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Information Systems Strategies for Small and Medium Size Enterprise Sustainability

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Walden University

College of Management and Technology

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Oluseyi S. Awotayo

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Walden University
2020

Abstract

Information Systems Strategies for Small and Medium Size Enterprise Sustainability

by

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MS, Illinois Institute of Technology, Chicago, IL, 2015

BS, Lagos State University, Lagos, Nigeria, 2008

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

April 2020

Abstract

Small and medium size business owners who do not use information systems effectively degrade business models, reduce customer value, and diminish the prospects for business stability, profitability, and growth. Grounded in the resource based view framework, the purpose of this qualitative multiple-case study was to explore the information systems strategies small business owners used to sustain their business beyond 5 years. A purposeful sample of 5 owners of 5 different small and medium sized businesses in the state of Texas participated in the study. Data were collected via semistructured, face-to-face interviews, company documents, and member checking. Data were analyzed using Yin's 5-step analysis process and resulted in 3 emergent themes: online collaboration and process improvement strategy, a firm's resources strategy, and an emerging technologies strategy. The key recommendation was to implement or improve information systems strategies. The implications for positive social change include the potential for owners of small and medium sized businesses to use the findings to contribute to job creation, economic growth, and the promotion of sustainable communities.

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Dedication

I dedicate this study to the Almighty God, the giver of life and all-encompassing blessings. To my adorable and beloved family, Oluwaseun Grace, Nathan, and Naomi Awotayo-Ayeni; thank you for your boundless support to this life's journey. I dedicate this study to my Dad and Mum, Dr. & Mrs. Awotayo-Ayeni, who strived to instill discipline in me and made themselves available, provided and guided me on the path to all round success. To my exceptional siblings, Samuel, Matthew, Esther, Deborah, and my special nieces, nephews, and others; thank you for your prayers, support, and motivation. To all my amazing friends and extended family, you were truly there for me.

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Section 1: Foundation of the Study

Business owners achieve organizational goals with the application of sound strategic planning in information systems (Kurniawan & Hiererra, 2016). Small- and medium-sized enterprises (SMEs) constitute the 99% of companies in the European Union and of the private companies in the United Kingdom (Lai, Saridakis, Blackburn, & Johnstone, 2016). In 2018, 97.5% of all businesses in the United States were SMEs, defined as businesses with less than 1000 employees (U.S. Bureau of Labor Statistics, 2019). Gholami, Watson, Hasan, Molla, and Bjorn-Andersen (2016) noted that information systems strategies emerged as one of the primary identified potencies for increasing productivity and business sustainability. Kurniawan and Hiererra (2016) supported the need for SMEs business leaders to implement strategies to improve business sustainability, relevance, and innovation. My review of academic and professional literature indicated the need for future researchers to explore the use of information systems strategies in order to contribute to the emerging societal challenges confronting SME sustainability.

Background of the Problem

SME business leaders drive the U.S. and global economy, yet the 5-year survival rate of SMEs is about 50% (Yeh, Lee, & Pai, 2015). The U.S. Small Business Administration (SBA; 2018) indicated that from 2005–2017, 79.8% of new SMEs survived for 1 year, 51.4% survived for 5 years, and one-third survived beyond 10 years. A business organization's success depends on the amalgamation of the prevailing

business plan and other incorporated strategies by business owners to retain their business relevance. Business owners implement a strategic information system planning and decision support system to contribute to business development (Kitsios & Kamariotou, 2016). Business owners who lack a vital resource are at a disadvantage in comparison to the competitors who own the resource (Devece, Palacios-Marques, Galindo-Martín, & Llopis-Albert, 2017). Devece et al. (2017) argued that adopting an information systems strategy into a current business plan might influence organizational performance.

Sustainability is a vital pursuit for business leaders to alleviate the failure rate of SMEs (Teh & Corbitt, 2015). Business owners' engagement in developing business strategies becomes essential to gain competitive advantage and sustainability (Radulescu, Ioan, & Bran, 2015). Wiyatno, Napitupulu, and Abdurachman (2017) noted that SME leaders who do not implement effective information systems strategies experience reduced customer value, diminish the prospects for business stability, profitability, and growth, and increase the probability of business failure.

Problem Statement

SMEs owners who do not use information systems effectively degrade business models, reduce customer value, and diminish the prospects for business stability, profitability, and growth (Wiyatno et al., 2017; Yeh et al., 2015). In 2016, the U.S. SBA reported that only 78.5% of new SMEs survived for 1 year, 51.4% survived 5 years, and one-third survived beyond 10 years (SBA, 2018). The general business problem was some business owners of SMEs do not use information systems effectively, which results

in an adverse effect on business sustainability. The specific business problem was some SME owners lack information systems strategies to sustain their business beyond 5 years.

Purpose Statement

The purpose of this qualitative multiple-case study was to explore the information systems strategies some SME owners use to sustain their business beyond 5 years. The target population consisted of owners of five SMEs in Texas who successfully implemented information systems strategies to sustain their business beyond 5 years. The implications for social change include the potential for SME owners to lower local unemployment rates, improve the local standard of living for employees, provide greater local economic stability, and contribute to government revenue for socioeconomic development. SME owners and leaders are major contributors to job creation, economic growth, and the promotion of sustainable communities (Hyder & Lussier, 2016).

Nature of the Study

The three research methods are qualitative, quantitative, and mixed (Yazan, 2015). Qualitative researchers seek to explore a phenomenon through open discourse and the discovery of participants' experiences, practices, strategies, and perceptions (Van & Struwig, 2017). I selected the qualitative method to explore information systems strategies through open dialog with the participants to gain a deeper understanding of their experiences, business practices, and strategies. Quantitative researchers use closed-ended questions to collect and analyze numeric data to test hypotheses and the significance of relationships among variables (Venkatesh, Brown, & Bala, 2013).

Collecting numeric data to test hypotheses and relationships among variables would not result in relevant data to answer the research question. Mixed-method researchers include both a qualitative element and quantitative element in their research (Venkatesh et al., 2013; Yin, 2018). I did not collect numeric data through closed-ended questioning of participants to test hypotheses among variables, which is part of a quantitative study or the quantitative portion of a mixed-method study; therefore, a quantitative or mixed-method approach was not appropriate for my research.

I deliberated among three research designs: (a) phenomenology, (b) ethnography, and (c) case study. Phenomenological researchers focus on articulated and contributive lived experiences of participants to gain insight, thoughtfulness, and recognition of a phenomenon (Adams & van Manen, 2017). I rejected the phenomenological design because I needed data from multiple sources of evidence to answer the research questions, not just the experiences of SME owners. Business researchers use ethnographic research to study business culture or the social world of a group of people (Hill O'Connor & Baker, 2017). The ethnographic design was not appropriate for this study because I did not study the culture of businesses or groups of people. Case study researchers conduct an in-depth inquiry into a specific, real-life business problem within a contextual, bounded setting (Yazan, 2015). The dimensions of a case study are single or multiple (Yin, 2018). Researchers adopt the case study design to analyze persons, events, decisions, periods, projects, policies, change management, institutions, and operating systems and strategies that foster success (Astalin, 2013). The case study design was the

most appropriate design for this research study, because I explored a specific, real-world problem within a bounded setting. I used a multiple-case study to increase the diversity of the data and the trustworthiness of the findings.

Research Question

What information systems strategies do SME owners use to sustain their business beyond 5 years?

Interview Questions

1. How have information systems strategies contributed to the sustainability of your company?
2. What information systems strategies did you use to sustain your business beyond 5 years?
3. What organizational resources did you use to implement information systems strategies to sustain your business beyond 5 years?
4. What information systems strategy was the most effective to sustain your business beyond 5 years?
5. How did you measure the effectiveness of the implemented information systems strategies to sustain your business beyond 5 years?
6. How did you manage the organizational change from implementing information systems strategies to sustain your business beyond 5 years?
7. What significant challenges did you face while implementing the information systems strategies to sustain your business beyond 5 years?

8. How did you overcome the significant challenges in implementing the information systems strategies for sustaining your business beyond 5 years?
9. What other information can you provide about the information systems strategies you used to sustain your business beyond 5 years?

Conceptual Framework

The resource-based view (RBV) of strategic management, originated by Penrose (1959), was the conceptual framework of this study. Wernerfelt (1984) built on the work of Penrose, arguing that the two aspects of the firm are its resources and its products. Wernerfelt further developed the RBV as an analytical theory for growth based on the usefulness of the firm's resources rather than a company's products. The key propositions of the RBV are these: (a) leaders need internal and external resources to sustain organizational performance, (b) leaders use resources to gain a competitive advantage, and (c) leaders strive to obtain and retain unique resources (Gupta, Tan, Ee, & Phang, 2018; Penrose, 1959; Wernerfelt, 1984; William & Brian, 2015). Wernerfelt proposed that leaders should adopt an effective technology strategy to enhance the firm's resources.

The RBV conceptual framework aligned with the purpose of this study because owners and leaders of SMEs may use its concepts to establish an understanding of information systems as a firm's internal resource, competitive advantage source, and a driver of organizational performance for business sustainability. Business leaders use the RBV framework to develop strategies for their firm's performance, sustainability,

effectiveness, and development (Gupta et al., 2018). The RBV framework was a useful lens to explore the information systems strategies that owners of SMEs use for business sustainability. The RBV framework is an effective lens for viewing and for improving the existing internal and external resources of an organization through information systems technology tools and services to improve performance, business sustainability, and resource management (Salazar, 2017).

Operational Definitions

Business intelligence: Business intelligence is an information technology (IT) strategy organizational leaders use to extract various data and derive the relevant information for recognizing consumers' economic and social trends (Mihaela, 2018). Leaders employ business intelligence strategies to acquire the necessary knowledge to support the business strategy, sustain performance management of existing and obtainable capability resources, and improve strategic business decisions (Mikhailovich, Dmitrievich, Evgenevna, & Pavlovna, 2017).

E-business: E-business is the adoption of IT strategies and business strategies concurrently to support and enhance business processes, managing customer relationships, and engagement, and management of IT capabilities, internal operations for business sustainability (Benitez-Amado, Llorens-montes, & Fernandez-perez, 2015; Mazarol, 2015).

Information systems strategy: Information systems strategy is the planning process organizational leaders use to perceive, develop, and implement IT architecture,

technical standards, and security tools in alignment with business needs to grow strategically (Coltman, Tallon, Sharma, & Queiroz, 2015; Maharaj & Brown, 2015).

Information and communication technology (ICT): ICT is a wide array of technologies business leaders use to increase internal efficiency, initiate and maintain collaboration with external partners, improve internal and external communication purpose (Gutierrez, Boukrami, & Lumsden, 2015; Parida, Oghazi, & Cedergren, 2016).

Innovation: Innovation is the purposeful analysis of new opportunities, tailored towards the satisfaction of the mass market, social needs, demographic, industry, and market needs from acquired knowledge of the prospective new market towards a designed application for simplifying a current need of customers (Lichtenthaler, 2016).

Small- and medium-sized enterprises (SMEs): A SME is a business with 1-999 employees (SBA, 2018). A small business has less than 100 employees; a medium-sized business has 100-999 employees (SBA, 2018).

Sustainability: Sustainability is the association of business initiatives with *green* initiatives, corporate social responsibility (CSR), ethical, and as the consensus of balanced performance across economic, environment and societal front, for shaping the business unit operation for long-term survival (Kumar, Subramanian, & Maria Arputham, 2018).

Corporate social responsibility: CSR is the voluntary integration of social and environmental concerns into business operations (Rahman, Rodríguez-Serrano, &

Lambkin, 2017). Business leaders engage in CSR to increase their interaction with stakeholders (Rahman et al., 2017).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are the researcher's critically unverified, fundamental beliefs and presumptions about the research that might affect the outcome of the study (Davidson, Thompson, & Harris, 2017). I assumed the participants answered all questions with honesty and accuracy. They (a) had adequate knowledge of the phenomenon and so could provide useful data for answering the research question, and (b) accurately presented the facts required about the successful information systems strategies that they implemented in their organizations. Furthermore, I received permission to review company records. I assumed that the records were accurate and complete.

Limitations

Limitations are potential weaknesses that are out of a researcher's control but could affect the results of a study (Campbell, 2018; Moore, McKee, & McLoughlin, 2015). An identified limitation of this study was that the validity of interview data collected relied on the experience and opinions of SME owners in five companies located in the state of Texas, and does not reflect the views of the broader population of all SME leaders. Limited, if any, transferability of the finding to other cases by future researchers exist because this was a qualitative case study.

Delimitations

Delimitations are the characteristics of a study that the researcher adopts as a constraint to limit the scope and boundaries of a study (Baporikar, Nambira, & Gomxos, 2016). Delimitations are usually within the researcher's control (Baporikar et al., 2016). In this study, the delimitation were the concepts of my interests and perspectives, the chosen population, and my research business problem selection. A delimitation of this study was the geographic region of Texas. A second delimitation was the sample population limitation of SME owners who have implemented information system strategy to create sustainability beyond 5 years. A third delimitation was my focus on the specific strategies that the participants used for information systems adoption to achieve sustainability beyond 5 years. I did not address other information systems strategies issues that might affect business leaders with more than 999 employees.

Significance of the Study

Business leaders might find value in the findings of this study through gaining insight into effective implementation of information systems strategies, resulting in improved business survivability. The improved use of IT is a means for business leaders to revive their business model, expand customer value, and survive in a competitive environment (Yeh et al., 2015). Thriving business owners and leaders provide societal benefits, such as community development, job growth, and local economic stability (Stephan, Patterson, Kelly, & Mair, 2016). The significance of this study was within the

potential contributions to improved business practices and strategies as well as contributions to society.

Contribution to Business Practice

SME owners might use the findings of this study as a significant, positive influence to improve current business practices, implement effective information systems strategies, and improve the sustainability of their businesses. Business leaders implementing IT systems could contribute to effective business processes, experience cost savings, improve account management and marketing, and increase productivity (Nwosu, 2017). Information system strategies implemented by SME owners may result in increased profitability and long-term business survivability (Juwita & Arifin, 2017). The acquisition of knowledge about the effective use of information systems strategies by business leaders may increase their proficiency in leveraging information systems' web-based technologies to influence operational capabilities, improve business decisions, and increase business sustainability in the marketplace.

Implications for Social Change

The implications for positive social change include the potential for SME owners to lower local unemployment rates, improve the local standard of living for employees and residents, provide greater local economic stability, and contribute to government revenue for socioeconomic development. SME owners and leaders are major contributors to job creation, economic growth, and the promotion of sustainable communities (Hyder & Lussier, 2016). Successful and growing SMEs result in lower local unemployment

rates, an improved standard of living for the local community, and sustainable economic growth in local communities (Benitez-Amado et al., 2015; Zhu, Zhao, Tang, & Zhang, 2015).

