determine the value of the data, and saturation of the data (Lohle & Terrell, 2014).

Researchers use both triangulation and saturation to ensure the validity of information (Bowen, 2008). Researchers can achieve triangulation by using more than one method to collect data (Fusch & Ness, 2015). Using a multiple case design enabled me to use methodological triangulation through the review of academic literature, interviews, and review of company documents.

The researcher saturates the data is saturated when the same responses appear with little or no variation (Bowen, 2008). Researchers should research the topic first and achieve multiple viewpoints then conduct interviews. After the researcher completes a thorough review of the literature, then he or she conducts interviews to learn about lived experiences of participants (Bowen, 2008). The researchers should continue to conduct interviews until they collect data and themes begin to emerge (Bowen, 2008). After

themes begin to emerge, the researcher should conduct enough interviews to achieve redundancy in the data (Dworkin, 2012). Data saturation occurs after the researcher conducts interviews and no new information emerges (Bowen, 2008). If new data or information occurs, then the data is not saturated and the researcher asks additional questions of the participants (Marshall & Rossman, 2016). After the data was saturated, I coded the data themes as indicated by Bowen (2008). I then compared and contrasted the data with the research collected in the literature review and review of documents for methodological triangulation and data saturation.

Ethical Research

Upon permission from the Walden Institutional Review Board, I ensured compliance with the ethical research process. In studies in which human subjects are participants in the study, the researcher must protect the participants from four main ethical issues. According to Leedy and Ormrod (2013), four ethical principles of qualitative research are (a) protection from harm or confidentiality, (b) honesty, (c) written informed consent, and (d) right to privacy. Leedy and Ormrod (2013) suggested that the treatment of participants is critical and must be at the forefront of the research decisions. The compliance with ethical standards was critical to the successful completion of the study.

Participation was strictly voluntary, and did not include children or minors. I advised participants that they could withdraw from the study at any time during the study without explanation via email, phone call, or text. There was not an incentive system for this research; participation in the research was the incentive to participate. To ensure

confidentiality, the identity of participants remained undisclosed in this study. For this study, a nondisclosure agreement was not necessary because interview participants discussed their lived experiences regarding profitability in small aviation businesses. I will retain the data according to Walden University standards. Data related to the study will remain in a locked file cabinet in my office for a period of 5 years and destroyed after the 5-year period. In the research report, I replaced names and identities with generic classification labels of Participant 1, Participant 2, and so forth.

Eligible candidates received an email or phone call invitation to participate in the study. All participants received copies of the informed consent form (see Appendix B) and a detailed description of the nature, extent, and purpose of the study. Similarly, Lohle and Terrell (2014) provided an informed consent letter to study leaders in project management. White and Fortune (2012) acquired 11 EPA consent letters to start designing a bridge.

Research participants also received a brief explanation of the benefits of the research results to their population and business. The consent form (see Appendix B) includes details about expectations from the participants, a statement of consent, a statement on confidentiality, a description of the voluntary nature of participation, and contact information in the event the participants have questions about the study. I assured participants of the confidentiality of their names and the names of their organizations. Interested participants may obtain a completed copy of the research study.

I will store the signed informed consent forms in a lockbox located in my office for 5 years and will save the research data on a secured hard drive for 5 years. I will

retain the hard copies of any raw and analyzed data in the secure lockbox for a minimum of 5 years before deleting the electronic data and destroying the hard copies. Data collection began after Walden University Institutional Review Board (IRB) approved this study with IRB approval number 06-13-16-0321578 for research. The study and the sources included documentation and interviews. I maintained honesty and respectful practices during all research activities and assumed all participants responded honestly. There were no known risks for voluntary participation in this study. A sample of the informed consent form is located in Appendix B. The multiple case study design was appropriate for this study to gain insight into the phenomenon of profitability in small aviation businesses.

Data Collection Instruments

Qualitative researchers are an instrument for data collection according to Leedy and Ormrod (2013). In this study, I was the instrument. I used real-life encounters and the five senses to gather data about the research question. An implicit part of qualitative research is the validity and reliability of data collection from documentation and interviews (Moustakas, 1994).

The data collection method involved interview questions (see Appendix A) that were in alignment with the research question. A case study captures and interprets participants' words and is similar to other procedures used in qualitative studies (Yin, 2011). Data used for case studies has six possible origins. Researchers gather data from two of the six sources; documentation, archival records, interviews, direct observations, participant-observation, and physical artifacts (Yin, 2014).

Understanding data is possible by interpreting the data into information to obtain answers to the research questions (Leedy & Ormrod, 2013). Obtaining primary data from the experiences of human participants allows the researcher to gather themes and patterns with the intent of answering the research question (Yin, 2011). Statistical scoring methods are available to analyze quantitative data; however, the process of data scoring is not relevant to qualitative research (Soter, Connors, & Rudge, 2012). Scoring is not applicable, and the qualitative case study did not include scoring.

My interview questions (see Appendix A) are in alignment with the overarching research question. According the Leedy and Ormrod (2013), reliability of the data collection occurs when the data collection process is consistent, stable, and not self-contradictory. By following an interview script, I ensured stability and reliability in the data collection. This repeatable interview process allowed for consistent collection of the experiences of interviewees. The interview questions were substantive and required the participants to elaborate their responses. There were no variables or hypotheses as part of this study. This study was a qualitative case study design. The participants were three small aviation business leaders.

According to Rubin and Rubin (2012), the researcher should use semistructured interviews to obtain knowledge on a precise topic with a prepared number of questions. The data collection method consisted of personal face-to-face interviews that occurred at a time and location that was convenient for each participant. The semistructured questions helped to explore profitability strategies in aviation businesses and to identify potential improvements to profitability in aviation businesses. Dincer and Dincer (2013)

and Englander (2012) suggested that semistructured interviews are appropriate when exploring lived experiences of the participants.

Reliability and validity determine the extent to which researchers learn something from the phenomenon (Leedy & Ormrod, 2013). Reliability and validity reflect the degree of error in the measurements of a study (Yin, 2014). For this study the insubstantial phenomena, profitability in aviation business, participants' responses might have been subject to memory, prejudices, and interpretations.

To ensure accurate descriptions and interpretations, I will used reflexivity and member checking with study participants to verify the accurate descriptions and interpretations of the results. Member checking is a participant validation technique used to improve the reliability, validity, accuracy, and credibility of a qualitative study (Harper & Cole, 2012). Member checks allow participants to confirm that interview summaries accurately reflect their experiences, feelings, and views (Harper & Cole, 2012). Participants reviewed and validated the transcribed interpretation of their interview.

In a similar study, Gholami (2012) used the semistructured interview process to collect data regarding risk factors in out sourcing IT projects. Nixon and Pillay (2013) applied a semistructured approach to investigate politics and leadership. In a third similar study, Chan et al. (2013) used a semistructured interview method guided by open ended questions.

Data Collection Technique

Yin (2014) stated that the objective of qualitative case study research is to explore the lived experience of a phenomenon. In case study research, the researcher is

responsible for determining the most effective technique to obtain data about the phenomenological experiences of the participants (Leedy & Ormrod, 2013). Interviews are an effective data collection technique that plays a principal role in the data collection of qualitative research (Moustakas, 1994). Moustakas (1994) noted repeatability and consistency in a data collection technique increases the dependability and relevance of each event.

The participants of the semistructured interviews were leaders of aviation businesses located in Tennessee. Each interview question given to each participant was consistent to ensure the dependability. I recorded the interviews using a digital recording device upon approval of each participant and took notes throughout the interview. I will store the recorded responses and transcribed responses for the required period of 5 years in hard copy and electronic formats.

The following research procedures applied to the qualitative study. Participant contact was by telephone or by email throughout the entire process of this research project. This study was using humans, but no physical contact of any kind between any of the participants or by any participant and researcher. The participant maintained full control of the interview process and could stop the process at any time without explanation. The interviews transpired with honesty and respect to the participants. All participants signed the consent form stating they understood and agreed to the conditions prior to engagement in any interview process. Open-ended interview questions provided flexibility and an opportunity for clarity; member checking occured to ensure validation of the participant and the interviewer.

The interview process involved using six open-ended questions to explore each participant. Collecting data by recording each interview and transcribing each audio file to textual formatted files (Ng et al., 2013) allowed storage of data from each participant in separate files for analysis. Additionally, notes from each interview are included in each file. Data collection included responsible actions applied to the safeguarding of each participant's anonymity and security. The research data will remain in storage on a secure flash drive for 5 years (Eftekhari & Akhavan, 2013; Harnish, 2012; Herteliu & Mihai, 2014; Lohle & Terrell, 2014).

The participants of the semistructured interviews were leaders of aviation businesses located in Tennessee. Each interview question asked of each participant were also consistent to ensure the dependability. I recorded the interviews using a digital recording device upon approval of each participant and took notes throughout the interview. I will store the recorded responses and transcribed responses for the required period of 5 years in hard copy and electronic formats.