A Review of the Professional and Academic Literature

The overarching purpose of this qualitative, multiple-case study research was to explore the information systems strategies that SME owners use to increase business sustainability beyond 5 years. In this section I present a constructive, synthesized, critical analysis of the literature on the RBV, complementary theories, and the business problem. I used accredited scholarly journals, seminal scholarly books, and government reports to convince readers of the depth of inquiry made on the investigation of the factors that influenced the effective use of the information systems strategies in the SMEs. I identified eight major concepts for the literature review: (a) the RBV framework, (b) SMEs, (c) business strategy, (d) information systems strategy, (e) resources, (f) competitive advantage, (g) innovation, and (h) sustainability.

Research Strategy

I used the following databases: Academic Search Complete, ABI/INFORM, Business Source Complete, Google Scholar, ProQuest Science, ProQuest Dissertation and Thesis, and SAGE. I used the following keywords: *business sustainability, business intelligence, e-commerce, e-business, corporate social responsibility, information system strategies, information systems, information technology, resource-based view, organizational culture, profitability, Small- and medium-sized enterprises, and social*

media. I used Ulrich's Periodicals Directory database to verify the peer-review status of journals or articles reviewed during this research.

Organization of the Review

I aligned this review of the professional and academic literature with the conceptual framework and with related topics that I identified as contributive factors to the role of information systems strategies for small businesses sustainability. I reviewed works of literature on the following topics: e-commerce, e-business, innovation, strategies, information systems strategies, and small business leadership. I applied the concepts of the RBV framework and business-related literature in the order of importance and process, not in chronological or geographic order.

The sources used in this study were as follows: (a) 155 peer-viewed scholarly journal articles, (b) six dissertations, (c) two government reports, (d) three seminal books, and (e) three scholarly conference proceeding articles. Of the 168 sources used, 91.7% were peer-reviewed and 95 had publications dates from 2016-2020, thus equating to 56.5% within 5 years of my expected graduation date. Fifty sources or 29.8% had a publication data of 2015. Sixty-eight sources are unique to the literature review.

Resource-Based View Framework

The RBV of strategic management, originated by Penrose (1959), is the conceptual framework of this study. Wernerfelt (1984) built on the work of Penrose, arguing that the two aspects of the firm are resources and products. Wernerfelt further developed the RBV as an analytical theory for growth from the usefulness of the firm's

resources rather than a company's products. The fundamental propositions of the RBV are (a) leaders need internal and external resources to sustain organizational performance, (b) leaders use resources to gain a competitive advantage, and (c) leaders strive to obtain and retain unique resources (Gupta et al., 2018; Penrose, 1959; Wernerfelt, 1984; William & Brian, 2015). Wernerfelt proposed that leaders should adopt an effective technology strategy to enhance the firm's resources. Gupta et al. (2018) proposed a new concept for the RBV: (a) information systems as an internal firm resource, (b) information systems as a strategic and sustainable competitive advantage, and (c) information systems as a driver of firm performance.

The RBV framework, according to Salazar (2017), is a capable lens for researchers and business leaders to view and improve the existing internal and external resources of an organization through information systems technology tools and services in order to improve performance, business sustainability, and resource management. Salazar proposed an extended RBV concept as value, rarity, inimitability, and non-substitutability as the contributive factor to creating sustainability and competitive advantage in businesses. Salazar argued that resource and strategy are not valuable as single concept.

Value challenges exist regarding the other main conditions in the RBV: rarity and cost of imitation and the impossibility to interchange with strategic substitutes. Kabue and Kilika (2016) identified the concepts of the RBV framework as (a) a firm's resources, (b) core competencies, (c) sustainability, and (d) competitive advantage. The existing

relationship between the firm's resources and the effective strategy of the organization may result in business leaders gaining a deeper understanding of how a firm's resources and capabilities causally relate to value creation. Business leaders use the RBV framework to develop strategies for their firm's performance, sustainability, effectiveness, and development (Gupta et al., 2018). Organizational leaders use the RBV as the strategic resource to meet specific criteria, such as reducing costs and improving customers' value. A leader's acquisition of resources must be value-driven, either to create rarity, inimitability, and the emergence of products and services (Gupta et al., 2018). Competitors who lack the same resources cannot compete with the value provided by those who own the resources (Wernerfelt, 1984).

Business strategy. The widespread perception of business leaders and theorists resulted in a variety of definitions for strategy. The definitions are subject to the business leader's judgment. McAdam, Bititci, and Galbraith (2017) defined strategy as business owners' structured actions or plans to survive a competitive market. Bereznoi (2014) defined strategic planning as the long term, progressive scope, and direction of an organization concerning the organization's goal, and as the approach to achieving the organization goal, but determined by the need, requirement, and long-run expectation of the business market and the stakeholders. The goal of business strategy in offering exceptional value to its customers is to win (McAdam et al., 2017). Strategic planning is the designed organizational theory, vision, and value of the business leaders, aligned for

developing an outstanding plan, to gain influence and sustain its relevance to customers in the marketplace.

The strategic plan encompasses the articulated plan for incorporating the organization mission and values towards specific business goal(s). The business leader's proper formulation of the business strategy about the right information systems strategy fosters the internal and external development of the organization (Yeh et al., 2015). Therefore, IT strategies and business strategies concurrently are essential for proper implementation of e-business or other IT services to support business sustainability. Adequately planned IT strategies enterprises must have robust capabilities to ensure the execution of the plan.

Firms' resources. The procurement of evaluated essential resources within an organization is a prerequisite for the organization to gain a competitive advantage in the marketplace. Nevertheless, the qualities to sustain competitive advantage is dependent on quick realization, acquisition, and implementation of the right resources; likewise, the organizational involvement in continuous research and combining resources desirable to develop core competencies and the required resources through research and development (R & D) (Kabue & Kilika, 2016). Business leaders practice market-based alignment to gain the most significant advantage regarding market growth, yet business leaders use network-based alignment for improving innovation performance (Park, Lee, Daniel Lee, & Koo, 2017). Therefore, the business sustainability and competitive advantage of an organization embrace the implementation of some reserve allocation qualities that are

dependent quick realization, acquisition, and implementation of the right expedient resources for innovation capability.

Innovation capability. Innovation capability is the act of business owners or leader's investment in resources geared towards the creation of products and services for market relevance and emerging market leadership. Islam, Hossain, and Mia (2018) argued that many managers and organizations are unclear about the right long-term strategy for business sustainability. Sustainability assessment for strategy is possible and productive when the strategy aligns with the organizational environment by the reflection of the existing and predictive circumstances of the organization. Trantopoulos, von Krogh, Wallin, and Woerter (2017) described innovation as the strategy for accessing and integrating the external knowledge that resides outside the firm, such as customers, competitors, universities, or consultants to formulate the invention in firms' innovative success. Trantopoulos et al. showed that data access systems and network connectivity strategy hold unique potential in the effective absorption of external knowledge and the subsequent realized economic gains from process innovation. Business leaders use external knowledge for innovation development and increased performance in their companies.

Grosse (2016) posited that there would be the continuing trend of the markets and companies emerging, and some of the emerging markets may be the economic growth facilitator or business leader's growth in the marketplace for an extended time. The embraced business strategy by business leaders must channel towards adding new

elements of value for consumers for social impact. Similarly, for life changing, emotional, functional needs, opening access, time, and cost savings values, but such business strategy entrench technology-driven features (Giboney, Briggs, & Nunamaker, 2017). Leaders should apply the business strategy as a propelling force for the organization to excel and remain relevant in a competitive market (Grosse, 2016). Therefore, IT in the form of data access systems and network connectivity has a direct effect on IT investments and economic gains. Firms' significance in their respective industry requires the acquisition, development, and implementation of the right resources by the business owners, to improve the right innovation strategy to build SME resources, core competencies, and a sustainable competitive advantage.

Competitive advantage. Earlier researchers conducted studies using the RBV framework to prove the importance of IT incorporation into an existing business strategy. Luo, Fan, and Zhang (2016) established that the quantity and scope of investments in enterprise IT applications positively related to cross-channel capabilities. Financial resources positively moderated the relationship between enterprise IT applications and cross-channel capabilities. Karanja, Njeru, and Muhoho (2016) referenced the banking industry strategy and adoption of mobile banking as creative process of service delivery to their customers towards the measure to gain access to their customers in the marketplace. Luo et al. and Karanja et al. revealed that business leaders use enterprise IT applications to increase the frequency of and broadened the types of managerial actions.

The cross-channel capabilities had mixed effects on administrative activities; the market-oriented capabilities, such as e-commerce and multichannel cross-selling capabilities, increased the types of managerial actions. Nonetheless, operation-oriented capabilities, such as cross-channel fulfillment, narrow the range of a firm's administrative operations. Raymond, Bergeron, Croteau, and St-Pierre (2016), in agreement with Karanja et al. (2016), established that IT-enabled capabilities, such as artificial intelligence, e-business, and other IT-enabled capabilities, have a direct influence on the competitive performance of SMEs. Leaders developed the capabilities as an outcome of entrepreneurial orientation and realized through the development of strategic skills.

In this study, I utilized the kinds of literature evidences available to me during the research to explore the information systems strategies that some SME business owners implemented to sustain their business beyond 5 years. The key concepts regarding information strategies that SME owners use are: (a) business strategy; (b) information systems strategy; (c) firms' resources: IT, acquisition, knowledge management for performance; (d) innovation capabilities for sustainability; (e) competitive advantage; and (f) information systems, IT, and sustainability alignment.

Dynamic Capability Framework

Teece, Pisano, and Shuen (1997) developed the dynamic capability framework (DCF). Teece et al. described the DCF's key concept as coordination and integration, learning, reconfiguration, and transformation. In later research, Teece (2007) extended the idea to (a) sensing and shaping opportunities and threats; (b) seizing opportunities;

and (c) adapting, configuring, and reconfiguring the firm's tangible and intangible assets to achieve competitive advantage. Nwosu (2017) found the DCF, an insightful conceptual framework that theorists used to explore the SME business owners who acquired, implemented, and adapted the e-commerce system. Nwosu adopted the DCF framework to examine the effect of e-commerce on business growth and organizational performance. The investigation of Nwosu's research indicated that the involvement of IT systems, tools, and strategies aids to boost business performance. Additionally, the application of IT services has positive impact on emerging businesses to increase business survival strategy. The significant components of the DCF are as follows:

- Dynamic capabilities are the business leader's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al., 1997).
- Concept of dynamic capabilities entails the vital aspect for business is corporate agility or the capacity to (a) sense and shape opportunities and threats; (b) seize opportunities; and (c) maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets (Teece et al., 1997).
- Organizations are responsible for many different stakeholders (Teece et al., 1997).

Business leaders and theorists use the DCF theory as a measure to evaluate research, based on the rationale that RBV is not adequate for leaders to explain how, and

why certain firms have the competitive advantage in situations of rapid and unpredictable change. The DCF theory is an extension of the RBV theory (Nwosu, 2017). The DCF theory applies to competitive advantage because DCF theorists assume that organizational success occurs when business leaders deliver value to most of their stakeholders, which extends beyond profitability (Nwosu, 2017).

Technology-Organization Environment Framework

Tornatzky and Klein (1982) noted that the three pillars of the technology-organization environment framework (TOE) framework are technological, organizational, and environmental. In further research on the concepts of the TOE framework, Awa, Ojiabo, and Orokor (2017) advanced the TOE concepts as technology, organization, and environment, yet added individual and task context. The three pillars of the TOE framework are the prerequisites to building business sustainability in SMEs (Olaitan & Stephen, 2016). Awa et al. argued that researchers use the TOE framework to investigate the concepts that meet the demand for more socioeconomic strides in information systems strategies for business leaders to improve the adoption of technology for problem solving. Researchers established that e-business might not exist alone but by well-supported IT strategies to influence promotions and business sustainability through substantial technological, organizational capabilities available to SME business leaders. Awa et al. conducted research on the taxonomy of technology adoption through the TOE framework. Awa et al. aimed to understand the relationship between adoption and the dynamics within the contexts of technology, organization, environment, and task based

on the application of TOE taxonomy framework concepts, and to categorize the achieved factors into relevant contexts in fostering individual context, and social factors significantly. Awa et al. concluded that the perceived effortlessness in manipulating innovative technology significantly supports adoption. The manipulation of a system makes adoption faster. The findings of Awa et al. indicated the following assumptions:

- Perceived compatibility between new and incumbent technologies significantly affects adoption, yet adoption improves when leaders use modern technologies to provide compatibility and integration.
- Organizations with robust support from top management are more likely to adopt innovative technologies faster than those managers without dedicated support.
- Large enterprises are more likely to adopt modern technologies faster than SMEs.

The scope of business operations significantly affects the possibility of adopting new technologies; firms with a broad scope of operations adopt technologies faster than companies with a smaller scope implement modern technology. Yeh et al. (2015) conducted research using the TOE framework to investigate the factors influencing e-business IT capabilities. Yeh et al. identified the key factors affecting e-business IT capability as IT maturity, IT infrastructure, IT human resources, support from top management, partnership quality, and competitive pressure. However, IT capability significantly affects the implementation of IT strategies in any organization. Yeh et al.

further indicated that e-business is an IT capability; the environment has a significant favorable influence on the implementation of IT strategies.

Technology is determinism adoption over individual determinism for the rational choice in decision making and systemic use of comprehensive information to build sustainability (Awa et al., 2017). E-business might not exist alone, but by well-supported IT strategies leaders use to influence promotions and business sustainability (Awa et al., 2017). Therefore, IT strategies and business strategies concurrently are essential for proper implementation of e-business or other IT services to support business sustainability. IT capabilities significantly affects the implementation of IT strategies in any organization. The need for further research on information systems strategies for business sustainability exists because of the rapid growth of business globally (Awa et al., 2017).

Small and Medium Sized Enterprises (SMEs)

Government agencies dedicated to small businesses acknowledged SMEs as the foundation of the global economy. The relevance of SMEs to the global economy is due to numerous benefits and social implications of their immediate community. SMEs owners created a considerable global labor force to support the growth of business operations (Olaitan & Stephen, 2016). Entrepreneurship is a significant mainstay of global economic stability and growth (Hyder & Lussier, 2016).

The SBA report indicated that 28.8 million SMEs created 63.3% of U.S. jobs (SBA, 2018). However, SMEs global failure rate is high (Hyder & Lussier, 2016). From

2004 to 2014, 78.5% of new enterprises survived for 1 year. Between 2006 and 2011, 45.4% of small business survived beyond 5 years (SBA, 2018). Business survival is about owner and leaders continuously keeping business relevance and maintenance of competitiveness and sustainability. Some business owners manage the companies to be technology dependent and nontechnology dependent (Wiyatno et al., 2017). Technology is a prominent trigger for business development through innovation and other IT tools available to support the organizational functionality for SMEs. Leaders adopt technology to aid the SME in meeting the community demands optimally and efficiently.