After the interviews were complete, the recorded and transcribed interviews will remain on a password-protected laptop in my office. I made audio recordings using a digital recorder and this allowed me to obtain details of each participant’s voiced experiences. I used Dragon Naturally Speaking to transcribe the interviews and stored them in a Microsoft Word document. The data analysis activity involved coding words, sentences, and phrases from the participants’ responses to the questions. Atlas.ti qualitative is an analytical tool used for data analysis. Harnish (2012), Herteliu and Mihai

(2014), and Lohle and Terrell (2014) used similar reporting structures qualitative analytical software tools to generate reports and spreadsheets.

A similar study conducted by Hovlid, Bukve, Haug, Aslaksen, and von Plessen (2012) explored how theoretical framework can guide the sustainability of quality improvements to organizations using in-depth semistructured interviews of employees. Another similar study conducted on business sustainability by Høgevold and Svensson, (2012) used a series of semistructured interviews with top-level executives. A study conducted by Gadenne, Mia, Sands, Winata, and Hooi (2012) investigated the relationship between organizations' sustainability performance management and sustainability performance using semistructured interviews of senior executives.

I addressed threats to validity and maintained the validity of raw data at all times. Strategies for maintaining validity included looking for signs of personal bias by the participants, including body language, tone of voice, and nervousness (Moustakas, 1994). Cronin-Gilmore (2012) suggested using in-depth questioning techniques to provide clarity to questions, and help to maintain validity. Assessing reliability of the instrument is critical to the success of any study (Leung, 2015). The processes that I used to assess the reliability of the study are field notes, observations of participants, and themes that emerged from interview questions (Moustakas, 1994).

To ensure the data is valid, researchers saturate the data. Data saturation takes place during the course of the interview when no new information emerges (Fusch & Ness, 2015). This ensures no new themes will emerge when coding the results (Fusch & Ness, 2015).

Researchers use member checking to ensure the maximum reliability and validity (Harper & Cole, 2012). Member checking involves conducting the initial interview, then interpreting what the participant shared, and then sharing the interpretation with the participant for validation (Harper & Cole, 2012). The participant might add additional information to the synthesis of the interpretation. By using a small census sample of small aviation business leaders, I narrowed the scope of participants in this case study to ensure validity through member checking to obtain in-depth data and reach data saturation.

Data Organization Technique

After the Institutional Review Board approved this study, I contacted the participants for the study. Participants were encouraged to discuss at length their experiences in profitability in aviation businesses. Then the transcription process began with the information obtained in these interviews as well as audio record of the information as allowed by each participant. For verification of data collection completeness, I compared the transcribed data with the recorded audio. Next the compilation process began with the transcriptions of the interviews in Microsoft Word, and organized the responses in themes. Then, content analysis took place using Atlas.ti, a qualitative content analysis software tool specifically designed to analyze and assist in the interpretation of text (Paulus & Bennett, 2014). Finally, the upload process began with inputting raw data into Atlas.ti and thematic analysis took place. Qualitative analysis requires grouping and regrouping raw data into themes and subthemes and then

organizing them into classifications (Leedy & Ormrod, 2013). All raw data remains in a locked file box for 5 years and will then be disposed.

In a similar study, Shaw et al. (2013) used Atlas.ti to code audio-recorded qualitative interviews for data analysis. In another study, Tallman et al. (2016) used Atlas.ti to code qualitative interviews with hospital patients. Feldstein et al. (2013) used Atlas.ti to code and generate reports from qualitative in-depth interviews

Data Analysis

Upon completion of the interviews with the three participants from aviation businesses located in Tennessee, I then imported the interview data into the Atlas.ti software. The information collected included the strategies used by leaders in aviation businesses. Atlas.ti allowed me to conduct a detailed analysis from the imported data collected in the transcribed interviews (Sinkovics & Alfoldi, 2012).

Data analysis for this study allowed me to address the research question logically and sequentially with findings resulting from the study by using themes. The focus of this study was to identify, categorize, and interpret themes relating to profitability strategies in aviation businesses. The interview questions served as a guide to the research and compiled data from participants.

A similar study conducted by Mulready-Shick and Flanagan (2014) used themes for data analysis for the interactions and behaviors indicating sustainability in education. Another similar study conducted by Chard, Mallen, and Bradish (2012), used themes and sub themes for data analysis to determine environmental sustainability in sports management is a topic of concern. Schechter and Ganon (2012) also used themes for data

analysis in a study exploring sustainability of a collective-learning-from-success strategy among employees.

Yin (2014) described the process of data analysis in five steps (a) compiling the data, (b) disassembling the data into groupings, (c) reassembling the data into themes, (d) interpreting the information, and (e) developing conclusions. First, I conducted the interviews, then compiled the data, then used computer assisted qualitative data analysis software (CAQDAS) to help code and categorize text obtained from transcribing the interviews (Yin, 2014). After inputting and defining an initial set of codes, the CAQDAS located all the words and phrases matching these codes and recorded the number of coincidences. The CAQDAS software can then conduct a Boolean search to show how and when one can identify where these phrases occur together (Yin, 2014). Then I studied the outputs to determine the patterns in responses. Rowley (2012) described this process in these four steps (a) organize the data set, (b) become acquainted with the data, (c) classify, code, and interpret the data, then (d) present the data. I analyzed and interpreted the data from the interviews to draw conclusions relative to the problem and research question.

Reliability and Validity

Reliability and validity determine the extent to which something can be learned from the phenomenon. Reliability and validity reflect the degree of error in the measurements of a study (Leedy & Ormrod, 2013). For this study the insubstantial phenomena, profitability in aviation business, participants' responses might have been

subject to memory, prejudices, and interpretations (Leedy & Ormrod, 2013). Research outcomes must be reliable and appropriate for the purpose of a study (Moustakas, 1994). Researchers use both triangulation and saturation to ensure the validity of information (Marshall & Rossman, 2016). Researchers can achieve methodological triangulation by using more than one method to collect data. Data saturation occurs when the researcher obtains the same responses with little or no variation (Marshall & Rossman, 2016). Researchers should research the topic first and achieve multiple viewpoints then conduct interviews.

After the researcher completes a thorough review of the literature, then he or she conducts interviews to learn about lived experiences of participants. The researcher should continue to conduct interviews until they collect data and themes begin to emerge (Marshall & Rossman, 2016). After themes begin to emerge, the researcher should conduct enough interviews to achieve redundancy in the data. The data is saturated after the researcher conducts interviews and no new information emerges.

If after the researcher completes the initial number of interviews without saturation, the researcher conducts more interviews until saturation occurs. This might mean the researcher needs to ask more questions until themes emerge. After the data was saturated, I coded the data based on themes (Marshall & Rossman, 2016). I then compared and contrasted the data with the research I collected in the literature review.

Transferability is keeping the original context of the research so readers can make judgments of the data if the data can be transferred (Houghton et al., 2013). Researchers must provide detailed descriptions for the reader to make informed decisions about the

specific context of the findings. Researchers should place emphasis on thick descriptions including the context, research methods, and examples of raw data (Houghton et al., 2013). For this study, I presented the data to the reader and the reader will determine if the finding are transferable to another context. Rich and vigorous presentations of the findings, along with quotations, also enhance transferability (Houghton et al., 2013).

Reliability

Yin (2011) defined reliability as the consistency of measurement, or the repeatability of measurement. I used checkpoints and recovery points to maintain reliability throughout the research project. The participants validated the data through member checking. Member checking occurs during the interview process to validate the data, to align my perceptions with the actual experiences of the participant to ensure that I have captured the meaning. Following the transcription of an interview, I synthesized the data and emailed a copy of the synthesis to the participant to see if the data is valid and allowed the participant to make additions (Houghton et al., 2013; Lance et al., 2012).

Validity

Leedy and Ormrod (2013) defined validity to be the best approximation to the truth or falseness of a given situation, proposition, or conclusion available to the researcher. I gained approval from the Walden University Institutional Review Board for the interviews and questions. The validation process is critical to identifying foundational structure and answering the research question (Lohle & Terrell, 2014).

In qualitative research, internal validity is credibility achieved through the precise descriptions or interpretations of the human experiences that people who share similar

experiences would recognize (Burchett, Mayhew, Lavis, & Dobrow, 2013). I reviewed the data noting the similarities and differences from the study participants. To ensure accurate descriptions and interpretations, I used member checking with study participants to verify the accurate descriptions and interpretations of the results.

One threat to the internal validity of a qualitative study is bias. I hold personal insights into the subject of profitability and sustainability in aviation businesses; therefore, I reserved self-disclosure for the appropriate time during the interview process (Leedy & Ormrod, 2013). Opinions and strategies of other leaders in aviation businesses are important; therefore, I did not let my opinions interfere with the responses of the participants.

Another threat to internal validity could be the interpretation on the responses. The responses must undergo erroneous interpretations and coding, this error could misrepresent the participants' expressions and feedback. The researcher restates the question or ask the participant to restate his or her response. To reduce the reactivity during the qualitative interview process, I developed open-ended, non-leading questions.

In qualitative research, external validity is transferability (Burchett et al., 2013). Transferability is the method of applying research findings or methods from a particular group to another group. Alternatively, how readers determine the degree of applicability of an inquiry to other situations (Burchett et al., 2013). To establish transferability, I provided detailed descriptions by including the population, details of the environment, and geographic boundaries.

Leedy and Ormrod (2013) suggested qualitative external validity involves trustworthiness, credibility, and authenticity. To ensure validity throughout the study, the study includes (a) methodological triangulation, (b) member checking, (c) disclosing and monitoring researcher bias, and (d) discrepant data (Leung, 2015). Triangulation is a method used to strengthen the validity of a qualitative study (Leung, 2015). The incorporation of triangulation helps to support the validity of the qualitative case study (Moustakas, 1994). Triangulating the data sources involves comparing the data with other sources to achieve saturation (Denzin, 2012).

To ensure confirmability and creditability I used the member checking method. According to Harper and Cole (2012), member checking is a participant validation technique used to improve the reliability, validity, accuracy, and credibility of a qualitative study. Member checks allow participants to confirm that interview summaries accurately reflect their experiences, feelings, and views (Harper & Cole, 2012). Participants reviewed and validated the synthesis to ensure I captured the meaning of the interview responses.

By using the qualitative method of exploration, I was able to gain greater insight into the profitability strategies used by leaders in aviation businesses. This differs greatly from the quantitative method in that a researcher can obtain lived experiences from participants. The qualitative method benefits this study through actual experiences and strategies used by leaders in aviation businesses in Tennessee.

Transition and Summary

Section 1 contains the problem statement, purpose statement, the nature of the

study, and case study design. Section 1 also included the (a) interview questions (see Appendix A), (b) conceptual framework, (c) assumptions, (d) limitations, and (e) delimitations of the study. Section 1 concludes with the significance of the study and a review of professional and academic literature. The literature review included an emphasis on previous literature relating to the following sections and subsections (a) systems theory, (b) sustainability theory, (c) aviation businesses, (d) perceived small business success strategies, and (e) perceived problems in aviation businesses.

Section 2 contained (a) the purpose of the study, (b) the role of the researcher, (c) the participants, (d) a description of the research methodology and design, (e) the population and sampling of the study, (f) ethical research, (g) data collection instruments and techniques, (h) data organization technique, (i) data analysis, and (j) reliability and validity. Section 3 will begin with an introduction including the purpose statement, research question, and findings. Section 3 will include application to professional practice, implications for social change, recommendations for action and further study, and researcher reflections.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple-case study was to determine what strategies small aviation business managers need to reduce or control operating expenses to remain profitable. The qualitative method and case study design was appropriate for this study because Kebede and Kebede (2016) noted that this method allows the researcher to focus on participants' lived experiences and perceptions of the problem. My goal in this study was to answer the research question: What strategies do aviation business leaders use to reduce airport operating expenses to improve profitability? McManners (2016) suggested that aviation businesses are unlike other businesses in that they must rely on fuel sales for operation.

I conducted semistructured interviews with three profitable small aviation business owners in Middle Tennessee. Semistructured interview questions led the participants and allowed for an exchange of their perceptions and relevant experiences (Ohura, Takada, & Nakayama, 2014). I scheduled and conducted the interviews with participants using questions that allowed participants to talk freely about controlling or reducing airport operating expenses.

Methodological triangulation of the data included the comparison of the transcribed interview data and the member checking results with my analysis of company documents as recommended by Leoni (2014). I did not use actual names of the participants or the names of their respective small aviation businesses. Once the data were saturated, the data were entered into the computer-aided qualitative data analysis

software Atlas.ti to aid in discovering key themes and strategies to answer the overreaching research question. Based on the methodological triangulation of the participant interview data, the member checking data, and my analysis of company document data, the following emergent themes were identified: buying or purchasing, customers, employees, equipment, and leadership.

Presentation of the Findings

The overreaching research question that guided this study was: What strategies do aviation business leaders use to reduce airport operating expenses to improve profitability? I conducted the research using a qualitative multiple case study approach. The case study design allowed me to identify, explore, and interpret the data obtained from the participants on their viewpoints and experiences. Hyett et al. (2014) specified that the case study design enables a rapport between the researcher and the participants. I established a rapport with interview participants while maintaining the interview protocol to mitigate any bias and to enhance the reliability and validity of the study results. Participants scheduled the interviews at a time that was convenient for them in a location void of distractions.

To ensure confidentiality, I replaced the names of the participants with the pseudonyms Participant 1, Participant 2, and Participant 3. I also referred to each company by the types of goods or services they provide to their customers: an FBO, an aircraft maintenance facility, and an aircraft manufacturing facility. I also changed words or phrases that might refer to another company or person mentioned by the participants.

Methodical triangulation was accomplished through data collection from the interviews, member checking data, and my analysis of company documents. Torrance (2012) posited that the use of triangulation enhances the rigor of research results. Babenko-Mould, Ferguson, and Atthill (2016) also suggested incorporating methodical triangulation to ensure validity and rigor in a study. I incorporated methodological triangulation by using interview data, member checking, research material, and my analysis of company documents. Harvey (2015) suggested the member checking process to ensure the correct interpretation of participant viewpoints. I conducted member checking to ensure I captured the essence of the viewpoints of each participant. After member checking, no new codes or themes emerged.

I developed initial codes using the transcribed interviews, member checking data, and my analysis of company documents using CAQDAS Atlas.ti. The five themes are located in Table 1 and emerged from the content analysis process that included: (a) buying and purchasing power, (b) being customer focused, (c) having the right employees, (d) having the right equipment, and (e) leadership. I then compared the content of the literature review and the conceptual framework with the themes. My analysis and interpretations of the findings answered the research question and aligned with the conceptual framework for this study. The conceptual framework used for this study was systems theory and sustainability theory. The findings confirmed results found in the literature review through the themes of (a) purchasing or buying power, (b) being customer focused, (c) having the right employees, (d) having the right equipment, and (d) leadership.

Table 1

Nodes Related to Themes

Themes	Sources	Frequency
Buying/ Purchasing Power	3	40
Being Customer Focused	3	54
Having the Right Employees	3	41
Having the Right Equipment	3	34
Leadership	2	38

Participants and their Small Aviation Businesses

The participants of this study included small aviation business owners and managers who were (a) an FBO manager at a regional airport, (b) an aircraft maintenance operation owner, and (c) an aircraft manufacturing company owner. Each strategy that the small aviation business leaders used comes together as a whole to determine their strategies for reducing or controlling operating costs for profitability. All of the small aviation businesses in this study are located in Middle Tennessee and the interviews took place in a private office at each business. I asked each participant six semistructured interview questions (Appendix A). All three of the participants responded to all six questions. Concluding the interview, I collected their company profit and loss statements for my analysis. In closing, I thanked them for their participation and ensured them of the confidentiality of the study. Then I transcribed the data using Dragon Naturally Speaking and checked the accuracy of the transcription. I conducted member checking with the participants. Houghton et al. (2013) stated that member checking is necessary to ensure that the researcher has captured the meaning of the participant responses.

Demographic Characteristics

Participant 1 manages an FBO at a regional airport located in Middle Tennessee. The manager has 6 years of management experience. Participant 1 previously managed an airport in another state. Participant 2 owns an aircraft maintenance and repair shop centrally located in Middle Tennessee at one of the busiest airports in the state. The owner has been in business since 2008 at the current location and was previously located at a smaller airport from 2005-2008. Participant 3 owns an aircraft manufacturing company located in Middle Tennessee. The owner has owned this business since 2004 at this location. The owner relocated from the northeast to Middle Tennessee because of the centralized location.

Emergent Theme 1: Buying or Purchasing Power

The first theme that emerged was buying or purchasing power. All three participants mentioned the method of purchasing items as a way of reducing operating costs. Participant 1 said purchasing items in bulk saves costs, while Participant 2 mentioned a way of reducing costs was to purchase a large quantity of items from the same seller as a way to reduce operating costs. (Participant 1, personal communication, 6-30-16; Participant 2, personal communication, 7-1-16). Participant 2 and Participant 3 both stated that they do not buy anything ahead of time. (Participant 2, personal communication, 7-1-16; Participant 3, personal communication, 7-4-16). They operate on just-in-time inventory and only purchase items as needed to reduce costs of warehousing. The emergent theme *Buying or Purchasing* is discussed in detail, including tables, following a discussion of the other three strategies used for profitability as mentioned by

the participants, (a) buying in bulk or quantity, (b) budgeting, and (c) just-in-time inventory.

Buying in bulk or quantity. Two of the participants mentioned buying a certain amount as a way to reduce operating costs. Participant 1 noted that purchasing items in bulk such as paper towels, Windex, and mop soap were a way to reduce operating expenses for the business (Participant 1, personal communication, 6-30-16).

Participant 2 stated that buying a certain number of products over the course of a year was a way to reduce operating expenses. Participant 2 was very adamant about developing relationships with suppliers. Participant 2 stated that when items are purchased on a regular basis from the same supplier, rates and shipping are often negotiable. Participant 2 buys most of his parts from a supplier in Memphis, Tennessee; this allows Participant 2 to buy materials just-in-time or as needed, often with overnight shipping (Participant 2, personal communication, 7-1-16). This allows Participant 2 the ability to reduce warehousing costs.

The development of relationships with suppliers supports the conceptual framework with the open system approach. Participant 2 develops relationships with suppliers and communicates orders to suppliers. The continuous collaboration between small aviation businesses like that of Participant 2 and the suppliers serves as a system to respond to the output requirements of the aviation industry and the input of orders and services aligned to systems theory and the conceptual framework in this study.