Information systems are beneficial for business owners to achieve the organizational goals; however, the goals are achievable with the appropriation of all-encompassing strategic planning of information systems (Kurniawan & Hiererra, 2016). Nevertheless, the achievement of the organizational goal for business leaders is solely dependent on the business owners to develop a strategic information system planning and decision support system that results in a contribution to business development (Kitsios & Kamariotou, 2016). The adoption of technology by the business owners of SMEs resulted in the optimal and efficient attainment of the community demands. Technology adoption is a significant contributive factor for the SME's competitive advantage and sustainability (Wiyatno et al., 2017). I discussed further research-based investigations about the strategies SMEs and other organizations have or may influence sustainability through information systems strategy adoption.

Business Strategy

Business strategy originated from the Greek word *strativeia*, involving two Greek words: *stratos* meaning army, general, and *ago* which in ancient Greek denotes guiding, moving, and leading (Ozleblebici & Dogan, 2015). Business strategy is the guiding organizational plan business leaders use to gain and sustain competitive advantage by generating high profitability in the marketplace (Ozleblebici & Dogan, 2015). A need exists for detailed process planning that the organization may absorb to reach the mission for the planned strategy to be successful. The organization leader should examine their internal and external environment for proper of the undercurrent understanding of the working process, weaknesses, area of opportunities, and the threats to the existence of the organization (Menga, Dan, Lu, & Liu, 2015). Kurniawan and Hiererra (2016) noted that leaders use effective strategies to promote alignment among diverse groups within an organization, clarify goals and priorities, and help focus efforts to reach the goals. Therefore, business owners of organizations must articulate strategies to align their innovation efforts with their business strategies; otherwise, there will be recurring cases of temporary fixes with no lasting benefits. The leaders' approach to ending recurring issues remains vital through the continuous examination of the internal and external analysis for continuous improvement.

External analysis. Leaders undertake external analysis to recognize their present state, the forecasted future, the best strategy to move forward and winning the recognition over current choices of organizations running a similar business scope. External analysis

is the stage in which the organization examines the current industry strategies internal analysis. The internal analysis in organizations is the act of inward evaluation to find the current business state, business goals, the motive of the business goals, and the rightest strategy to gain a competitive advantage. Business leaders examine the current state of the strengths and weakness of the available resources and abilities to the company.

Business leaders' identified values often determine the components needing improvement to meet the challenges ahead (Giboney et al., 2017). Business leaders realized market-based alignment to offer the most significant advantage about market growth; also, the network-based alignment by the leaders often lead to the best organizational innovation performance (Park et al., 2017). Business leaders use the outcome of the internal evaluation to create the corporate, business unit, and practical strategy in alignment with the specialized business unit for the organization (Giboney et al., 2017). The RBV is a means for business leaders to formulate the strategies that may be adapted to develop the necessary stakeholders, management, team business decision, and action to gain and sustain in the marketplace.

For business leaders to sustain competitive advantage, they need a quick realization of the existing market, acquisition, and implementation of the right resources (Kabue & Kilika, 2016). Therefore, organizational leaders must develop and acquire IT governance tools applicable for services integration of the firm's internal and external evaluation outcome in hierarchy-based alignment for optimizing the firms' operational efficiency (Park et al., 2017). Leaders use the external and internal analysis to recognize

the organization's strengths, weakness, opportunities, and threats, and the dynamic capabilities of the organization (Menga et al., 2015). A political, economic, societal, technological, legal, the environmental analysis is applicable for the dynamic capability measurement (Menga et al., 2015). The external analysis is contingent on opportunities and threats, while internal analysis is contingent on the strengths and weakness of the organization.

Internal analysis. The internal analysis in organizations is the act of inward evaluation to identify the current business state, business goals, the motive of the business goals, and the rightest strategy to gain a competitive advantage. Business leaders engage in the examination of the current state of the strengths and weakness of the available resources and abilities to the company. The business leaders' identified values often determine the components needing improvement to meet the challenges ahead (Giboney et al., 2017). The leaders realized market-based alignment to offer the most significant advantage about market growth. The network-based alignment by the leaders often leads to the best organizational innovation performance (Park et al., 2017).

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exceptional values that attract prospective customers for the organization, in pursuit of business sustainability.

Technology-driven services. Technology-driven resources are assets and opportunities tools essential to information systems strategies. Hence, internal and external analysis requires the technology-based capability and tools acquisition as developmental resources in preparation for the future and current technology opportunity for the organization. McAdam et al. (2017) examined the misalignment between strategy and operations because of the rapid change in the market structures and technology adaption to increase performance measurement in the organizations. Business leaders should forecast the future acquisitions of IT tools and human resources required to develop and grow the company in innovation, competitive advantage, and macro dynamics (Teece, 2007). The learning process and organizational competence are means for organizational leaders to determine the current state of the company and the strategic direction needed to outperform the competition (Teece, 2007). Technology is a driving force for strategic planning.

Business leaders must ensure the motive of the information system strategy aligns with the organization's purpose for the strategy implementation to be successful (Wilburn & Swanson, 2016). Strategy implementation is the last stage of strategy cycle, in which leaders use organizational engagement or alignment to meet the business goals (Giboney et al., 2017). Functional strategies are the leader's plans applied to implement job-role-assignment strategies to the business units in alignment with the organization's mission

and values (Wilburn & Swanson, 2016). Communicating clearly and directly, obtaining employee buy-in, bringing people into the strategic process, matching goals, and motivation, and executing with the right tools needed to succeed are vital functions leaders undertake for successful strategy implementation (Giboney et al., 2017). Continuous organizational transformation is a means for organizational leaders to strengthen the efficiency within the organization for the actualization of the company's goals (Hanelt, Busse, & Kolbe, 2017).

Leaders and managers use information systems strategies to contribute to the realization of the organization's long-term performance and help to understand the process to achieve the business goals (Luo et al., 2016). Business owners adopt technology-driven tools to facilitate performance management and measurement through information systems strategies tools and services such as business intelligence, to define and monitor performance metrics to manage human resources, organizational service delivery, quality customer delivery, and managerial process. Information system services are a means for business leaders in providing mediums and tools that can enhance organizational service delivery and managerial process.

Organizational motivation through business culture. Organizational leaders achieve sustainable growth by developing human capital continuously through the creation of working organizational culture and strategy, human resources management, and attention to the function of compensation in organizational development (Stachova, Stacho, & Vicen, 2017). Business leaders increase the developments and successful

implementation of innovative ideas for innovation success and competitive advantage (Stachova et al., 2017). The organization's culture encompasses the existing teamwork, cooperation, and collaboration between leaders and employees in the organization (Stachova, Stacho, & Pajtinkova Bartakova, 2015). The organization's culture has a direct and significant effect on the leader's commitment to customer engagement and employee engagement for sustainable development, values enforced by a company, and the values of its employees to drive the business success. Stachova et al. (2017) supported the role of managers on the contribution to the effectiveness of information flow through formal communication channels. The proper use of informal communication may have a positive impact on an organization's culture through its speed and efficiency to increase the employee's engagement and customer engagement.

Business leaders may formulate organizational motivation through the reinforcement of two-way communication and feedback mechanisms between leaders and followers, about proposed or planned change management, new business ideas. The feedback mechanism stays a means to ensure the effective sharing of the right and useful information on the specific projects and acquisition of the company projects and services (Stachova et al., 2015). Parida et al. (2016) suggested that the components of ICT capabilities are applicable for facilitating the development of the different organizational capabilities that may contribute to a small firm's competitive advantage and sustainability. Stachova et al. (2017) posited that influencing organizational culture by means of the remuneration of employees, as a function of human resources management

adopted, and the remuneration function is often seen as key to building the content of organizational culture for motivating employees which are recognized as the predictor of employee behavior and commitment. Parida et al. established that ICT capabilities influence dynamic capabilities of a firm's adaptive capabilities, interactive use of ICT positively influences networking capabilities, and ICT use for communications positively influences both adaptive and innovation capabilities. Therefore, business managers must strive to develop an understanding of how to ensure higher conscientiousness of information towards effective communication in an organization and its contribution to business development and work motivation to support business sustainability.

Information Systems Strategy Adoption for Value Creation

SME business owners adopted information systems strategy into their business strategy to achieve profitability and value creation. Information systems strategy encompasses the act of using IT as a support, to enhance, and advance business process. I reviewed the literature regarding the achievable value from information systems strategies by SME owners.

Information systems strategy. Information systems strategy is the act of planning of how organizational leaders perceive, develop, and implement IT architecture, technical standards, and security tools in alignment with business needs (Coltman et al., 2015; Maharaj & Brown, 2015). Kabue and Kilika (2016) acknowledged information system strategy as an advantage that business leaders may adopt to sustain their businesses beyond specific years. Leaders of successful organizations recognized

innovation as the source of organizational development, growth, and success of their operations (Zapalska, Brozik, & Zieser, 2015). Organizational leaders have increasingly focused on information systems strategy as a strategic tool to achieve their long-term goal, increasing competition, and overcoming managerial challenges work against business sustainability (Srivastava, & Sushil, 2015). Leaders of organizations seek continuous attainable improvement through the strategies that may contribute to the enhancement of the organizational: information systems, innovation, customer engagement, and organizational performance leads towards gaining sustainability in the marketplace (Devece et al., 2017). Therefore, the implementation of the organizational strategic plan must be prepared with competent design and use of information system strategy through the conditions of the measure of the organization (Zhu et al., 2015). Earlier researchers' evidence denoted the importance for business owners to adopt strategic implementation through economic, social, and environmental considerations for business to longevity.

Earlier researchers proved that SME owners who adopt innovations with the application of information system technology would quickly reach high organizational performance to gain the competitive advantage for sustainability (Nwosu, 2017; Zhu et al., 2015). In this study, I further examined more on the facts about information system strategy for SMEs sustainability and the application of information systems strategy to several businesses or industries. The central focus of this part of the literature review is

on the achieved results of SME leader who adopted IT into effective business development plan to gain long-term stakeholder and customer loyalty.

Information technology for value creation. IT services and tools are components for SME business owners to create value. IT systems development and growth triggered positive changes in the business development plans for efficiency and effectiveness, as well as IT systems advancement itself. Business leaders use IT systems that align with the business plan and the condition of the organization to remain relevant in the marketplace and win against competitors (Juwita & Arifin, 2017). The use of forecast obtainable through information system strategy plays a significant role in mitigating operational and disruption risks. The information system should align with the business strategy for the SME owner to achieve the best level of profitability and sustainability (Juwita & Arifin, 2017). The comparison analysis of the information systems strategies and collaborative planning, forecasting, and replenishment shown that supply chain manager achieve prominent levels of risk mitigation and preparedness (Fan, Yang, & Fan, 2016). The balanced scorecard is useful for leaders to evaluate performance and translate the organization's strategic goals into a set of performance indicators and aligning the departmental and personal goals with the strategy (Juwita & Arifin, 2017).

The implementation of the organizational strategic plan must be prepared with a practical design and use of information system strategy through the conditions of the measure of the organization (Zhu et al., 2015). Zhu et al. (2015) affirmed that organizational leaders that invest early in operational capabilities, such as e-business

technology, achieve greater competitiveness due to the more extensive experience of capability development. Correspondingly, Benitez-Amado et al. (2015) acknowledged business leaders' investment in IT resources and infrastructure for R & D would enhance their business development and sustainability, may manage talent better than others who do not implement, invest in IT infrastructure capabilities. Scholars' final shared pieces of evidence and finding from earlier signified that firms increased their ability by using information systems web-based technologies to influence operational capabilities. Therefore, business owners must implement plans to invest in IT services and tools earlier to gain from the benefits information systems strategy have in influencing operation performance and sustainability.

Information systems strategy and RBV alignment. The alignments of IT governance for internal and external IT resources significantly affect firm performance and often results in increased benefits for sustainability. Park et al. (2017) conceptualized internal and external IT governance from the extended RBV framework to propose three alignments between the internal and external IT governance to understand their effects on leaders' ability to increase performance, competitive advantage, and sustainability. Business leader expands their opportunities for growth by using a combination of internal and external IT governance (Park et al., 2017). Similarly, Gupta et al. (2018) propositioned the contemporary RBV of information systems that company leaders can use to establish transient competitive advantage with the understanding of information system as an internal firm's resource, as the source of competitive advantage, and the as a

driver to firm performance. The acquisition of resources must be value driven to create rarity, inimitability, and the emergence of products and services (Salazar, 2017).

Business leaders invest in the creation of disruptive technologies to limit prevailing business sustainability and performance. Information systems strategies are an effective means for leaders to contribute to business sustainability (Gupta et al., 2018). Leaders use the RBV of the information system to build sustainable competitive advantages for firms that operate in relative environments, whereas researchers adopt the contemporary RBV of information systems to explore the applications essential to understand and develop transient competitive advantages for firms that operate in relative agile and dynamic environments (Gupta et al., 2018). Value is the central concept emerging from the interaction of the internal and external resources within the firm to achieve business sustainability and competitive advantage in the marketplace (Salazar, 2017). Leaders of SMEs who failed to evaluate existing internal and external resources as a significant factor to create and develop working business strategies that may strengthen internal and external resources of the organization through the encirclement of information system strategy may soon go out of business.

Business Strategy, Information Systems, and Technology Integration

The winning organization business strategy integrated into IT may result in an increase in the rate of innovation development in an organization, resulting in business sustainability and business relevance (Qrunfleh, Tarafdar, & Ragu-Nathan, 2012).

Leaders adopt IT and information systems strategies to gain operational support and to

boost the business efficiencies through the adoption of IT services daily supporting transactions, and operation cost management through the predictability functionality available through IS (Qrunfleh et al., 2012). However, IT capability significantly affects the implementation of IT strategies in any organization. Yeh et al. (2015) defined e-business as a means of conducting commercial activities through the open Internet and using IT to improve old business models and expand customer value, to form the core of modern commerce. The embrace of technology-based platforms, such as Big-data for business prediction analysis, is a recognized means for support of business growth (Prajogo, 2016). Therefore, IT strategies and business strategies implemented concurrently stays indispensable for the proper implementation of e-business or other IT services that have the proficiency to support business sustainability. The successful organization strategy is contingent on the suitable business strategy formulation about the chosen information strategy created to foster the internal and external development departments of the organization.

Adequately planned IT strategies enterprises must have robust capabilities to ensure the plan executed. IT and information systems strategies remain a recognized vital contributor to the successful execution of effective strategy in many aspects of businesses globally (Srivastava & Sushil, 2015). Therefore, business leaders use information systems strategies execution to promote long-term sustainability and competitive advantage (Srivastava & Sushil, 2015). Innovation is for product stability for mitigating, preparedness, response, and recovery from disruption risks through IT technologies

(Nagy, Schuessler, & Dubinsky, 2016). Yeh et al. (2015) confirmed that e-business IT capabilities have a significant favorable influence on the implementation of IT strategies. In sum, effective business leaders use IT enabling the capability to support their e-business strategy, improve product promotions, and increase business sustainability.

Business intelligence is an IT strategy to extract from big and various data, to derive the relevant information and build the economic and social trends of customer's needs and acquiring the necessary knowledge that supports business strategy (Mihaela, 2018). Mihaela (2018) described business intelligence skills, technologies, and practices for continuous iterative exploration and investigation of past business performances, examined to gain insight and drive business planning. Prajogo (2016) established that company leaders and owners who have implemented various business intelligence approaches along with the existing business model could sustain performance and product management for an extended period. Likewise, the incorporation and development of new strategies into a winning strategy remains an essential resource that may stimulate the building of links between subcommunities who would not usually work together but due to the gains associated with the developed strategies (Mihaela, 2018). Hence, the development of innovative management strategies in organizations is significant in shaping the management's effort towards investing in the development of winning products and services for the long-term organizational benefit because of the knowledge gotten through business intelligence predictive capability.

Firms' IT-based Resources for Enabling Business Performance Improvement

A firm's resources may be tangible or intangible, measured by value and cost. The tangible resources are physical, real, and measurable (Nwosu, 2017). For example, assets, hardware, software, data, and procedures that complements the use of innovation are adequate resources leaders use to increase organizational performance and reduce environmental harm. Although intangible resources are immeasurable, they exist but as an organization has recognized virtues. Parida et al. (2016) supported that the SME leaders may develop their critical capabilities of the internal and external resources to meet the ambiguities existing in the marketplace and business environment.

Organizational leaders must develop their human capital continuously through the creation of a working organizational culture and strategy, human resources management, and attention to the function of reward in the organizational development to achieve sustainable growth (Stachova et al., 2015).

Business leaders seek the development of human capital to increase the probability of successful implementation of innovative ideas for innovation success and competitive advantage (Stachova et al., 2017). The process of organizational leaders to adopt, learn, and adjust to rapid changes in well-organized management structures involves the managers acquiring human resources regarding the expertise required to drive the chosen business strategy to foster change management, which is an essential aspect to business sustainability (Nwosu, 2017). Business leaders must invest in substantial resources to reach sustainability. Conclusively, the continuous organizational

innovations are means that the business owner could leverage to propel the company's capability towards the exploitation of the organizational competencies, technologies, and acquired knowledge capable of stimulating the competitive advantages promotion and securing of resources devoted to R & D in technology, as the measure of support from management.

IT-enabled knowledge, acquisition, and assimilation. Business leaders gain knowledge through acquisition and assimilation to reinforce knowledge transformation and capabilities exploitation. Karanja et al. (2016) evaluated the disruption of mobile technology innovation and its appreciation as a potential to displace businesses in malls. Karanja et al. conducted mixed-method research to integrate both the qualitative and quantitative methodology, to alienate the use case scenario of mobile technology innovation, and its effect on demand for rental space from a generalized perspective. Karanja et al.'s purpose for the case study was to (a) investigate how reducing the cost of mobile technology would affect the demand for rental space in shopping malls, (b) establish how perceived usefulness of mobile technology affect demand for rental space in shopping malls, and (c) to analyze how perceived ease of use of mobile technology affect demand for rental space in shopping malls. Karanja et al. used the sample collected from business managers of 126 businesses whose business is in Sarit Centre Malls in Nairobi Kenya for the evaluation. Karanja et al. revealed that the organizational learning ability to run procedures that can enhance the human and mobile technology interaction

led to reduced demand for display and exhibition space in malls and over the counter transactions.

Luo et al. (2016) established that the quantity and scope of investments in enterprise IT applications were positively related to cross-channel capabilities. Karanja et al. (2016) referenced the banking industry strategy and adoption of mobile banking to gain customers in the market, as creative destruction in service delivery to their customers. Raymond et al. (2016) established that IT-enabled capabilities, such as artificial intelligence, e-business, and other IT-enabled capabilities, have a direct influence on the competitive performance of SMEs. The outcome of Luo et al. research indicated that (a) enterprise IT applications increased the frequency and broadened the types of managerial actions. Furthermore, the cross-channel capabilities had mixed effects on administrative activities; the market-oriented capabilities such as e-commerce and multi-channel cross-selling capabilities increased the types of managerial actions. Nonetheless, operation-oriented capabilities, such as cross-channel fulfillment, narrow the range of a firm's administrative operations. Business success is a function of leaders acquiring capabilities developed as an outcome of the organization's entrepreneurial knowledge orientation gained through the development of innovative strategic skills and tools.

IT-abetted knowledge management. Leaders get knowledge in several aspects as a mean to uphold the right decision. Technology adoption is a tool for breaking down existing obstructions between different retail channels and Omnichannel retailing

inevitable; an integrated sales experience that melds touch and-feel information in the physical world with online content (Luo et al., 2016). Luo et al. (2016) reemphasized that IT changed the dynamics of competition in the U.S. economy. Raymond et al. (2016) posited that entrepreneurial orientation directly influences the deployment of IT-enabled knowledge acquisition and assimilation capabilities as well as the knowledge transformation and exploitation capabilities of SMEs. The entrepreneurial orientation has no direct influence on SME performance (Raymond et al., 2016). Therefore, business leaders must develop strategies that support continuous knowledge acquisition through the better leveraging of tools that may serve the purpose of business prediction and right decision making towards developing and upholding the business beyond the limited timeline.

Innovation Capabilities for Sustainability

Innovation. Innovation is the purposeful analysis of new opportunities, tailored towards the satisfaction of the specific market, social needs, demographic, industry, and market needs from acquired knowledge of the prospective new market towards a designed application for simplifying a current need of customers (Inigo, Albareda, & Ritala, 2017). To implement a successful innovation, the leader must address the social impact, life-changing aspects, emotional components, and functionality for the consumer. Lichtenthaler (2016) nominated the following concepts as innovation classifications: (a) product innovation, (b) service innovation, (c) process innovation, (d) business model innovation, and (e) management innovation.

The embraced strategy by business leaders needs channeling towards adding new elements of value for consumers about social effect, functional needs, opening access, time, and cost savings, but must include technology-driven features (Giboney et al., 2017). Business leaders seek to foster customer loyalty to grow the company and increase their competitive advantage (Giboney et al., 2017). Business leaders adopt the technology-based business strategy to support and to enhance business sustainability in an organization (Inigo et al., 2017). Rothwell (1994) mentioned that the growing complexity and pace of industrial-technological change is compelling the firms to invent new alliances fashioned to respond more efficiently to the evolving market changes. Innovation does not relate to a specific industry, but applicable to cross-functionality and improvement to the organization marketplace, primarily when the adoption of IT occurs. Consequently, human resources leaders need to understand the critical importance of innovation, how to contribute to their organization's innovation mandate by attracting and keeping the most innovative people, continually improving their skills, and creating a culture of innovation.

Innovation adoption and implementation for SMEs. Business leaders invest in research and development to stay ahead of the market. Birken et al. (2015) defined the implementation of strategies as a post-adoption task; usually, the time that employees ideally become proficient and consistent in their use of newly adopted innovation. Rahayu and Day (2015) postulated that business leaders, including SME owners, are inclined to embrace e-commerce for business sustainability, and the effect of nonadoption

of technologies may act as the source of business failure. Birken et al. agreed that top managers' classified as chief executive officers, medical directors, and much more might have a part to overcome the organization challenges by proving support for innovation implementation. The middle managers are the overseer of the adopted innovation by devising the means to reduce the disparity for improved process implementation (Birken et al., 2015). Technology organization environment entails the analysis of firm-level adoption of technologies using three types of contexts incorporates technological, organizational, and environmental contexts that may influence technological innovation adoption and the implementation process (Gutierrez et al., 2015). Rahayu and Day discussed that technology readiness has a positive and significant correlation with e-commerce adoption, while firm size does not. Hence, the determinant factors that influence SMEs in Indonesia in adopting e-commerce technology.

Earlier researchers justified the importance of IT to business success. Gutierrez et al. (2015) conducted a quantitative research methodology, using a self-created survey to collect data from 257 mid-to-senior level decision-making business and IT professionals from a range of U.K. end-user organizations as a data source for analysis and testing. Using the TOE framework to analyze firm-level adoption of technologies using three types of contexts incorporates technological, organizational, and environmental contexts that may influence technological innovation adoption and the implementation process. Gutierrez et al. found that technological, organizational, and environmental contexts incorporation into a business strategy might serve as a means of influencing technological

innovation adoption and the implementation process in any organization. Birken et al. (2015) showed in their research that top managers might increase the middle managers' commitment by direct conveyance of the strategy to the middle managers and setting the priority of the adopted innovation as a priority, and the creating implementation policies and standard operating practices used to gauge employee performance. Reduced implementation rates can be a result of cognitively, emotionally, physically, and spiritually disconnect amongst the people in an organization (Birken et al., 2015). Middle managers often use the influence of top management to drive employee commitment through communication with both top management and the lower team members about the most proper means of implementing the adopted innovation successfully. Therefore, for successful innovation, there must be buy-in from all the parties involved. Top managers' support influences middle managers' commitment to innovation adoption and implementation.

Innovation and product integration. Innovation involves risk of acceptance for new products and service development for manufacturing-based SMEs. The embrace of opportunities and managing risk derived from economic, environmental, and social developments is attainable through the adoption of business intelligence, an IT strategy to extract from vast and various data, to derive the relevant information required build knowledge that supports the strategic development of profitable products and services (Mihaela, 2018). Gholami et al. (2016) defended information systems and technology as the primary force for productivity increase in the since the 1950s. Mihaela (2018) argued

that product and process innovations contribute to improving the firms' environmental performance and for driving them to achieve benefits or advantages, such as lower costs, higher productivity, or entry into new markets.

Information is a vital asset for product management. Information is an advantage for assessing the state of the environment and making right decisions to revolutionize acknowledged problems mitigating against business sustainability and to create a sustainable society (Gholami et al., 2016). Oliveira, Silva, Silva, Lopes, and Helleno (2016) explained the essential factors that may influence the development of greener products in the mechanical industry. Leaders should use innovation to target economic development and the introduction of new products and services to improve business sustainability (Gholami et al., 2016). Oliveira et al. defined the green design in product creation based on current environmental issues with special consideration of product development as one imperative aspect of product life cycle management. Product design formation must be dependent on valuable and correct information about the elements of the product. Business leaders must encourage the development of innovative concepts to exterminate the old ways of doing things, to create new likeness and trends that simplifies existing process and products (Oliveira et al., 2016). IT strategizing is a realized strategy that synthesizes the deliberate innovation strategy, and the latest information systems strategy (Henfridsson & Lind, 2014).

Innovation, research, and development. Organizational continuous engagement and investment in R & D remain a practical foundation for business sustenance through

innovation, research, and development programs. Innovation is the ability of an organizational leader to develop strategies that may influence business relevance in society, which, in turn, encourages customer loyalty (Nwosu, 2017). Therefore, the growth of an SME is dependent on the capacity of the organization's engagement in research and development of technology opportunities can develop to promote customer engagement, employee satisfaction, and acquisition, which turns out to boost competitive advantage over other market players in the industry (Teece et al., 1997). IT and systems relationship absorbed into business strategy may influence performance to drive competitive advantage gain in business (Devece et al., 2017). However, IT strategy success is solely dependent on the business strategy in use by the organization.

Business-information systems strategy is essential for business growth, competitive advantage, and support profitability. The diversification of business-IT relationship, IT projects, business-IT communication, business-IT engagement, and business-IT strategic misalignment by the business owners and managers is an essential trait to grow business beyond 5 years (El-Telbany & Elragal, 2014). Barney (1991) showed that when a strategic resource meets specific criteria, the resource must be valuable, required to reduce costs, and improve customers value. Devece et al. (2017) argued that information systems strategies innovators would achieve high performance to create product quality, higher sales, and customer retention as a competitive advantage. They went further analyzing with partial least squares structural equation modeling (PLS-SEM), as information systems strategies, business strategy, and innovation relationship,

and the effect of the relationship of different information systems strategies, business strategies, and innovation strategy to gain the competitive advantage in the marketplace. The business leaders make cautious efforts to investment in R & D for the invention of original products in furtherance of the business (Nwosu, 2017). The result from Devece et al. proposed hypotheses indicated that IT by itself could not foster competitive advantage, but in the managerial process of IT-business integration articulated by information systems strategy. Business leaders should focus on R & D investment geared towards innovational development to reach business relevance and sustainability in the marketplace.

Competitive Advantage for Sustainability

The business owner's overarching goal is to make a profit as well as gain a competitive advantage over other competitors in the marketplace. Furthermore, the competitive advantage remains the basis to upholding long-term relevance and customer loyalty (Juwita & Arifin, 2017). Customer loyalty is an indicator of business sustainability (Ashrafi & Mueller, 2015). Leaders of organizations are inclined to IT adoption to reinforce competitive strength.

Leaders must develop IT capabilities to obtain competitive advantages in the information age. Yeh et al. (2015) supported that the amalgamation of information systems into the current process may cause drastic improvement to work processes as well as enabling SME owners to execute strategies more effectively. Ashrafi and Mueller (2015) argued that the combination of IT with other organizational factors in a synergistic

way remains a means to create value. IT systems strategies implemented or developed in alignment with the winning business plan is a means for a business owner to improve their competitive strategy and remain relevant in the marketplace (Juwita & Arifin, 2017). Ashrafi and Mueller supported that tangible IT resources contribute less competitive advantage; however, intangible IT resources positively connect with IT capabilities that eventually influence IT competitive advantage immensely; hence, improve the financial performance of the organization.

Value creation is derivable from IT capabilities, IT resources, in the form of IT human resources, IT knowledge resources, and IT relationship resources, when measured by IT competitive advantage. Juwita and Arifin (2017) argued that IT systems development and growth had triggered positive changes in the business development plans for efficiency and effectiveness, as well as IT systems advancement itself. The implementation of the organizational strategic plan must be prepared with an effective design and use of information system strategy through the conditions of the measure of the organization (Zhu et al., 2015). Therefore, the implementation of the organizational strategic plan must be prepared with a practical design and use of information system strategy through the measures according to the conditions of the organization.