Participant 3 stated that after a big event or airshow, multiple customers committed to buying an aircraft and Participant 3 could save money by purchasing

aircraft kits in bulk and save on shipping (Participant 3, personal communication, 7-4-16). These purchases are shown in the company documents as one to three large purchases approximately one month after an event or airshow (Participant 3, analysis of supplier invoices, 7-4-16).

This concept aligns with systems theory, in that general systems theory states that systems are made up of elements that are interrelated among themselves and the environment (von Bertalanffy, 1968). Customers place orders within an aviation network, which includes the small aviation business owned by Participant 3 and the wholesalers of the airplane kits. These constitute a part of the aircraft manufacturing system. Purchasing in bulk relates to previous literature on innovation. Small business fosters new ideas through innovation and innovative thinking (Cronin-Gilmore, 2012). Participant 2 stated that he did not purchase a large quantity of products at one time, but instead purchased a large amount of products over time from one supplier (Participant 2, personal communication, 7-1-16). Purchasing large amounts from one supplier shows innovative thinking. Small businesses are fundamental to the growth of the economy (Gale & Brown, 2013).

The purchasing in bulk and buying power theme supports the use of the conceptual framework of systems theory in this study. The development of relationships to support these buying techniques is part of the aviation system. Creating relationships within the aviation systems allows these participants to develop a buying power based on relationships. Another aspect of the aviation system is that customers purchase goods or services from these small aviation businesses. These customers are part of the aviation

system as a whole. General systems theory states that systems are made up of elements that are interrelated among themselves and the environment (von Bertalanffy, 1968).

Purchasing in bulk also relates to previous literature on aviation leadership. Historically, leaders in aviation were also innovators (McManners, 2016). These leaders created innovations including new aircraft, record breaking, developing new processes for production, and new methods of flight (de Brito Neto, 2015). Participants 1, 2, and 3 developed new small aviation business strategies for purchasing to reduce operating expenses for profitability.

Budgets. Participant 1 noted that budgeting was very important for an FBO business. Participant 1 must create a budget and then follow the budget (Participant 1, personal communication, 6-30-16). Participant 1 stated that having a budget was a way to reduce operating costs by not exceeding budget numbers for the year. Cross (2015) articulated that the key to successful budgeting is planning, organizing, and controlling expenses. This mirrors Participant 1's response to reduce operating expenses through budgeting. Orobia et al. (2013) explained that small business owners or managers plan, monitor, and control their working capital to develop budgets. These activities are done by informal planning, developing inventory limits, record keeping, and monitoring cash flows (Orobia et al., 2013). Participant 1 stressed the difficulty of preparing a budget for fuel purchasing and sales based on historical data (Participant 1, personal communication, 6-30-16).

In a document analysis of Participant 1's fiscal year 2016 budget, it was evident that research and investigation go into creating the budget. Participant 1 tracks budgeted

amounts, actual amounts spent, and the differences between budget numbers and actual numbers (Participant 1, analysis of fiscal year 2016 budget, 6-30-16). Participant 1 indicated that 100 low lead fuel sales had increased while JetA fuel sales decreased. After reviewing the fiscal year 2016 budget, the analysis of these numbers indicated them to be representative of the participant's assertion (Participant 1, fiscal year 2016 budget, 6-30-16). In fiscal year 2015 budget, JetA fuel sales were almost twice that of 100 low lead fuel sales (Participant 1, fiscal year 2015 budget, 6-30-16). During the member checking process, Participant 1 made no mention of the change in fuel sales from fiscal year 2015 to 2016 (Participant 1, member checking data, 7-1-16).

Participant 1's budgeting process aligns with the conceptual framework of sustainability theory. In sustainability theory, firms work toward sustainable development focused on profit creation while maintaining social and environmental sustainability (WCED, 1987). In creating a budget for the upcoming year, Participant 1 looked toward the future and not damaging resources. Participant 1 talked about budgeting for self-serve fuel pumps (Participant 1, personal communication, 6-30-16). By installing self-serve fuel pumps he will create profit for the future, by reducing operating expenses and attracting more customers through a cleaner more sustainable small aviation business.

The concept of budgeting relates to previous literature on financial sustainability. Financial sustainability is the ability of a business to maintain long-term profits and incur a loss for a short time (Schmitt & Gollnick, 2016). By creating a yearly budget, Participant 1 can anticipate the expenses needed for business. Leaders can use scenario planning and forecasting to predict futures and projects (Santoyo-Castelazo & Azapagic,

2014). By creating a budget, Participant 1 reduces and controls operating expenses for profitability.

In review of Participant 1's company documents it is clear that the new LED lighting system is projected to save the business thousands of dollars over the next few years. This new sustainable lighting system should use one third of the electricity and have at least a 6-year life cycle for each LED (Participant 1, member checking, 7-1-16).

The new LED lighting system mentioned by Participant 1 relates to previous literature on environmental sustainability. Global consumption is rising, and leaders are looking for ways to reduce consumption (Gohardani, Elola, & Elizetxea, 2014). Participant 1 will consume one third of the electricity previously used and reduce waste in discarded bulbs.

Just-in-time. Participants 2 and 3 use just-in-time inventory instead of warehousing to reduce operating costs. According to Fawcett and Pearson (2015), just-in-time philosophy has proven successful for small firms. Just-in-time production allows leaders to focus on improving production and not focus on inventory and warehousing (Fawcett & Pearson, 2015). Participant 2 stated that tires and oil filters were something kept on hand, but if a customer needed a particular part, for example, a twin Cessna, then the part would have to be ordered, and the customer would have to wait. Participant 2 purchases most parts from a supplier in Memphis, Tennessee, and as part of the buying power associated with the businesses, can often get parts overnight (Participant 2, personal communication, 7-1-16). Participant 3 noted that it was not feasible to keep airplane kits in stock. When a customer committed to purchasing an aircraft and put

down money, then he would order an airplane kit (Participant 3, personal communication, 7-4-16). Battini, Boysen, and Emde (2012) noted that customer customization is a fundamental element of Just-in-time production. Just-in-time production was reducing warehousing costs and allows cost reduction in purchasing power from suppliers by creating a competitive situation (Battini et al., 2012). Participant 3 goes to events and airshows to promote sales of his aircraft, while at a show he might sell five aircraft (Participant 3, personal communication, 7-4-16). He does not have these aircraft ordered from the supplier and has the purchasing power to order five kits with a decrease in price and reduced shipping costs (Participant 3, confirmed through member checking, 7-4-16).

In a review of sales invoices, Participant 2 places orders from a supplier in Memphis, TN and has the parts overnighted (Participant 2, analysis of sales invoices, 7-1-16). The parts are marked as arrived the following day. Participant 2 also pays invoices as they are received (Participant 2, analysis of sales invoices, 7-1-16).

The concept of just-in-time production is consistent with the conceptual framework of sustainability theory. Participants 2 and 3 do not know parts or materials they will need ahead of time; therefore, they do not warehouse items, instead they purchase them as needed by a customer (Participant 2, confirmed through member checking 7-2-16; Participant 3, confirmed through member checking 7-4-16). This method is supported by sustainability theory; the owners of these companies use the DECIDE model for day-to-day decisions. The DECIDE model supports sustainability theory through decision-making. Small aviation business owners decide, act, monitor, detect, diagnose, prescribe, evaluate, and retain model for sustainable decision-making

(Pourdehnad & Smith, 2012).

The sub-theme of just-in-time purchasing is supported by previous literature on leadership sustainability. Leaders must respond to rules and regulations, threats to the industry, and changes in the economy (Schmitt & Golnick, 2016). Leaders of small aviation businesses must develop new methods and strategies to create a profitable business. Participant 2 and Participant 3 developed a just-in-time purchasing strategy in response to changes or threats within the aviation industry as indicated in previous literature (McManners, 2016). Table 2 indicates the main emergent theme of buying or purchasing power and sub-themes of bulk or quantity purchases, budgets, and just-in-time purchasing viewed by small aviation business leaders.

Table 2

Nodes and Themes Related to Theme 1: Buying or Purchasing Power

Themes/ Nodes	*Sources*	*Percentages*
Buying or Purchasing Power	3	100%
Bulk/ Quantity	2	67%
Budgets	1	33%
Just-in-time	2	67%

Emergent Theme 2: Being Customer Focused

The second theme that emerged was being customer focused. These small aviation businesses are focused on their customers and the importance of pleasing customers. Participant 1 reduces costs by increasing prices on certain items to pass along a price reduction to the majority of customers. Participant 2 has customers for years and develops relationships with customers. These customers trust Participant 2 to save them

money, in turn, increasing the profitability for Participant 2. Participant 3 reduces costs by only purchasing what customers want. The emergent theme *Being Customer Focused* will be discussed in detail, following a discussion of the other two strategies used for profitability mentioned by the participants, developing relationships and needs of the customer.