Sustainability

Sustainability is the association of business initiatives with green initiatives, CSR, ethical, and as the consensus of balanced performance across economic, environment and societal front, for shaping the business unit operation for long-term survival (Kumar et

al., 2018). The business sustainability and competitive advantage of an organization involve that the organizations implement some qualities. The qualities to sustain competitive advantage are dependent on quick realization, acquisition, and implementation of the right resources (Kabue & Kilika, 2016). Mihaela (2018) evaluated the issues mitigating against corporate sustainability for long-term shareholder value. Mihaela identified that the embrace of opportunities and managing risk derived from economic, environmental, and social developments is attainable through the adoption of business intelligence, which is an IT strategy to extract from large and various data, to derive the relevant information and build knowledge that supports strategic and winning business decisions.

In big data environments, business leaders embrace new forms of information, tools, and technology to use large volumes of data. Therefore, organizational leaders must develop and acquire IT governance tools, and services integration because of the internal and external evaluation of the firm the hierarchy-based alignment to optimize the operational efficiency of firms (Park et al., 2017). I discuss in-depth evidence from different works of literature to show the dynamics of achieving business sustainability by business owners through the adoption of IT through leadership development, information systems strategy and sustainability, Social marketing an agent for sustainability, CSR, and social media marketing and other mediums.

Business sustainability. Business sustainability is the act of organization to retain consumer trends and emerge long-term relevance (Inigo et al., 2017) with continuous

products and services for their customers (Prajogo, 2016). Srivastava and Sushil (2015) posited that strategy execution as an essential act of formulating a new or improved organizational successful process. Therefore, innovators must involve the combination approach to solve world problem and make the profit for business sustainability through the acquisition of the right and required resources to achieve the business innovation plan and performance management (Lichtenthaler, 2016). Innovative leaders raise the growth value in their organization, as well as, support initiatives that increase competitive advantage for products in the marketplace that may promote customer loyalty (Giboney et al., 2017). Consumers can now perceive a new image of the brands through the multiple interaction's mediums with others in the worlds they cannot typically experience.

Business leaders implement strategic plans to empower the alignment with operational plans for growth and profitability. Business executives must develop more alignment, coordination, and integration of the logistics activities with other business processes, such as marketing, purchasing, R & D, finance, production, and sales department for effectiveness (Lichtenthaler, 2016). Business leaders implement strategic plans to improve customer retention and achieve long-term business goals. Kitchen and Proctor (2015) discussed that most of the organizations failed to grow because most of the companies wait for the traditional advertisement, instead of proactively engaging information systems as the trend of the power shift from producers and manufacturers to the retailers, and how the products end up in the hands, hearts, mind, and computer or

mobile devices of the consumers. Sustainability is dependent on management decision from the outcome of the predictive evaluation for future needs, to develop new ideas and to incorporate innovations into operations for organizations to meet future challenges effectively (Khan & Sawicka, 2016). The business leader seeks to increase profitability, improve sustainability, and to gain a competitive advantage over others in the marketplace (Inigo et al., 2017). Kitchen and Proctor established the geographic market transmitted swiftly via global media to receptive consumers via computer, television, and cellphone screens and is almost immediately accessible; therefore, different communications required for different markets.

Leadership development for SME sustainability. Successful SME owners may achieve business sustainability through the continuous pursuit of knowledge and development of innovative leadership strategies. SME owners must develop a better understanding of leadership phenomena from the successful leaders of SMEs thoughts and practice (Zapalska et al., 2015). Business leaders adopt strategies that are applicable for transferring the discovery of the outcome of the intuitions gained with business partners and third parties to improve the effectiveness to turn data into insights and intelligence (Chen, Preston, & Swink, 2015). Effective leaders nurture innovation, improve teamwork, create a more positive workplace, drive continuous improvement in quality, reduce turnover, and improve the financial performance of most enterprises (Longenecker & Insch, 2018). The leaders of the organization are the major contributors to the means of communication of the company's vision and mission (Zapalska et al.,

2015). Leaders use the mission and the vision to create organizational awareness as well as to improve employee performance and engagement (Zapalska et al., 2015).

Organizational leaders who invest in their leadership team may cause a significant transformation for organizational sustainability. Mindful leaders tend to have stronger intrapersonal and interpersonal skills; therefore, they frequently become more effective in fulfilling their leadership responsibilities and functions (Frizzell, Hoon, & Banner, 2016). Zapalska et al. (2015) described technological innovation as the development acquired the amalgamation of new ideas, business models, work organization models, design, marketing, or as the mode of leveraging opportunity resulting in the creation of a new or varying value-added products or services. The transactional and transformational leadership model is the prominent model for achieving innovation strategy for business development (Zapalska et al., 2015). For leaders to produce or replicate leadership principle or mentorship, the leader must be able to identify the individuals' and contextual factors that apply to produce effective knowledge transfer through training (Vignoli, Mariani, Guglielmi, & Violante, 2018). Therefore, the transferred knowledge often results in meaningful changes in work motivation, follower and leadership performance, and customer engagement, which add value to the organizational growth. Organizational continuous growth may contribute to organizational motivation in several forms.

Senior leaders must demonstrate extreme care with hiring, promotions and succession planning that reflects the values of the organizational mission to support the

leadership development process with constructive feedback, coaching, mentoring for accountability, behaviors, and leadership practice. Leaders of successful organizations recognize that innovation is the source of organizational development, growth, and success of their operations (Longenecker & Insch, 2018). Besides, leaders use innovation to improve performance, financial, staffing, and technology resources development for business sustainability and growth (Zapalska et al., 2015). Through mindfulness meditation, leaders learn to appreciate the changing nature of reality and begin to relinquish over-identification with views or outcomes (Frizzell et al., 2016). Therefore, senior leaders must provide their organization's members time for leadership development activities (Longenecker & Insch, 2018). Zapalska et al. (2015) supported the innovations within the individual business operations must be ingenious and specific to the origins in the leader's ability to observe what was available and what was required by the market and developing the strategy for changing the direction of their products or services to suit market needs.

Information systems strategy and sustainability. Information systems strategy continued as an essential element for fostering business sustainability. An information systems strategy is a means for business leaders to improve knowledge creation about major contributing factors to business sustainability (Caiazza, 2017). The adoption of IT infrastructure and services into daily business operations has a positive effect on talent acquisition. Additionally, leaders seek to improve IT development to contribute to environmental sustainability because of increased organizational performance measures

available to the adopters (Benitez-Amado et al., 2015). Business leaders persistently acquire and implement supportive strategies, valuable to gaining improvement to uphold organization performance through information systems, innovation, and RBV to achieve business sustainability (Devece et al., 2017). Leaders of SMEs who adopt innovations with the use of information system technology will quickly reach high organizational performance to gain a competitive advantage over other players in the same marketplace for business sustainability.

Technology-Based Innovation and Collaboration for Sustainability

Technology is the foundation of innovation collaboration to achieve sustainability. Innovation, simultaneously adopted with durability, guarantees better solutions for meeting requirements of the current needs or existing market needs (Islam et al., 2018). Islam et al. (2018) further established that management decisions mostly focus on R & D for meeting the consumer's high demand of new products, which helps organizations to reduce cost and investment in unproductive products. Organizations may reach sustainable performance through the right strategies' formulation. However, the misaligned collaboration is configurations of collaboration that deviate from ideal outlined collaboration corresponding to superior performance, becoming environmentally friendly, conversely, lower costs, and increase revenues (Islam et al., 2018). Therefore, sustainability should be a touchstone for all innovations for stakeholder and customer retention.

Stakeholders encompass customers, consumers, suppliers, employees, government, people, and the community at large (Kumar et al., 2018). Kumar et al. (2018) argued that dynamic capabilities and relationship-based collaboration between business partners (in their subject focus supply chain partners) needed for business owners to develop and support long-term sustainability. Sustainability means to remain competitive by achieving better performance consistently without harming environment and people or society at large (Kumar et al., 2018).

The genuine relationship between strategic business alliances and innovation often result in positive, organizational outcomes. Islam et al. (2018) originated four approaches to innovation adoption in an organization. The four approaches are (a) recruiting superior human capital, (b) internal R & D spending, (c) strategic alliance, and (d) acquisitions (Islam et al., 2018). The strategic alliance serves as the cheapest, faster, and less risky approach to innovation (Islam et al., 2018). Hanelt et al. (2017) supported that organizational performance contribution might grow when combined with information systems strategy, which in turn, enhance business process efficiency when eco-innovations are involved. Eco-friendliness innovations have a positive influence on environmental improvements when designed to enable new functionalities, process, and business models that may contribute as plan and means of attaining long-term business relevance in the marketplace. Therefore, innovations based on technological resources and alliance is significant to business sustainability, stakeholders and customers engagement, and product loyalty.

Information Communication and Technologies for SME Sustainability

Potentials exist for SME leaders to adopt ICT to add significant value creation in small, micro, and medium scale enterprises (SMMEs) business operations and survival in the current dynamic modern business environment. Francis and Willard (2016) acknowledged the classification of SMMEs organizations into large, medium, and small business. SMMEs are businesses that have 50 people or fewer employees and are not a subsidiary of a public limited company (Francis & Willard, 2016). Francis and Willard further established that the SMMEs are the source of the promotion of economic growth through poverty alleviation, wealth, and employment creation. However, many leaders of SMMEs slowly adopted ICT strategy, which contributed to the declining survival rate of the organizations (Francis & Willard, 2016). Another aspect of ICT enhancement is social media. Dovleac (2015) discussed the role of new communication technologies in the company's sustainability by spreading information through social media. Technology adoption was a means for business leaders to increase the daily processing of business documents, reports and financial information, and databases for managing and storing personal data.

The adoption of ICT is essential to improve daily business operations, especially in SMMEs. Loeser, Recker, vom Brocke, Molla, and Zarnekow (2017) conducted a quantitative methodology study using data from a global survey of 118 senior-level IT leaders to identify the qualifications and the profits of green information systems strategy initiatives in organizations are cost reductions, corporate reputation enrichment, and

Green innovation capabilities. Loeser et al. expressed green IT as the study and practice of designing, manufacturing, using, and disposing of computers, servers, and associated subsystems efficiently and effectively with minimal or no impact on the environment. The benefits of green information systems adoption are applicable for transforming a firm's sustainability, which results in leading various positive benefits to the organizations (Loeser et al., 2017). Dobleac (2015) argued that the rapid growth of Web-based platforms in facilitating online social behavior and is significantly modifying the nature of human interactions and their perceptions of the social and economic environment.

The development of green IT-related human, structural, and relational capital can contribute to business competitiveness. Hence, technology adoption and use in offices are increasing rapidly with the changes happening in the business environment (Francis & Willard, 2016). IT and information systems strategy related environmental measures can reduce costs for creating customer and societal benefit for influencing financial performance for sustainability innovation (Loeser et al., 2017). Conclusively, ICT adoption in SMMEs is a means for business owners to contribute exceptional value to operations and business performance, with highest rated value for timesaving, cost reduction, improvement in a business partner and customer relationship, and an increase in revenue, profit, and overall business productivity.

To increase internal efficiency, start and keep collaboration with external partners, and improve internal and external communication. Parida et al. (2016) agreed that ICT is

the key to the success of small firms in the dynamic, knowledge-based economy.

Gutierrez et al. (2015) posited the increasing adoption of cloud computing as a disruption to the conventional information technologies that have supported organizations in the time past. Gutierrez et al. further established that a business organization uses the cloud-computing model to promote flexibility comprised of 5 essential characteristics, four service models, and four deployment models. The adoption of ICT in the business operation is a means for SME owners to contribute to robust cost savings, scalability, and technology independence.

Customers and supplier's pressure classify environmental contexts, competitor pressure, and external support while the variables used to identify them are the factors that apply to SMEs' productivity, longevity, and adopting e-commerce technology in Indonesia (Rahayu & Day, 2015). Rahayu and Day (2015) discussed the firm's technology readiness in companies, has a positive and significant correlation with e-commerce adoption; however, the firm size does not have a significant correlation. Hence, the determinant factors of influence for SMEs in Indonesia to adopting e-commerce technology is the business owners' innovativeness, owners' IT experience, and owners' emerging technology strategy contexts and found as determinant factors that influence SMEs in Indonesia in adopting e-commerce.

Social marketing as an agent for sustainability. Social media is an essential tool for companies to spread information about sustainability issues. Social media has continued to grow as web-based platforms for facilitating online social behavior. Social

media has significantly transformed the nature of human interactions and their perceptions over the social and economic environment (Dovleac, 2015). Kitchen and Proctor (2015) argued that several organizations failed to grow because most of the companies are waiting for the traditional advertisement instead of proactively engaging information systems as the trend of the power shifts from producers and manufacturers to the retailers and consumers.

Social media platforms are a means for marketers to permit information transmission across multiple platforms in a variety of formats, including text, sound, video, games, and interactive sequences (Dovleac, 2015). Marketers practice the available platforms to amplify the weight of messages by social media and deliver material intended to shock, enthuse, and entertain consumers (Dovleac, 2015). Kitchen and Proctor (2015) argued that the visibility of e-commerce increased due to more product availability. There is less understanding of the social media strategies that tourism organizations are deploying and the efficacy of those strategies (Alizadeh & Isa, 2015). The introduction of e-marketing technologies and strategy enhanced brands, corporations, and consumers, allowing all parties to interact in a world of virtual reality (Kitchen & Proctor, 2015).

The social media strategies apply to many other companies, specifically for SME leaders to grow sustainability and customer loyalty (Alizadeh & Isa, 2015). Consumers can now perceive a new image of the brands through the multiple interaction's mediums with others in worlds they cannot usually experience (Kitchen & Proctor, 2015). There is

a need to understand why and how consumers participate in social media to be able to leverage their power (Alizadeh & Isa, 2015). Dovelac (2015) identified that social media could change a business model in the following areas: from selling to connecting with customers, from massive campaigns to small rapid actions, from controlling the message to transparency, and from hard to reach to available everywhere.

The rapid growth in the volume of information and participation in Internet communications worldwide has created a high awareness of what is available in products and services and the change in the perception of the consumers towards products (Kitchen & Proctor, 2015). Through social media channels and networks, such as Facebook, YouTube, LinkedIn, Google Plus, business leaders improve sustainability because of consumers' interest in social media (Dovelac, 2015). The revolution IT services of the Internet resulted in improved access to and the use of technologies in new ways to increase access to customers.

CSR as an agent for business sustainability. The essence and the motive of the drive behind company's adoption of the CSR initiatives in the supply chain industry are to achieve the outcome of increasing the customer's satisfaction (Jean, Wang, Zhao, & Sinkovics, 2016). Technological advancement opened communication through social media platforms, and the effects of social media result in brand scrutinization, criticism, and visibility available from the pressure groups (Kitchen & Proctor, 2015). Company leaders engage in CSR solely because of external pressure from stakeholders, such as customers, nongovernmental organizations, and the government (Urbaniak, 2015).