Relationships. Participant 2 told me a story about how a customer was referred to him for some work on his plane after owning it for 19 years. This customer had been going to two other shops in the past but decided to change (Participant 2, personal communication, 7-1-16). Participant 2 emphasized how surprised the customer was when he mentioned that he was going to fly his plane before he delivered it to the customer. Participant 2 stated that the customer said he had never seen anyone in the pilot's seat of his airplane before and was delighted to right in the co-pilot's seat for the first time in 19 years (Participant 2, personal communication, 7-1-16). This customer was used to minimum service where once the work was performed on his aircraft; it was rolled out of the hangar, and he was the first to fly it after maintenance was performed. Anderson and Ullah (2014) explained that a small business can develop relationships with customers to suit their individual needs better. Participant 2 prides his business on developing relationships with customers and developing trust in his work (Participant 2, personal communication, 7-1-16). Participant 2 also pointed out that often, customers would bring their aircraft to his shop and ask them to fix it, not asking for a price (Participant 2, confirmed through member checking, 7-2-16). Bojei, Julian, Wel, and Ahmed (2013) stated the importance of developing brand recognition and loyalty to a small business is a

key to relationship establishment. Customers of Participant 2 trust him and are loyal to his business. In a review of sales invoices of Participant 2, some customers have invoices that date all the way back to 2002, showing a long-term relationship with Participant 2 (Participant 2, analysis of sales invoices, 7-1-16).

A customer focus relates to the conceptual framework of systems theory. Relationships are one of the attributes of systems theory (von Bertalanffy, 1968). Creating a trusting relationship is an attribute of this small aviation business system. The relationships describe how the objects of the aviation system relate to each other within the entire system. Relationships would be the qualities or properties of the objects in the aviation system.

Having a customer focus relates to the existing literature through social sustainability. Social sustainability is about creating relationships and a developing trust for future relationships and ensures resources for continuance (Hubbard & Lopp, 2015). By developing these relationships and trust, Participant 2 is ensuring a future for these relationships.

Needs of the customer. Participant 1 noted that one way of reducing operating costs was to raise costs somewhere else within the business. For example, Participant 1 noted that he recently spent $10,000 bird proofing a hangar (Participant 1, confirmed through member checking 7-1-16). By doing this, he was able to increase rent in that hangar because the bird problem no longer existed (Participant 1, personal communication, 6-30-16). By increasing rent for a few customers, he was able to lower fuel prices for the majority of customers.

The needs of the customer sub-theme further supported the conceptual framework of systems theory; each part is coming together to work as a whole at this small aviation business. One object of this system indicated a price increase in order to decrease the price for other objects. The needs of the customer-pricing objective further supported the relationships of the objects within this small aviation business system.

Participant 2 stated that most customers need a delivery service and by having employees who can perform multiple jobs at his shop, he can provide and pick-up and delivery service for customers (Participant 2, personal communication, 7-1-16). Participant 3 keeps the customers' needs in mind when ordering kits for aircraft manufacturing (Participant 3, personal communication, 7-4-16). He only purchases what the customer needs or wants and does not try to sell customers what he has in inventory (Participant 3, confirmed through member checking, 7-4-16). Responding to the individual needs of customers and valuing insights is essential for small businesses (Sinfield, Calder, McConnell, & Colson, 2012). A review of sales invoices for Participant 3's company showed billing 30% to the customer, receiving payment from the customer, and then ordering the airplane kit (Participant 3, review of sales invoices, 7-4-16).

Catering to the needs of customers relates back to the previous existing literature on deliberate strategy making. Participant 2 makes a deliberate strategy to provide a specific level of customer service to his customers. Deliberate strategy has clear goals, expressed visions and directions, with means and ends (Ahearne, Lam, & Kraus, 2014).

The customer needs strategy is consistent with the systems theory and sustainability theory conceptual framework. The customers of these small aviation

businesses are elements of the aviation system. The needs of the customers are attributes of the system. The small aviation businesses recognize the needs of the customers in the system. The sustainability conceptual framework is supported through the customer satisfaction. Customers are a key aspect of the small aviation business remaining profitable. The small aviation businesses must make the customers satisfied with the goods and services, but also with the sustainability initiatives of the business. Table 3 indicates the main emergent theme of being customer focused and sub-themes of relationships and needs viewed by small aviation business leaders.

Table 3

Nodes and Themes Related to Theme 2: Customers

Themes/ Nodes	*Sources*	*Percentages*
Being Customer Focused	3	100%
Relationships	1	33%
Needs	3	67%

Emergent Theme 3: Having the Right Employees

The third emergent theme was employees. Participant 1, Participant 2, and Participant 3 all stated that employees are a way to reduce operating expenses (Participant 1, personal communication, 6-30-16; Participant 2, personal communication, 7-1-16; Participant 3, personal communication, 7-4-16). Participant 1 indicated that reduction of employee hours would reduce operating costs while Participant 2 and Participant 3 said that with the proper utilization of employees was a key strategy in reducing operating costs (Participant 1, personal communication, 6-30-16; Participant 2, personal communication, 7-1-16; Participant 3, personal communication, 7-4-16).

Participant 3 noted that one of the owners could do every job in the shop. The emergent theme *Having the Right Employees* will be discussed in detail, including tables, following a discussion of the other two strategies used for profitability mentioned by the participants, reduction and utilization.

Reduction. All participants indicated that a reduction in employees was a way to reduce operating expenses. Participant 1 stated that if he were to put in self-service fuel pumps, a large initial investment, then he could cut employee hours back 1,400 hours per year (Participant 1, confirmed through member checking, 7-1-16).

In a review of company budget documents for fiscal year 2016 for Participant 1, he has six to eight employees working a range of 20 to 40 hours per week, or an average of 240 hours per week (Participant 1, confirmed through member checking, 7-1-16, Participant 1, analysis of fiscal year 2017 budget, 6-30-16). By installing self-service fuel, Participant 1 stated that he could cut employee hours by 1,400 hours per year (Participant 1, personal communication, 6-30-16). This reduction translates into approximately 26 hours per week, or the current number of hours worked by one employee (Participant 1, confirmed through member checking, 7-1-16).

Participant 2 noted that the easiest way to reduce operating costs was for him not to get paid (Participant 2, personal communication, 7-1-16). He stated that he was on a draw and if the business were slow he would only draw one or two times per month to cut costs (Participant 2, analysis of income and loss statements, 7-1-16). Participant 3 discussed business back in the *heyday*. He noted that he had several employees working

at any time, but with the volatility of the industry, he had to reduce his employee numbers to reduce operating expenses (Participant 3, personal communication, 7-4-16)

The responses of Participant 1, Participant 2, and Participant 3 all aligned with the existing body of knowledge on employee reduction. Shields and Shelleman (2013) indicated that one of the most common strategies that owners and managers use when business sales decline, is a reduction in employee hours. The strategy of reducing employee hours was a theme in this research.

A reduction in employee hours or employees parallels previous research on the airline industry post 9/11 and after an increase of rules and regulations took place. As profits decrease, small businesses, like the airlines, may furlough or lay off workers and employees (May & Jochim, 2013). This leads to a decline in the sustainability of the airlines with a lack of workers (May & Jochim, 2013). Conversely, in small aviation businesses this improves sustainability and reduces operating expenses for profitability.

All three participants indicated that a reduction in employee hours was a way to reduce operating expenses for their small aviation business. A reduction in employees also relates to the conceptual framework of sustainability theory. A reduction of employee hours is forward thinking and looking to the future for sustainability as indicated by the WCED (1987).

Utilization. Participant 2 discussed in-depth the concept of utilization regarding employees. He said he likes to keep employee utilization at 60% (Participant 2, personal communication, 7-1-16). He noted that sometimes it takes two people to do a one-person job, but he kept employees from turning a two-hour job into a four-hour job (Participant

2, personal communication, 7-1-16). Participant 1 pointed out that he maintains a certain number of employees on per shift at a time to suit the needs of his customers (Participant 1, personal communication, 6-30-16). Participant 3 stated that he had employees that were skilled in more than one ability, and that was very useful for reducing operating costs. Participant 3 noted that Owner 2, the co-owner of the small aviation businesses, could do any job needed in the shop (Participant 3, personal communication 7-4-16). Brewer, Ashenbaum, and Ogden (2013) pointed out that a key cost reduction strategy was employee utilization. Employees must be able to perform a variety of duties or jobs while other jobs or tasks are outsourced to reduce costs. In a review of Participant 3's sales invoices, Owner 2 was listed for labor in several different lines including troubleshooting, electrical, and rebuild (Participant 3, analysis of sales invoices, 7-4-16).

The strategy of utilization is also a theme in this research. The concept of utilization corresponds to previous research on change leadership sustainability. Leaders must cultivate skills and knowledge of employees to keep up with innovation (Nodeson et al., 2012). Leaders must have strong direction and lead employees toward innovation to achieve the goals set by the organization (Nodeson et al., 2012). As this happens, leaders will emerge within the organization (Lundy & Morin, 2013).

The emergent theme of having the right employees supports the conceptual framework of systems theory. Employees of a business are attributes of the system. Having the right employees to do the job needed is vital to the small aviation business system. The existing literature on systems theory states that organizational success relies on synergy, interrelations, and interdependence between different subsystems of an

organization (von Bertalanffy, 1968). Table 4 indicates the main emergent theme of *Having the Right Employees* and sub-themes of employee reduction and utilization as viewed by small aviation business leaders.