CSR is a strategy applicable to cost reduction in creating awareness for SMEs irrespective of the industry. CSR performance level is a function of suppliers' investment (Urbaniak, 2015). Some organization invests in CSR activities to avoid the costs of future lawsuits, negative social media and other media coverage, inadequate quality, weak business relationships, financial mismanagement, and operation disruption (Maryniak, 2017). Some business owners invest in CSR for the creation of pro-environmental activities in horizontally integrated companies, such as green product innovations for positively affecting the firm's performance, competitive capability, and community development (Maryniak, 2017). Consumers can now perceive a new image of the brands through the multiple interaction's mediums with others in worlds they cannot typically experience (Maryniak, 2017). Alizadeh and Isa (2015) suggested the need exists for business to come to the awareness of the potential and opportunities to build customer loyalty and business sustainability through social media and for those with social media presence.

Businesses owners must strive to understand the need for improvement in the strategic use of marketing for brand visibility available through CSR (Jean et al., 2016). Adopting CSR initiatives is a means for business leaders to increase their customer base, level of operational performance, and profitability (Urbaniak, 2015). Jean et al. (2016) further suggested the adverse effect of social and environmental misconduct of firms' global suppliers as disadvantageous to firms' reputation and increased compliance and auditing pressures individually when stakeholders are not satisfied or gaining from the

development of the organization. Therefore, leaders use CSR as an information agent and contributor to customers and businesses exceptional growth through technology-based communication and interactions infrastructures.

Summary and Transition

In Section 1, I presented the problem statement and purpose of this study was to explore the information systems strategies some SME business owners embraced to sustain their business beyond 5 years and the justification for selecting qualitative multiple-case study. I discussed the nature of the study establishing the background of the business problem using a qualitative method and descriptive multiple-case study design. Additionally, Section 1 of this study contained the (a) interview questions, (b) the conceptual framework, (c) the assumptions, (d) limitations, and (e) delimitations of the study (f) the significance of the study and a review of professional and academic literature. I synthesized the academic and professional literature to provide a constructive and critical analysis of the literature on the RBV, complementary theories, and the business problem.

In Section 2 of this study, I explain the (a) the purpose statement, (b) the role of the researcher, (c) the participants, (d) the research methodology and design, (e) the population and sampling, (f) the ethical research, (g) data collection instruments and technique, (h) data organization technique, (i) data analysis, and (j) reliability and validity. In Section 3, I present the results, conclusion, and findings of the research, the applications to professional practice, the implications for social change, the

recommendations for action, my recommendations for further research to overcome the limitations of this study, and a concluding statement.

Section 2: The Project

Purpose Statement

The purpose of this qualitative multiple-case study was to explore the information systems strategies some SME owners use to sustain their business beyond 5 years. The target population consisted of owners of five SMEs in Texas who successfully implemented information systems strategies to sustain their business beyond 5 years. The implications for social change include the potential for SME owners to lower local unemployment rates, improve the local standard of living for employees, provide greater local economic stability, and contribute to government revenue for socioeconomic development. SME owners and leaders are major contributors to job creation, economic growth, and the promotion of sustainable communities (Hyder & Lussier, 2016).

Role of the Researcher

I was the primary data collection instrument. My role in the data collection process was as follows: (a) search and recruit the right participants to answer the interview questions, (b) interview the participants using the approved interview protocol for consistency, (c) ensure accurate representation of the views of participants through member checking, (d) review relevant documents to corroborate the evidence from the interview process, and (e) ensure that I attained data saturation during the data collection process.

Researchers should avoid selecting participants with whom a personal or professional relationship exists (Yin, 2018). I avoided selecting participants with whom a

personal or professional relationship exists. The researcher must possess the necessary skills and understanding of the research topic for successful data collection during the interviews to avoid biases (Yin, 2018). I relied on my professional background as a technical manager in the technical sales industry as leverage of understanding the research area. However, I had limited expertise in business sustainability and with SME business owners. The researcher should exploit the knowledge in the research area (Griffith, 2009). As a Texas State residence since 2016, I was familiar with the geographic region of this study. I maximized the knowledge developed as a researcher, observer, active learner, data analyst, interviewer, investigator, and writer to complete this study.

Researcher bias can be a significant influence on the outcome of any case-study research (Yazan, 2015; Yin, 2018). To avoid biases and unethical handling of data, researchers seek ethical approval from a research ethics committee or institutional review board (IRB) (Roets, 2017). Researchers adopt procedures to protect human subjects involved from harm, whether physical, mental, or social discomfort (Ketefian, 2015).

I sought and obtained approval from the Walden University IRB before contacting participants and collecting data. The essence of the approval was to protect the rights of the research participants and ethical approval. Researchers should incorporate the protection of human subjects as outlined in Belmont Report protocol, ensuring the respect to persons, beneficence, and justice in their study (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research [NCPHSBBR],

1979). The development of the Belmont Report of basic research ethics, composed and summarized by the NCPHSBBR, occurred during an intensive 4-day period of discussions held in February 1976 (NCPHSBBR, 1979). The principles of the Belmont Report are: (a) respect for the participants by engaging them without coercion and acknowledgment of the individual rights to personal opinions, (b) maximization of benefits of the research and minimization of harm to the participants, and (c) justice and fairness in the distribution of the research benefits and burden (NCPHSBBR, 1979). I abided by the principles of the Belmont Report to ensure the protection of the participants.

Adashi, Walters, and Menikoff (2018) supported the NCPHSBBR guidelines to which researchers adhere for clarity. Researchers must ensure the study concepts are in alignment with the outlined principles and protocol before advancing into the investigation phase of the research (Friesen, Kearns, Redman, & Caplan, 2017). I obtained the consent agreement from the participants before data collection as well as presented the modalities for managing the publication of the interview protocol for the data provided.

Researchers use an interview protocol to ensure a consistent and meaningful interview process (Peters & Halcomb, 2015). The key aspects of an interview protocol are; aligning the interview questions with the overarching research question, making accommodation for follow-up questions, and ensuring the participants understand the interview process (Castillo-Montoya, 2016). I applied an interview protocol to ensure

equal treatment of all participants, maintain consistency throughout all the interviews, and mitigate my personal biases (see Appendix A).

Participants

The researcher must choose the right participants to gain the insight needed to explore the phenomenon under study (Asiamah, Mensah, & Oteng-Abayie, 2017). The participant's eligibility selection criteria and the shared relationship may go beyond the normative level but remain rooted in the real practices of qualitative research (Bowden & Galindo-Gonzalez, 2015; Davidson et al., 2017). The selection of the participants must be in alignment with the research questions (Asiamah et al., 2017). The research question for this study was: What information systems strategies do some SME business owners used to sustain their business beyond 5 years? The criteria for participant selection were as follows: (a) the participant must be an owner of an SME, (b) the participant implemented successful information systems strategies, (c) the participant remained in business at least 5 years, and (d) the SME business location must be in the state of Texas.

Researchers use different media to contact and gain access to participants, such as telephone calls, e-mail, face-to-face interview (Bowden & Galindo-Gonzalez, 2015). Researchers should carefully plan the recruitment of participants (Valipoor & Pati, 2016). To gain access to the participants, I resolved to adopt an Internet search, LinkedIn, and the chamber of commerce directory of business as the approach. Similarly, I sought for response and approval to the participant's access requests from the chosen business leaders of companies through telephones calls, e-mail, or face-to-face visit. MacDougall

and Fudge (2001) proposed four stages of recruiting participants: (a) prepare by finding the key participants, (b) contact for negotiation, (c) follow-up on the request sent to the participants, and (d) maintain the relationship with the connections. I endeavored to keep a close relationship with the participants with visits, phone calls, and e-mails to foster a precise feedback mechanism as such to benefit the organization and the researcher through the gained knowledge from the research.

Raheim et al. (2016) posited that the researcher must avoid reflexivity and develop critical awareness about the context and emotional balance to achieve a positive response to the questions asked during an interview. Successful research is dependent on the relationship between the researcher and participants (Wall, 2015). To build trust with the participants, I presented the details and the outcome of the participation. I disclosed and affirmed the confidentiality of the information provided with the right access to withdraw any information and support if they desire to do so.

Research Method and Design

Research Method

The three standard research methods are qualitative, quantitative, and mixed (Yazan, 2015). Qualitative researchers seek to explore a phenomenon through open discourse and discovery of participants' experiences, practices, strategies, and perceptions (Van & Struwig, 2017). Furthermore, researchers use qualitative research to describe a set of approaches that analyze data in the form of natural language or words, and expressions of experiences gained from interactions and imaginative presentations of

facts gained from the interactions (Levitt et al., 2018). Researchers analyze data by finding patterns about the studied phenomenon and then develop a sense of the whole phenomenon because of the interlinking patterns (House, 2018; Levitt et al., 2018).

Besides the qualitative method, researchers use other prevailing research methods to conduct social science research. Among the prevailing research methods are quantitative and mixed methods. Quantitative researchers use closed-ended questions to collect and analyze numeric data to test hypotheses and the significance of relationships among variables (Venkatesh et al., 2013). Researchers conducting a quantitative method study control the research fields during testing. Future researchers may consider research acceptable, reliable, and replicable for future researchers if the researcher carefully selects the subjects, data testing, and undergo standardized data collection (House, 2018). Collecting numeric data to test hypotheses and the significance of relationships among variables would not have resulted in relevant data to answer the research question.

The mixed-method researcher incorporates both the qualitative element and quantitative elements in their research study (Venkatesh et al., 2013; Yin, 2018). Researchers adopt the mixed method to mitigate the limitations of choosing between a quantitative and a qualitative approach (Alcon-Soler & Safont, 2018). I concluded on the chosen research method upon my evaluation of the research study alignment with the population and sampling size relevant to the realism of the business problem continuation.

I did not collect numeric data through closed-ended questioning of participants to test hypotheses among variables, which is part of a quantitative study or the quantitative portion of a mixed-method study; therefore, a quantitative or mixed-method approach was not appropriate for my research. I conducted face-to-face interviews with the participants who are SME owners; therefore, I selected the qualitative method to explore a phenomenon through open dialog with the participants to gain a deeper understanding of their experiences, business practices, and employed strategies applicable for business sustainability for SMEs.

Research Design

I deliberated on three research designs: (a) phenomenology, (b) ethnography, (c) case study. Phenomenological researchers focus on articulated and contributive lived experiences of participants to gain insight, thoughtfulness, and recognition of a phenomenon (Adams & van Manen, 2017; Geiger, 2018). Additionally, researchers use the phenomenological design to focus on description or interpretation of the lived human experiences of participants, and an in-depth interview of experienced persons of the use case phenomenon (Mayoh & Onwuegbuzie, 2015). I precluded the phenomenological design because I was not focusing on the lived experiences of participants as a means of data collection. Business researchers use ethnographic research to study the business culture or the social world of a group of people (Hill O'Connor & Baker, 2017). Researchers use the ethnographic design to focus on the description and interpretation of shared behavioral patterns, experiences, and beliefs that exist within a cultural or social

setting (Drake & Harvey, 2014). The ethnographic design was not appropriate for this study because I did not study the culture of businesses or groups of people.

Case study researchers conduct an in-depth inquiry about a specific, real-life business problem within a contextual, bounded setting (Yazan, 2015; Yin, 2018). The dimensions of a case study are single or multiple-case studies (Yin, 2018). Researchers conduct a multiple-case study to develop more robust analytical conclusions than single case studies (Yin, 2018). A researcher conducting a case study possesses the capability to generate insights from the intensive and in-depth collection of data from multiple sources of evidence (Yazan, 2015). Researchers use a case study design to explore a real-world phenomenon within a contextual setting (Yin, 2018). The case study design was suitable for this research study because I explored a real-world problem within a bounded, contextual setting. Researchers use the case study design to conduct an in-depth inquiry into a chosen research topic or the phenomenon within the realism of the existence of the under-study research construct (Yin, 2018). I used a multiple-case study to increase the diversity of the data and the trustworthiness of the research findings.

Researchers seek data saturation in qualitative research to ensure the credibility and dependability of the findings in a qualitative study. Researchers tend to attain data saturation in research when the researcher exploits all the means of information emerging from the collected data (Houghton, Murphy, Shaw, & Casey, 2015). No direct correlation exists between the sample size and reaching data saturation. Data saturation in qualitative research is a way to ensure that one obtained accurate and valid data. The incorporation

of too small of a sample or too large of a sample does not ensure data saturation (Fusch & Ness, 2015). Triangulation is one of the models of data saturation (Yazan, 2015). The fundamental characteristics of reaching data saturation are the exhaustion of data collection efforts until no new data or themes emerge, new coding is no longer possible, and the ability of future researchers to replicate the study (Fusch & Ness, 2017). I collected data through semistructured interviews, a review of company documents, and member checking until no new information, themes or patterns emerged to reach data saturation.

Population and Sampling

Population

The purpose of this research study was to explore the information systems strategies adopted by SME business owners to drive their business sustainability beyond 5 years. To achieve the goal of this study, I conducted proper and appropriate data collection, review, and analyze the data collected from a sample of SMEs in the state of Texas. The target population of this research was SME owners.

Sampling Method

Researchers use purposeful sampling to choose participants who meet specific eligibility criteria and who possess the required knowledge to answer the research questions posed during an interview (Hennink, Kaeser, & Marconi, 2017). Researchers use purposeful sampling to narrow the larger target population to the sample population to obtain rich information (Ingham-Broomfield, 2015). The typical sampling methods are

convenience, extreme, snowball, criterion, and purposeful (Asiamah et al., 2017). The convenience method involves researchers choosing participants because they are easy to contact or find (Schiller et al., 2015). I rejected the convenience method because the convenience method may promote the biases applicable through the location.

Researchers choose extreme sampling to focus on an excellent and prominent outcome (Asiamah et al., 2017). I rejected extreme sampling because I did not want inadequacy with the research result, but to gain an in-depth understanding of the study phenomenon process.

Snowball sampling involves obtaining data from only identified and qualified participants with interest (Asiamah et al., 2017). The snowball method was not appropriate for my research because it involved asking questions of qualified participants and hence allowed for bias and breaking confidentiality.

Researchers use the criterion sampling to identify and select participants who meet specific criteria for the study, by filtering the most relevant participants with the most meaningful information about the study (Schiller et al., 2015). I rejected criterion sampling because the target population and the sample population of the study were not exactly equal.