Table 4

Nodes and Themes Related to Theme 3: Having the Right Employees

Themes/ Nodes	*Sources*	*Percentages*
Having the Right Employees	3	100%
Reduction	2	67%
Utilization	3	100%

Emergent Theme 4: Having the Right Equipment

The fourth theme was equipment costs. Different types of equipment are needed at each one of these businesses, and all three participants mentioned equipment was a way to reduce operating expenses. Participant 1 noted that coming up with a replacement schedule for equipment was a way to reduce long-term operating costs (Participant 1, personal communication, 6-30-16). Participant 2 stated that the businesses did not purchase any specialized tools or equipment to perform certain tasks (Participant 2, personal communication, 7-1-16). Participant 2 and Participant 3 both reported that they do not do any specialized work, they send out what they cannot do with their equipment Participant 2, personal communication, 7-1-16; Participant 3, personal communication, 7-4-16). The emergent theme *Having the Right Equipment* will be discussed in detail, including tables, following a discussion of the other three strategies used for profitability mentioned by the participants, (a) replacement schedule, and (b) outsourcing or sending off for specialized work.

Replacement schedule. Moghaddam (2013) noted that a key strategy for continuous production is development and adherence to an equipment replacement schedule. If a replacement schedule is not in place, a firm may suffer from downtime and increased long-term expenses (Moghaddam, 2013). Participant 1 stated that he believed that if he had a replacement schedule in place for equipment, then he could reduce operating costs (Participant 1, personal communication 6-30-16). Participant 1 would use the replacement schedule by purchasing a piece of equipment with a replacement in the next 5 to 10 years (Participant 1, personal communication 6-30-16). He explained that it was going to cost more money to fix a weed eater than it was just to purchase a new weed eater (Participant 1, confirmed through member checking, 7-1-16). He further explained that several equipment items were at least ten years old, and it was becoming very expensive to maintain those equipment items (Participant 1, personal communication 6-30-16).

Participant 1 provided an equipment list with the equipment items, dates purchased, warranties, and a proposed replacement date (Participant 1, review of draft replacement schedule, 7-1-16). He explained that he got this list of assets and added the dates and warranty columns. The replacement schedule included items from the 1970s that did not have a replacement date or warranty listed (Participant 1, review of draft replacement schedule, 7-1-16). During the member checking process, Participant 1 added that the items from the 1970s without a replacement date were still a work in progress and would be updated soon (Participant 1, confirmed through member checking, 7-1-16).

The strategy of a replacement schedule is consistent with previous research on financial sustainability. Financial sustainability is the ability of a business to maintain profits for the long term, and survive a loss for a short period (Schmitt & Gollnick, 2016). Leaders of small businesses need to complete a life-cycle analysis to determine if resources, time, and cost balance with the useful life of the endeavor (Santoyo-Castelazo & Azapagic, 2014). Leaders should also use scenario planning and forecasting to predict the future of the organization and upcoming projects (Santoyo-Castelazo & Azapagic, 2014).

The strategy of a replacement schedule matches the conceptual framework for sustainability theory. Participant 1 wants to plan ahead for the future without overusing resources (WCED, 1987). The weed eater that Participant 1 discussed was going to cost more resources to fix, than it would be to buy a replacement weed eater (Participant 1, personal communication, 6-30-16). By creating a replacement schedule, Participant 1 will be able to save enough resources in the future for another weed eater.

A replacement schedule strategy is also consistent with previous literature on deliberate strategy making. Deliberate strategy is about creating plans and directions for the future (Neugebauer et al., 2015). The existing literature also stated that leaders of small businesses must be innovative and strive to improve to survive (Bello & Ivanov, 2014).

Outsourcing. All participants mentioned outsourcing as a way to reduce operating expenses. Pearce (2014) explained that companies such as General Electric and Caterpillar use domestic outsourcing as a way of reducing operating expenses. Participant

2 mentioned that the shop does not perform engine overhauls, but they will send out an engine to be overhauled (Participant 2, personal communication, 7-1-16). Participant 3 stated that they send out aircraft for painting, engine work, and interiors. This way they are not required to have any specialized equipment (Participant 3, personal communication, 7-4-16). Participant 1 said that he used Public Works for maintenance, and if Public Works could not perform the task due to certifications or limited resources, then he would call a professional (Participant 1, personal communication, 6-30-16)

The strategy of outsourcing is constant with previous literature on change leadership, emergent leadership, and innovation. Change leadership involves changing methods to best suit the needs of the customer (Lundy & Morin, 2013). In emergent leadership, leaders adapt to best fit the needs of the customer (Neugebauer et al., 2015). Leaders of these small aviation businesses use innovation to come up with alternative means and methods of business operation (de Brito Neto, 2015). The leaders of these small aviation businesses must make new strategies, implement new strategies, and implement change (Cui & Wang, 2013).

In the review of company sales invoices, outsourcing was evident in Participant 3's small aviation business. Participant 3's business outsources to nine different companies for various projects including painting, welding, wiring, fitting, and completing interiors of the manufactured aircraft (Participant 3, analysis of sales invoices, 7-4-16; Participant 3, confirmed through member checking 7-4-16). Participant 2's company invoices indicated that he outsources avionics, propellers, engine overhauls, interior work, and painting (Participant 2, analysis of invoices, 7-1-16; Participant 2,

confirmed through member checking, 7-2-16). Participant 1's invoices indicated that several different companies were contracted for various tasks including, electrical, plumbing, fencing, calibration, roof repair, vehicle maintenance, and clothing (Participant 1, analysis of invoices, 6-30-16; Participant 1, confirmed through member checking 7-1-16). These levels of outsourcing indicate innovative leadership to reduce operating expenses for each small aviation business.

Out sourcing is compatible with the conceptual framework of systems theory. Systems theory describes the complexity and interdependence of objects and their environment (von Bertalanffy, 1972). In the aviation system, if each company did all of their own work in house the system would be very closed. In open systems theory each small aviation business has its own function and relationship with other small aviation businesses within the system. Table 5 indicates the main emergent theme of having the right equipment and sub-themes of replacement schedules and outsourcing as viewed by small aviation business leaders.

Table 5

Nodes and Themes Related to Theme 4: Having the Right Equipment

Themes/ Nodes	*Sources*	*Percentages*
Having the Right Equipment	3	100%
Replacement Schedule	1	33%
Outsourcing	3	100%

Emergent Theme 5: Leadership

The fifth theme is leadership. Participant 2 stated that employee empowerment was a way to reduce operating expenses. Participant 2 has an employee that answers

customers' questions and runs the shop while the owner is away (Participant 2, personal communication, 7-1-16). Similarly, Participant 3 stated that Owner 2 could do any job in the shop and acted as a leader to employees when Participant 3 was at shows or events (Participant 3, personal communication, 7-4-16). Participant 3 also added that the employee has been in the business for years and worked his way up to a leadership position (Participant 3, personal communication, 7-4-16). An alignment discussion of the emergent theme *Leadership* will now follow that includes tables and a discussion of the other two strategies used for profitability mentioned by the participants including empowerment, and cross-trained jobs.

Empowerment. Participant 2 discussed how he gave *Employee A* empowerment to make decisions and answer customers' questions. The empowerment also created a sense of accountability for Employee A (Participant 2, personal communication, 7-1-16). Participant 2 noted that Employee A came to work at the shop without any certifications, and in two more years, Employee A would be an Inspection Authorization Mechanic, the highest level achievable for aviation mechanics (Participant 2, confirmed through member checking, 7-2-16). By giving Employee A empowerment, Participant 2 can leave the shop and get out and meet people, and better serve his customers. He also noted that by giving employees empowerment, it gave them some accountability. During slow times everyone has to clean, but if employees are held accountable, they take of things as they go and the facilities are not as difficult to clean (Participant 2, personal communication, 7-1-16). Elloy (2012) posited that there are two types of employee empowerment; power and control over other employees, and the transference of power and control from

management to an employee. Participant 2 utilizes both of these methods of employee empowerment.

The strategy of empowerment aligns with the previous research on employee empowerment and sustainability. Moerschell and Lao (2012) associated an improvement in production when employees felt psychological empowerment. These empowerment competences include proficiency, personal impact on the organization, meaning, and self-determination. These skills affected the transformational leadership within the business (Moerschell & Lao, 2012). Lochmiller (2013) agreed that empowered employees develop into emergent leaders.

Employee empowerment is also part of the conceptual framework of sustainability theory. Participant 2 noted that Employee A was working his way up from the bottom and is currently 2 years away from the highest achievement in the aviation maintenance industry. Participant 2 is training Employee A to one day take over the day to day operations and sign offs of the shop (Participant 2, personal communication, 7-1-16). Participant 2 is planning for the future without compromising resources (WCED, 1987).

Participant 3 noted that Owner 2 could do any job needed in the shop. He said he even does specialized fiberglass work sometimes if the situation needs (Participant 3, personal communication, 7-4-16). Owner 2 shows leadership when Participant 3 is gone or at an airshow. Participant 3 noted that Owner 2 could even do office work if needed, but stressed the importance of the office workers. Participant 3 noted that the most difficult operating cost reduction was office personal (Participant 3, personal

communication, 7-4-16). For a brief period in 2013, Participant 3 did not have any office staff employed and customers were not billed for incidentals like test fuel and engine run time (Participant 3, analysis of customer invoices and fuel invoices, 7-4-16; Participant 3, confirmed through member checking, 7-4-16).