Qualitative researchers also use purposeful sampling. Researchers use purposeful sampling to select a sample from a larger population because of who they are and what they know about the phenomenon (Bungay, Oliffe, & Atchison, 2016). The population target was five business owners of five different SMEs. I sent invitations to seven

business owners to begin data collection (see Appendix B). To reach data saturation, I interviewed five business owners during data collection. I stopped interviews when no new themes or patterns emerged. I used the purposeful sampling method in this study.

Sample Size

Researchers who conduct qualitative research specify the sample size of the data collection selected for the in-depth investigation of a phenomenon and building relationships with the participants (Asiamah et al., 2017). Draper and Swift (2012) supported a range between 5 and 25 as the ideal sample size for qualitative research data collection. Yazan (2015) posited that a case study researcher might limit the sample size to four to seven participants. Nonetheless, the sample size in a qualitative study is not significant compared to the requirements of the quantitative study, and researchers may interview and collect data from enough participants to avoid researcher and participant bias (Yin, 2018). Sellers (2017) conducted qualitative case study research within successful small manufacturing firms, using a sample size of two. O'Donnell (2014) conducted a multiple-case study of small-business marketing using participants' interview data from seven business leaders. Mashal (2017) studied the phenomenon of uncontrolled workplace breaks and the productivity of multiple participants within one multinational company, as the sample size. Sellers, O'Donnell, and Mashal's research have resemblances with this study; hence, five participants were the proper sample size. I kept a minimum of five participants for data collection through face-to-face interviews. I

reached data saturation with five participants because no new information emerged from the fifth interview.

Eligibility Criteria

The target population consisted of owners of five SMEs in Texas who successfully implemented information systems strategies to sustain their business beyond 5 years. The criteria for participant selection were as follows: (a) the participant must be an owner of an SME, (b) the participant implemented successful information systems strategies, (c) the participant remained in business at least 5 years, and (d) the SME business location must be in the state of Texas.

Interview Setting

Researchers conduct interviews to gather rich and detailed qualitative data for understanding participants' experiences. A researcher uses the data collected through interviews to define the correct interpretation of terms with their true meaning, to make sense of the experiences (Castillo-Montoya, 2016). Adashi et al. (2018) supported the developed guidelines that researchers adhere to for clarity. Researchers must ensure that the concepts of the study align with the outlined principles and protocol before advancing into the investigation phase of the research (Friesen et al., 2017). I conducted a multiple-case study; therefore, I sent an interview invitation to five participants through e-mail and in-person requesting their consent to participate in the face-to-face interview (see Appendix B). In accordance to the participants' availability and their choice of a private

interview location to ensure their confidentiality, I conducted face-to-face interviews with the participants.

Data Saturation

Data saturation is vital to safeguard that a researcher has collected enough of the right information that represents the views of the participants (Fusch & Ness, 2015). Data saturation becomes clear to the researcher during the data collection and analysis process (Tran, Porcher, Tran, & Ravaud, 2017). Data saturation occurs when the researcher exploits all means to collect new, relevant information (Houghton et al., 2015). I conducted interviews with multiple participants. I gave them a copy of the summary of the interview transcript to validate the collected data. I met with the participants again to present a summary of the data collected during the interview for the participants to peruse and to provide constructive feedback regarding any misinterpreted information.

I sought the opportunity to obtain any contribution of new idea or data to the presented summary of the collected information during the interview to attain saturation after their review. Interviews and member checking continued until no new information emerged to ensure data saturation. I analyzed and coded the data collected to identify common themes towards the certification of data saturation. I continued with interviews of the identified population until I attain saturation; I stopped after the fifth participant because I did not receive any new information.

Ethical Research

The informed consent process in social science research is a form of agreement between two parties to ensure successful communication (Yin, 2018). A researcher must ensure the privacy, consistency, and accuracy of all data collected and the confidentiality of the participants (James & Busher, 2015). The researcher should obtain the participant's informed consent before data collection (Dikko, 2016). Participation was voluntary. I obtained the informed consent of each participant before proceeding with the interview (see Appendix B).

The research participants have the right to withdraw their consent from the research at any time they do not feel the need to continue. According to the National Research Council and Committee on Population (2014), The U.S. Code of Federal Regulations Title 45 Part 46 (45CFR46) contains clear information regarding the guiding policy for the protection of human research subjects and a research participant's right to withdraw without recourse. Participants could withdraw from this study any way they wished, with or without notice. I enabled the participants to respond with the endorsement of full understanding of the terms of their participation and the right to terminate their participation at any time. See data terms and termination in (Appendix B) and listed in the Table of Content section of this manuscript.

Researchers should avoid incentivizing participants to coerce their participation in a research study. Ambuehl, Niederle, and Roth (2015) noted that participants might experience coercion, influence, or persuasion to stay in the study when incentives are

high. I did not offer participants any incentives for participation in this study. I adhered to the Walden University IRB rules and regulation governing social science research conditions before, during, and after the data collection process. The IRB maintains the responsibility for the evaluation of the risks and benefits of every research participants in the qualitative research (Opsal et al., 2016). I sought and obtained Walden University IRB approval before collecting data from the participants. The Walden University IRB approval number was 08-15-19-0748104.

I protected the names of individuals or organizations to keep the participants and organizations confidential. I coded sensitive data and assign codes to protect the information of the participants to protect the names of individuals or organizations and to keep the participants and organizations confidential. I presented the five participants' names in confidentiality and tagged in the following order: P1, P2, P3, P4, and P5. I represented the five organizations names with codes in the following order Co1, Co2, Co3, Co4, and Co5. To increase transparency with the participants, I shared a summary of the study details and intent of the investigation with the participants before the interview as well as the interpreted data collected during the interview with the participants in person to validate the correctness of the data collected for bias elimination.

Data Collection Instruments

In qualitative research, the researcher is the primary data collection instrument for inquiry (Yazan, 2015). McCusker and Gunaydin (2015) noted that researchers automatically become the primary tool to collect useful data from the chosen data

sources. Researchers must state their research sample size in advance on research proposals and protocols, as an indication that the researcher devises a defined, refined, and strengthened the approach to data collection (Hennink et al., 2017). I was the primary data collector for the required data needed to attain saturation in this study through a semistructured interview process of the identified five participants and a review of company documents. I conducted face-to-face interviews with five SME business owners. Researchers use document review as a medium for collecting in-depth data to strengthen the understanding of the phenomenon (Mawson & Brown, 2017). Case study researchers use archival administrative documents, market reports, and other relevant documentation to validate the shreds of evidence in support of the phenomenon (Yin, 2018). Morse (2015) noted that interviews, observation, and document reviews are data collection media in qualitative research. The data collection instruments for this research were interviews and a review of relevant documents that I used during methodological triangulation to validate the interview data.

Researchers obtain valuable data collection through face-to-face interviews (Taylor, Fornusek, Ruys, Bijak, & Bauman, 2017). Qualitative applied researchers ask open-ended questions that are appropriate to the central focus of the study to the interviewees, while, the interviewee had the opportunity to respond with helpful answers proving the in-depth insights of the questions asked by the interviewer (Hart & Warren, 2015). I asked the participants the central questions in alignment with the themes of the research (see Appendix A). I made further inquiries through follow up open-ended

questions. Interviewers use open-ended questions to ask probing questions about the answers provided by the interviewee towards the attainment of data saturation during data collection (O’Keeffe, Buytaert, Mijic, Brozovic, & Sinha, 2015). I analyzed the responses from participants to arrive at a conclusion. I followed the interview protocol (see Appendix A) to enforce equal treatment of all participants, maintain consistency throughout all the interviews, and mitigate personal biases.

Researchers use member checking to attain and provide more validation to uphold the credibility of the research outcome relevance to business and social changes to the SME owners. Researchers adopt the member checking process to strengthen the reliability and validity of the research outcome (Castillo-Montoya, 2016). Researchers use an interview protocol during data collection to strengthen the solidity of the sequential flow of data collection to ensure a consistent process during all the interviews (Kallio, Pietilla, & Johnson, 2016). Case study researchers review archival documentation, such as business or agency reports, to validate the interview data and strengthen the conclusion of the study (Yin, 2018).

In sum, I engaged the participants in member checking. I transcribed the interview recordings, wrote up a 1-page summary of the information, met once again with the participants, allowed them to review the summary to verify the correctness of the interpreted data, and then ascertained if they had additional information to offer.

Data Collection Technique

Researchers can use several sources of data: discrete, exhaustive interviews, ethnographic observations, scholarly works of literature, archival records, direct observation, participant observation, and physical artifacts, and reviews of other relevant documents on the study topic (Yin, 2018). In this study, I collected data through semistructured interviews of five SME owners and a review of relevant company documents.

I sought the Walden University IRB approval before commencing data collection for the study. The IRB is responsible for the evaluation of risks and benefits for all research participants (Opsal et al., 2016). Upon approval from IRB, I distributed the invitations to the selected participants via e-mail, physical mail, telephone, or other means that would work for the participant (see Appendix B). I requested and obtain the participants' informed consent before conducting any data collection.

There are advantages and disadvantages concerning the data collection techniques of semistructured interviews and document review. The advantages are that a researcher may gain rich information from participants through open dialog (Kallio et al., 2016). The disadvantages include that the documents reviewed may be outdated at the time of review, which could limit the validity of the data collected. The prior provision of the rich information about goals and benefits of the study with participants might increase rapport between the participants and researcher to build trust and confidence in sharing confidential details that may aid data saturation (Opsal et al., 2016). I engaged the

participants who care about the values achievable from the business problem I am evaluating in this research, to gain their trust, confidence, and build the impressive relationship with them, up until the completion of the research. I encouraged the participants for full collaboration, granted access to substantial documentation, and stipulated accurate responses to the questions I asked during the interviews. I informed them of the benefit derivable from the research findings, which may be useful to the participants in that they may acquire more knowledge about other participant's business process.

To enhance research transparency, researchers adopt member checking. Researchers using member checking transcribe the interviews, write up a summary of the information of about one page, meet the participants once again, allow them to review the summary, ask if the researcher interpreted their responses correctly, and then ask the participants if they have more information to add (De Loo, Cooper, & Manochin, 2015). Member checking is a process researcher use to ensure a correct interpretation of the interview (De Loo et al., 2015). I summarized the transcript of each participant's interview. I conducted member checking with the interview participants after the interview, request the participants to review and offer validation to the interview summary before I present the research findings of the study to achieve research rigor and reliability.

Data Organization Technique

The adoption of technology-oriented software for data organization is on the rise in social science research (Ang, Embi, & Yunus, 2016). Some researchers use the computer-aided data software (CAQDAS) such as NVivo, MAXQDA, and other applicable software for digital research data analysis, storage, and organization (Ang et al., 2016). NVivo software and Microsoft Excel are other useful tools for coding, identification of patterns and themes, and for arranging relative subjects in the same categories. Researchers use the NVivo features to distinguish trends words in the text to create words necessary for labeling, sorting, and cataloging the identified themes and pattern in the research data (Niedbalski & Ślęzak, 2016). Researchers use the NVivo software features to facilitate accurate and transparent data analysis process (Zamawe, 2015). I imported the collected data from the participants and organize them using NVivo software for the means of data organization, storage, and retrieval. I transcribed the interview data, categorized the answer from the research question into subtitled paragraphs, and saved the data from each participant in a dedicated Microsoft Word file for the participants. I ensured the utmost privacy, consistency, accuracy of all data, and protected the confidentiality of the data and the participants during and after the research. I represented the participants' names with the following codes: P1, P2, P3, P4, and P5.

Researchers must securely store the research records to abide by the data retention requirements of the governing organization or university (Check, Wolf, Dame, & Beskow, 2014). Hull and Wilson (2017) supported the significance of the protection of

participants, data integrity, and controlled background in ethical research. Researchers use data management software to secure and organize data collected through interviews, notes, recordings, and memos (Ranney et al., 2015). Walden University requires a 5-year retention period. I saved and protected research data in a safeguarded media to preserve the confidentiality of participants and collected data during the research. I also saved a backup of the files and folders in a password protected external hard drive and cloud storage devices or media like Microsoft OneDrive that I will retain for 5 years. I stored the physical hard drive device containing the interview recording, Microsoft Word files, and my journal logs in a locked fireproof and waterproof security safe in my home office for the duration of the research study and the retention period of 5 years. I plan to destroy the stored data by deleting the files and folders from the cloud storage and hard drive after 5 years.

Data Analysis

The data analysis process is the step-by-step procedure of interpretation and analyzing the points of interest in phenomenological research data collected through an interview or otherwise (Hycner, 1985). However, researchers adopt several methods to analyze data to achieve research integrity. For my research analysis, I was inclined on an inductive approach to data saturation to uncover emergent themes and patterns in the collected data, with correlation to the most suitable conceptual framework that best fits the research methodology. Furthermore, I presented the findings and answers to the research question in this study.

Triangulation is the means of using more than one approach to address the fundamental questions about the study (Battaglio & Hall, 2019). Researchers validate data by strengthening the research results' reliability, through the adoption of methodological triangulation to reduce subjectivity influence of biases in the study (Aboumatar et al., 2015). Researchers use triangulation to gain more exposure to the lines of inquiry to increase the research's result validity and reliability of the data analysis (Yin, 2018). Triangulation in research may contribute to the elimination of biases, and philosophical triangulation may contribute to the discoveries of the phenomenon with the review of current studies that address the relating phenomenon of the philosophical perspective of the understudied phenomenon (Joslin & Müller, 2016). I implemented methodological triangulation during data analysis to crosscheck interview data with document review data provided by participants to maintain the reliability of the findings.

Furthermore, on validating the data collected during the interview, I used data triangulation to verify the issue with different works of literature and ensuring the in-depth understanding of the business problem and process. The thematic analysis procedure involves that the researcher develops a profound sense of familiarity with the data collected (Van & Struwig, 2017). I adopted the thematic analysis because of its philosophical flexibility with any approach and assumptions. For my data analysis process, I applied Yin's (2018) recommended five steps analysis process approach for my research qualitative data interpretation, derived from the transcribed data and the data collected during document reviews.

Compiling Data

The compilation is the process of gathering and organizing all the data collected. Yin (2018) noted that researchers using computer software during data analysis improve the objectivity and accuracy of the analysis. Researchers use NVivo software due to the capability to aid proper compilation and identification of the possible grouping of data relationship from the collected data (Sotiriadou, Brouwers, & Le, 2014). Researchers must interpret and transcribe data collected through the interview in the most applicable summary (Yin, 2018). I used NVivo to compile the collected data from the interviews and reviewed documents. I transcribed the recorded interview into notes. I organized the data in order of relationship to the chosen conceptual framework to create a database of prominent meanings by uploading the transcribed data information to NVivo 12 software for proper organization.