Participant 3's flexible leadership methods of production using Owner 2's variety of skills aligns with previous existing literature on change leadership. Lundy and Morin (2013) stated that change could be useful for increasing the implementation success rates, increasing employee performance, reducing time of production, and reduction of costs. Change leads to stress and anxiety, which causes employees to resist (Lundy & Morin, 2013). Leaders must cultivate the skills and knowledge of employees to keep up with the fast pace of innovation (Nodeson et al., 2012).

Cross-trained jobs. Participant 2 and Participant 3 pointed out that one way to reduce or control operating costs was to have employees that could do multiple jobs. Nembhard (2014) stated that cross-trained employees offered efficiency and flexibility to business. Participant 2 stressed the importance of employee utilization and how Employee A could do all of the jobs in his shop and in two years he would be able to sign off aircraft after inspections (Participant 2, confirmed through member checking, 7-2-16). Participant 3 noted that Owner 2 could do any job in the shop, and Employee A was learning to do multiple jobs in the shop as well (Participant 3, personal communication, 7-4-16). Cross-training would help both Participant 2 and Participant 3 by requiring less outsourcing and fewer employees. The review of Participant 3's company income and loss statements indicated that current number of employees to be nine (Participant 3,

analysis of income and loss statements, 7-4-16; Participant 3, confirmed through member checking, 7-4-16).

The strategy of cross-training employees is supported by previous literature regarding sustainability of an organization. Often, organizations struggle to train and retain top-level knowledgeable leaders and employees, which produces a sustainability issue. By increasing organization sustainability, employee morale will increase, and employees will enjoy their jobs (Santoyo-Castelazo & Azapagic, 2014).

To achieve sustainability in small aviation businesses, leaders must (a) make new strategies, (b) implement new strategies, and (c) implement change (Cui & Wang, 2013). To meet these objectives, leaders must train new leaders and develop communication strategies (Santoyo-Castelazo & Azapagic, 2014). Leaders must also be innovators to create new strategies when needed (Nodeson, Beleya, Raman, & Ramendran, 2012). By making cross-training strategies, Participant 3 is improving sustainability for his small aviation business.

Cross-training employees also extends to previous literature on crew resource management. The CRM concept is a method od best utilizing crews on airlines (LaPoint, 2012). The concept is also applied in Participant 3's small aviation business. Participant 3 uses CRM to utilize employees similarly to the utilization technique described by Participant 2 (Participant 2, personal communication, 7-1-16; Participant 3, personal communication, 7-4-16). Both participants use effective communication techniques to manage employee tasks in order to complete the job (Aebersold, Tschannen, & Sculli, 2013).

The CRM method of effect utilization and communication align with the conceptual framework of systems theory. The effective communication supports the interrelationships of systems theory. The environment of systems theory is the atmosphere in which the objects of the system live (von Bertalanffy, 1968). The environment of effective communication and utilization is vital to the aviation system. Table 6 indicates the main emergent theme of leadership and sub-themes of empowerment and cross-trained jobs as viewed by small aviation business leaders.

Table 6

Nodes and Themes Related to Theme 5: Leadership

Themes/ Nodes	*Sources*	*Percentages*
Leadership	2	67%
Empowerment	2	67%
Cross-trained jobs	2	67%

The findings indicated five key themes from the data analysis (a) buying or purchasing power, (b) being customer focused, (c) having the right employees, (d) having the right equipment, and (e) leadership Leaders of small aviation businesses may use these themes to reduce or control operating expenses for profitability. The conceptual framework of Systems theory is evident throughout as each part of the system works together to act as a whole. Each one of these small aviation businesses makes a part of the Aviation System. Sustainability Theory is evident through the need for operating cost reduction by using these key strategies.

Applications to Professional Practice

The purchasing power of a small aviation business, being customer focused,

having the right employees, having the right equipment, and leadership findings are relevant to the professional small business practice. Small businesses contribute to job creation and innovation but are often volatile regarding profitability (Haltwanger et a., 2013). The data obtained from participant interviews and company documents exposed strategies for reducing or controlling operation expenses for profitability that have the potential to aid small aviation business owners in multiple ways. The findings from the study were added to and built upon the existing body of knowledge revealed in the literature review. The findings of this have the potential to improve business practice for small aviation businesses by educating current and future small aviation business owners and managers on strategies for reducing or controlling operating costs for profitability. Small aviation business owners may review (a) buying or purchasing power, (b) being customer focused, (c) having the right employees, (d) having the right equipment, and (e) leadership to reduce or control operating expenses for profitability. In 2012, there were 4,136 small aviation business located in the United States (U.S. Census Bureau, 2015). These small aviation business services 166 million passengers at 5,000 airports each year (FAA, 2015).

Small aviation business owners and managers should explore their purchasing power. The purchasing power might include vendor loyalty or purchasing items in bulk. Firms should study different purchasing options including relationships between buyers and suppliers, supplier specificity, and long-term buyer-supplier relationships (Adams, Khola, & Kauffman, 2012). Also, small aviation business leaders should recognize the importance of planning, organizing, and controlling of an operating budget. These small

aviation businesses leaders might explore inventory options such as Just-in-time philosophies.

Having a customer focus is a key strategy for reducing operating costs for profitability. The key is developing relationships with customers and understanding the needs of customers (Sleep, Bharadwaj, & Lam, 2015). By understanding the customers' needs, small aviation businesses can cater their businesses to those needs and reduce costs in other areas of the business.

Having the right employees is another strategy for reducing operating expenses. When business declines, employee hours should also decline (Alasadi & Sabbagh, 2015). Employee utilization is an important strategy for reducing operating costs. Employees should work on an optimized schedule to achieve maximum productivity.

Having the right equipment is an essential strategy for operating expense reduction for profitability. If the organization needs a particular set of equipment, the leaders of the organization should explore other methods of production, this should include outsourcing. Having specialized equipment can be expensive; therefore, outsourcing would be a way of reducing operating expenses. Firms should focus on specialized in-house production and outsource for additional specialized production (Lacity & Willcocks, 2013). For equipment owned by the enterprise, leaders should implement a replacement schedule to replace worn or used equipment before it becomes costly to repair.

Small aviation business leaders can use leadership strategies to reduce or control operating expenses. Employee empowerment is a successful strategy when managing a

small aviation business. Another useful leadership strategy is cross-training employees. Mirochoa, Bents, LaBrosse, and Rietow (2013) recommended creating a leadership development plan for the small business.

All of these strategies are demonstrated in the findings of the participant interviews and review of the company documents. These strategies build on the existing literature. By following these key strategies, owners can reduce or control operating expenses and remain profitable.

Implications for Social Change

In the United States, 95% of all aviation business are small businesses (SBA, 2014). Small businesses are also the largest source of job creations (SBA, 2014). Small businesses are the leaders in innovation, invention, jobs, and growth for the economy (Wyharczyk, Piperopoulos, & McAdam, 2013). Results of this study include the following themes: (a) purchasing power, (b) being customer focused, (c) having the right employees, (d) having the right equipment, and (e) leadership are all strategies for reducing or controlling operating costs for profitability.

Small businesses are critical to job creation and the United States Economy (Haltiwanger, Jarmin, & Miranda, 2013). Small businesses offer specialized services products, and skills not often provided by large corporations (Hu, 2016). Reducing operating costs is vital for small businesses to remain profitable (Zaridis & Mousiolis, 2014). If small businesses do not reduce or control their operating expenses, they may no longer be profitable (Gupta, Seetharaman, & Raj, 2013). The findings from this study may assist small aviation business owners and managers to reduce or control operating

expenses by implementing the strategies for purchasing power, being customer focused, having the right employees and equipment, outsourcing, and leadership practices. If small aviation business leaders remain profitable, they will have more revenue to invest in employees, decrease prices, and invest in the local community.

Recommendations for Action

The purpose of this qualitative multiunit case study was to explore what strategies small aviation business leaders used to reduce or control operating expenses for profitability. Small aviation businesses make up 95% of all aviation businesses in the United States (SBA, 2014). Potential, current, and future small aviation business leaders should regard the results of this study because they could benefit from the findings to reduce or control operating expenses. The purchasing power of a firm, being customer focused, having the right employees, having the right equipment, and leadership strategies are outlined in this study. Also, I recommend the Tennessee Aeronautics Commission (TAC) and the SBA Tennessee District branch should heed the results and share the strategies with potential, future, and current small aviation business leaders. I will provide research participants with a summary of the results and findings. I will encourage the participants to review the complete doctoral research study. My final recommendation is for potential, future, and current small aviation business leaders located in other regions of the United States to review the results and findings of this study to ensure reduced or controlled operating costs for profitability.

Recommendations for Further Research

In this qualitative descriptive case study, the primary limitation was the sample size of participants. Recommendations for further research include a study involving a larger sample size of participants. Data saturation was achieved after interviewing three participants in this study. Data saturation occurs when the researcher obtains the same responses with little variation as indicated by redundancy or data replication (Marshall, Cardon, Poddar, & Fontenot, 2013). A study based in a different geographical location, other than Middle Tennessee is also recommended. Also, a study conducted over a more extensive period is recommended. I further suggest studies regarding the specific types of small aviation businesses. This study was not limited to one type of aviation business. A future study might be limited to just aircraft manufacturers. The geographic location of this study was limited to middle Tennessee, a centralized location; for a future study, researchers might explore a more remote location with less competition that the middle Tennessee region. This study was based on the qualitative research method; other methodologies should be considered for further research on small aviation business profitability strategies.

Reflections

My experience within the DBA Doctoral Study process was a fascinating learning experience. I have stood on the shoulders of giants and gained knowledge about small aviation businesses in the United States and more specifically middle Tennessee. As a person, I have a new respect for small aviation businesses. The participants I interviewed in this study are very passionate about their accomplishments and ideas for the future. As

a researcher, I was astonished at the organization of invoices, receipts, and loss and profit statements. These small aviation business leaders know every detail of their organizations and take pride in their business, employees, and customers.

As a researcher, I learned the importance of organization and creating lists. I made lists for each method of data collection and sub lists for each element. I also learned the importance of being flexible. The participants were small aviation business leaders and business relies on the weather. I conducted these interviews during the summer months in Tennessee, which is the peak business time for these small aviation businesses. Two of my three interviews were rescheduled, one was rescheduled twice and took place very early in the morning on a holiday. As a researcher I am very grateful that each participant made time to answer my questions and review company documents. The process took an hour out of their busy schedule during the busiest time of year and I am very thankful for their efforts.

As the researcher, I mitigated bias and preconceived ideas and values by remaining unbiased during the entire process. I stayed in a state of epoche during the interviews as suggested by Leedy and Ormrod (2013). By remaining impartial, I changed the way I viewed small aviation business leaders. These leaders were passionate about their businesses and aviation. Their passion was inspiring. It is a relief to know that 95% of aviation businesses are small businesses and are led by people with a passion for what they do. One participant mentioned that his company supported his habit of flying different types of aircraft.

Conclusion

The purpose of this qualitative descriptive multiunit case study was to explore what strategies small aviation business owners used to reduce or control operating costs for profitability to answer the research question: What strategies do aviation business leaders use to reduce airport operating expenses to improve profitability? The specific problem was that some small aviation business leaders lack strategies to reduce airport operating expenses to improve profitability. One fixed base operation manager, one aircraft maintenance shop owner, and one aircraft manufacturing company owner who manage the strategies and business process participated in semistructured face to face individual interviews. I also collected and reviewed data from each company.

Five themes emerged from the data analysis including purchasing power, knowing your customers, having the right employees, having the right equipment, and leadership. The findings indicated that leaders need to develop current strategies for purchasing goods or services to develop a buying power, whether to purchase in bulk all at once or bulk purchases spread over time. Leaders need strategies for knowing the wants and needs of customers and how those needs can be met by the small aviation business. Leaders need to develop strategies for having the right employees, how to cross train employees, and how to help employees grow with the business. The findings also show the importance of having the right equipment for the job, know how to outsource, and developing relationships with the the aviation system. Leadership is a key strategy for small aviation businesses. The participants of this study were very involved in the small business, understood the importance of the business in the aviation system, and

knew how to empower employees to get the job completed. By using these strategies, small aviation business leaders can reduce or control operating expenses for profitability.

In conclusion, this exploratory case study determined what strategies do small aviation business leaders need to reduce or control operating expenses for profitability. There have been many studies and research completed on reduction or control of operating expenses for profitability, this study confirmed that there is no one solution as to how to reduce or control operating expenses for profitability. Small aviation businesses are operating in system as explained by the conceptual framework of systems theory. Small aviation business are elements with complexity and interdependence with other small aviation businesses and their environment. The strategies that emerged in this study may help small aviation business leaders reduce or control operating expenses for profitability. By reducing or controlling operating expenses, small aviation businesses are creating a more sustainable aviation system.

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Appendix A: Interview Questions

1. What strategies have you used to reduce aviation operating expenses in the aviation industry?

2. What are the key strategies you used to remain profitable?

3. What are some of your aviation operating expenses that are easy to reduce to remain profitable?

4. What are some of your aviation operating expenses that are difficult to control or reduce to remain profitable?

5. What strategies do aviation business leaders use to reduce aviation operating expenses to improve sustainability?

6. What additional information would you like to add regarding strategies aviation business leaders use to reduce aviation operating expenses to improve profitability?

Appendix B: Consent Form

You are invited to take part in a research study of factors that could contribute to the development of sustainability practices in aviation businesses. You were invited to take part in this study because you are a manager of a small aviation business in Tennessee and you have 3 years of managerial experience. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

Christina Hiers, who is a doctoral student at Walden University, is conducting this study. The researcher will use the research gathered in this study to develop profitability guidelines for small aviation businesses.

Procedures. If you agree to be in this study, the researcher will ask you to:

- Participate in a one-on-one interview with questions about the profitability strategies that you use or have used in your business. The interview will last about 30 minutes. The member checking process will take an additional 30 minutes.
- The interview will not involve questions about confidential information about you or your business but will include questions about public financial data.
- The researcher will audio record the interview. The researcher will provide you with a summary of the transcribed interview for you to review for accuracy.

Here are some sample questions:

1. What strategies have you used to reduce aviation operating expenses profitable in the aviation industry?
2. What are the key strategies you used to remain profitable?

3. What are some aviation operating expenses that are simple to reduce to remain profitable?

Voluntary Nature of the Study. Your participation in the study is voluntary. If you decide to join the study now, you can still change your mind later. You may stop at any time with no questions asked.

Risks and Benefits of Being in the Study. Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as becoming tired or fatigued while sitting for 30 minutes. Being in this study would not pose risk to your safety or wellbeing.

The researcher will keep your personal information and company information confidential in the study report, to other interview participants, or to anyone outside of the study. As a participant in the study, you will receive a copy of the research, when completed. This may provide information that you can incorporate into your business to enhance your sustainability practices. The research may positively affect society by increasing the profitability in small aviation businesses

Payment. The participants in this study will not be compensated for their participation in the study.

Privacy: The researcher will keep any information you provide confidential. The researcher will not use your personal information for any purposes outside of this research project. In addition, the researcher will not include your name, your business name, or anything else that could identify you in the study reports. The researcher will keep data secure in a locked, fireproof file. No one besides the researcher will have

access to the file or the research data. The researcher will keep the data at least 5 years, as required by the university.

Contacts and Questions. If you have any questions, you may contact the researcher via telephone **xxxxxx** or email (Christina.hiers@waldenu.edu). Walden University's approval number for this study is **06-13-16-0321578** and it expires on **June 12, 2017.** You may also contact the Walden University's Research Participant Advocate at 1-800-925-3368 ext. 312-1210 or irb@waldenu.edu.

Please print or save this consent form for your records.

Statement of Consent. I have read the above information and feel I understand the study well enough to make a decision about my involvement.

By replying to this e-mail with the words "I Consent" you are agreeing to the terms described above.

Appendix C: Invitation to participant e-mail

Good Morning/Afternoon <<*Participant Name*>>,

I would like to invite you to participate in my Doctoral Study Field Research. My topic is small aviation business success strategies for profitability. Small aviation businesses make up the majority of all aviation businesses, and I would like to document the best practices for profitability in small aviation businesses.

The focus of my study will be specific strategies that lead to profitability, through your knowledge and my research, will reveal the best strategies for small aviation business profitability.

When you agree to participate in my study, I will send another email with the Informed Consent Form. If you agree to consent, I will send you a welcome email and we can set up a time complete the interview and I will answer any questions you may have. My contact information is christinahiers@yahoo.com, and my phone number is 616-806-1923.

Very Respectfully,

Christina Hiers
Walden University Doctoral Candidate

Appendix D: Welcome E-mail

Good Morning/Afternoon <<*Participant Name*>>,

I would like to thank you for volunteering to participate in my Doctoral Study Research. Small aviation businesses make up the majority of all aviation businesses, and I would like to document the best strategies for profitability in small aviation businesses.

The focus of my study will be specific strategies that lead to profitability, through your knowledge and my research, will reveal the best strategies for small aviation business profitability.

Attached to this e-mail is the Informed Consent Form for you to review. If you are willing to participate in my research project, please either sign the form, or send me a return e-mail indicating, "I will participate". Once this is done, I will send another e-mail to you to schedule the interview and answer any questions you may have. Please feel free to contact me at any time. My contact information is christinahiers@yahoo.com, and my phone number is xxxxxxx.

Thank you, and welcome to the research project.

Sincerely,

Christina Hiers
Walden University Doctoral Candidate

Appendix E: Interview Protocol

I. Introduce self to participant.

II. Present consent form, go over contents, answer questions and concerns of participant.

III. Give participant copy of consent form with IRB approval number and contact information for Walden University IRB.

IV. Turn on recording device.

V. Begin interview with question 1; follow through to final question.

VI. Follow up with additional questions.

VII. Turn off recording device.

VIII. Discuss member-checking with participant.

IX. Thank the participant for their part in the study. Reiterate contact numbers for follow up questions and concerns from participants.

X. End protocol.