Disassembling Data

The MAXQDA, NVivo, and Atlas.ti are useful tools that researchers use in data management and organization, data analysis, codes, and themes identification from the collected data (Sotiriadou et al., 2014). Furthermore, the computer-assisted tools, such as NVivo software, may be of benefit for researchers to find the coding and pattern-categorization-data generation from multiple sources (Yin, 2018). The disassembling phase encompasses dividing the compiled data into fragments and labels to form a pattern with the color of the correlation of the statement's tags (Yin, 2018). As soon as I concluded the data transcription and compilation from the interview and documents

review, I compiled data in correlations to match the theme or create more themes to make meaningful sense of the data collected. I used the NVivo software to separate the unrelated themes and codes into patterns. I indicated data collected from interviews from data collected through documentary evidence review.

Reassembling Data

Qualitative data analysis requires categorizing data (Roth, 2015). Coding from raw data is a benefit of categorization (Srikumar, Lewicki, & Raught, 2015). Van and Struwig (2017) noted that researchers use the thematic data analysis process to derive or search the most appropriate framework that is most suitable for the integrated related data summary derived from the data collected during the face-to-face interview. During the reassembling process, I created groups and categorization of themes and labels into sequences and groups using the data collected disassembled to create relationships for proper interpretation and alignment.

Interpreting Data

Researchers must interpret the data to make sense of the information collected (Van & Struwig, 2017). During the interpretive process, researchers must analyze collected data by themes and patterns to solidify the validity and reliability of a qualitative study (Graneheim, Lindgren, & Lundman, 2017). The interpretation stage requires creating narratives from the emergent themes and patterns found in the data (Yin, 2018). I interpreted the data using a descriptive format by merging related information from the responses provided by the participants. I created a narrative of the

interpreted data into themes and patterns in the sequence of their relationship for proper analysis.

Conceptual Plan

MAXQDA, NVivo, and Atlas.ti software are research tool software used by qualitative and mixed methodology focused academic and researchers to explore and organize data, categorize and analyze, and gaining insight to discoveries of volumes of information like text, audio, video, e-mails, images, spreadsheets, online surveys, social and web content and more to identify themes for more discoveries (Yin, 2018). Emmel (2015) posited that the NVivo software and Microsoft Excel are useful tools for coding and identification of patterns and themes. NVivo is a useful and proper tool for data analysis in research (Yin, 2018). Unlike MAXQDA and NVivo, Atlas.ti is a cloud-based software. Researcher use the Atlas.ti software because of the compatibility with MAC, Windows, mobile Android, and iOS software (Emmel, 2015). Allen (2018) used NVivo to identify key themes, the frequencies of the themes, and member checking of data interpretation with participants to attain data saturation.

Upon my initial review of the available software, I choose NVivo over others due to its collaborative functionality for data organization and tracking. NVivo software has the functionality for researcher to import and export with Microsoft Excel, Microsoft Word, IBM SPSS Statistics, EndNote, Microsoft OneNote, SurveyMonkey, and Evernote applications. I studied further to understand the use case and the application of the research project. Furthermore, I maintained a catalog of the coded terms and themes from

the collected data into short words or phrases for making significances in correlation with the central concept of the RBV conceptual framework.

Aggregation of Data

I summarized the coded data into short words or phrase to make meanings corresponding to the terminologies relational to the chosen conceptual framework, from the reviewed and the identifier code with the aid of the NVivo software. Yin (2018) noted that researchers must make sense of every data, interpreted, and present the outcome of the research per the motive of the research. Colorafi and Evans (2016) supported that researchers have the responsibility for the derivable changes to the original context settings and reporting the effect of the findings in the research. From the transcribed data, I compiled a summary from each statement to arrive at a more definitive interpretation and created group narratives from the categorizations in alignment to the research question and purpose.

Key Themes

Researches use the generated code and themes to formulate the concepts' names and definitions for the terms of the research according to the relationship of the defined terms with the most accurate description of the phenomenon (Hyder & Lussier, 2016). I applied the categorization structure to develop the patterns and themes analyzed in line with the conceptual plan. I associated the theme with the main concepts of the RBV framework with existing published and new studies that were in alignment with the

chosen framework to test the explained theory and draw a valid research conclusion that I discuss in Section 3.

Reliability and Validity

Qualitative researchers determine different strategies for dependability, credibility, confirmability, transferability, and data saturation to ensure methodological rigor, reliability, and validity of qualitative case study research approach (Hadi & José Closs, 2016). Qualitative researchers must demonstrate confirmability, credibility, data saturation, and transferability of the research findings to advocate reliability and validity (Yin, 2018). In this study, I sought dependable, credible, trustworthy data.

Dependability

A qualitative research must be trustworthy, referring to dependability, transferability, and credibility (Brigitte, 2017). Fusch and Ness (2015) noted that researchers use member checking to review the summarized information and query participants with follow up questions during the interview. Qualitative researchers strive for dependable data to ensure the trustworthiness of the findings (Stuckey, 2015). I used the interview protocol, member checking, and methodological triangulation to uphold reliable and valuable data during the data collection through face-to-face interviews of SMEs business owners who excelled and whose businesses survived beyond 5 years.

Credibility

Demonstrating qualitative credibility guarantees the reviewers that the researcher addressed the findings from the perspective of the participants (Yin, 2018). Salehyan

(2015) noted that researchers use the data collected from participants and data collected from the organizational documents to achieve methodological triangulation towards gaining research credibility and reliability. Srikumar et al. (2015) supported the importance for researchers to present research results with transparent data collection and coding methods to enforce reliability, credibility, and transferability. I engaged in methodological triangulation, reached data saturation, and employed member checking for the data interpretation to promote accuracy of the data interpretation to enhance the research credibility.

Confirmability

The definition of confirmability in research is the measure used by the researcher for ensuring that the research results are verifiable, confirmable, and supported by others to eradicate participants' bias (Yin, 2018). Researcher bias is a significant factor of influence creation in any case-study research outcome (Yazan, 2015). I presented my findings with specific probing outcome during interviews and follow-up member checking interviews, questioning from different perspectives, and triangulation to enhance the confirmability of the research result.

Transferability

Transferability of the findings of case study research is up to future researchers (Kokomo, 2017). In contrast to quantitative studies in which the researcher generalizes the findings, qualitative researchers do not generalize and do not state that the findings are transferable (Srikumar et al., 2015). Upholding transferability is a means to permit

other researchers to use results in other contexts (Doloreux, Shearmur, & Guillaume, 2015). Researchers' ability to reach transferability necessitates that other researchers can use the research results in other contexts to arrive at other conclusions (Doloreux et al., 2015). To uphold the potential for transferability through transparency, I made sure to present the detailed description of my adherence to the data collection technique and analysis, use an interview protocol, objectively interpret the data, and reach data saturation. Post interview, I shared the summary of the transcribed interview data with each participant for validation during member-checking sessions.

Data Saturation

Data saturation is complex and depends on the focus of the researcher and the quality of data collected during interviews. Hennink et al. (2017) explained data saturation as a guiding principle for researchers to ensure collecting of all data relevant to their case. Data saturation occurs when researchers have gathered enough and accurate information that presents the view of the participants and is the means to answer the research question (Fusch & Ness, 2015). Methodological triangulation is a means of achieving the conjunction of information from multiple data sources (Colorafi & Evans, 2016). I used the methodological triangulation in this study with relation to the synthesized, coded data from document analysis with the coded interview data to determine emerging themes.

Hancock, Amankwaa, Revell, and Mueller (2016) posited that researchers reach data saturation when no new themes emerge from additional data collection efforts. In

social science research, data saturation occurs when there is no generation of new themes, patterns, and subthemes from the participants' responses. I reached data saturation because no new themes or patterns emerged.

Summary and Transition

In Section 2 of this study, I presented the project scope containing the extended analysis of the purpose of the study, my role as the researcher and the primary data collection instrument. I showed the category and criteria of the participants, population, and sample selection. I discussed the data collection instruments, with specifics to the technique that I adopted to obtain data, reach rigor and data saturation. I presented the data analysis of this study in alignment with the data analysis steps postulated by Yin (2018). Furthermore, I discussed my strategies for achieving research dependability, credibility, confirmability, transferability, data saturation; assure methodological rigor, reliability, and validity of the qualitative case study. I showed the importance of ensuring ethical research and upholding confidentiality during and after the research phases.

In Section 3, I narrow the focus to the presentation and analysis of the findings of the study and the applications to professional practice, and implications for social change upon data collection and analysis. I presented the recommended actions for future research as well as share my reflections during and after the investigation further.

Section 3: Application to Professional Practice and Implications for Social Change

Introduction

The purpose of this qualitative multiple-case study was to explore the information systems strategies that some SME owners use to sustain their businesses beyond 5 years. The population consisted of five owners of SMEs in Texas who successfully implemented information systems strategies to sustain their business beyond 5 years. I collected data through face-to-face interviews and a review of company documents. The owners' demographics differed in business sector, business age, company size, number of employees, and customer size. I reached data saturation by collecting data until no new themes or patterns emerged by using interviews, member checking, and document review. I used methodological triangulation to validate the interview data with data collected from company documents. I used thematic analysis and Yin's (2018) five-step process to analyze the data. I evaluated the research findings through the lens of the RBV framework. The three emergent themes were an online collaboration and process improvement strategy, a firms' resources strategy, and an emerging technology strategy.

Presentation of the Findings

The overarching research question for this qualitative multiple-case study was: What information systems strategies do SME owners use to sustain their business beyond 5 years? The business owners used information systems for online collaboration and process improvement strategies to create value through the incorporation of technologies with existing business processes to foster customer and employee engagement. The SME

owners used information systems to make decisions related to firms' resources allocation, budgeting, and geographical expansion to gain customer loyalty. The integration of new technologies was a key element of the SME owners' information system strategies to sustain their business beyond 5 years.

I presented the findings from the viewpoints of the participants, P1–P5. I verified the participants' responses using information collected from company documents. I used the findings to confirm the findings of prior researchers and linked the findings of this study to the RBV framework. I represented the participants in the order of (P1= participant 1, P2 = participant 2, P3 = participant 3, P4 = participant 4, P5 = participant 5). The analysis of the data indicated that the SME owners used several information systems strategies to sustain their business for more than 5 years. The three emergent themes were an online collaboration and process improvement strategy, a firm's resources strategy, and an emerging technology strategy.

Theme 1: Online Collaboration and Process Improvement Strategy

SME owners depended on online collaboration and process improvement strategies to sustain their respective businesses beyond 5 years. Collaboration often exists on the following bases: employee-to-employee, employee-to-customer, and customer-to-organization. The owners used internal and external communication as well as engagement for process improvement in order to foster customer loyalty, decrease operational costs, and improve customer service. P1 commented that the organization uses project collaboration and reporting technology. P3 also mentioned that they used

other technologies capable for employees to concurrently work in a space for product development. Likewise, P2 noted that the use of collaboration systems between the company and customers. P3 and P4 recognized significant success using online collaboration between virtual, on-premise, and other geographical located employees through text, chat, and video conferencing technology applications to foster customer engagement and employee engagement.

I validated P1's and P3's statements with the review of the project management document the employees use to report project status to the leadership. I also confirmed the statement by P3 by reviewing the report showing the status of the new product development readiness. I reviewed P4's operational manual regarding collaboration to verify the interview data. The findings confirmed the research of Endersby, Phelps, and Jenkins (2017), who noted that leaders diversified in technology to improve online collaboration experience operational efficiencies and increased long-term sustainability in the competitive marketplace. The findings confirmed Kumar et al.'s (2018) research that business owners uses dynamic capabilities and relationship-based collaboration between business partners to develop and support long-term sustainability strategies. Business leaders engage in online collaboration tools to improve the efficiency of existing working processes through technology-based information communication technologies and systems.

Process improvement. Business leaders make the business decision to acquire information systems tools as a means of improving and simplifying the current process

and business engagements (Endersby et al., 2017). P1 acknowledged that the adoption of online transaction processing systems in addition to the manual payment process to allow customers payments in real-time and from the comfort of their location contributed to the success recorded for customer expansion and quick online banking payment process. P1, P2, and P4 adopted project collaboration tools to increase team participation, teleconferencing, and communication applications for meetings and customer engagement to reduce travel to customer sites for meetings. The subtheme of process improvement confirmed Endersby et al.'s (2017) research that organizational employees use online technology tools to quickly review large volumes of information in the shortest time possible. P3 indicated that a great benefit to customers exists through remote access applications; customers have direct access to the needed support resources to check on issues before escalation occurs, creating an internal ticket to the organization's engineering team for a quick resolution. I validated P1's statement on collaborative payment systems by reviewing the payment receipts and e-mail confirmations sent to customers for confirming the acceptance of completed payment processes. I validated P3's point of sales payment systems set up in the office used by the employees to process on the spot transaction with their customers. The findings of the subtheme on process improvement confirmed that through online collaboration, business leaders, employees, and partners collaborate to solve business problems and task completion through the leadership direction. Leaders remain needful of online

collaboration strategies using internal and external-facing communication technologies to maintain business sustainability.

Internal and external communication. Internal and external communication is imperative for business success through the acceptance of technologies, tools, and services. All participants used technologies for external communication through the adoption web and online applications, such as Business Skype, Amazon Chime, Cisco WebEx, to engage in phoning services used for hosting meetings, chatting between team members, and meeting customers. The SME owners used online technology to obtain feedback from customers, which they all noted improved customer service and retention.

All participants noted the need to evaluate customer feedback to make the decisions on change management decisions needed for customer satisfaction. For document review, P2 and P4 gave me access to Outlook and the permission to interact with employees who are using online collaboration products to develop customer resolutions tools. I also saw the ticketing systems used by P4 and P3 for customers to engage with company employees. The findings of this subtheme confirmed the research of Zhu et al. (2015) and Dovleac (2015), who noted that the organizational strategic plan implementation is prepared with competent design and use of information system strategies through the conditions and technology acceptance measure of the organization.

Change management. All the SME owners who participated in this study adopted information systems strategies services and technologies for making change management decisions to improve to business growth and sustainability. Business

leaders acquired information systems and technologies to enhance quality customer support. All the participants shared the importance of information systems as a bedrock to change management, product and resource acquisition decision, and organization structure through the acquired knowledge from the implemented information systems tools. P3 used man-in-middle virtual private network security application as a means for the employees to securely connect to the customer's systems, especially during problematic issues from any location. P4 commented on the necessity for online collaboration tools as a strategy to reduce product procurement cost during acquisition of new technologies. P4 stated, "We use online collaborations tools to enhance training, promote continuous learning between our employees and the vendor to develop new and relevant skills required for the new technology assimilation in the organization."

The decline in operational cost usually translates to reduced customer costs, which results in higher customer loyalty and retention. I used the change management analysis of the cost reduction report to confirm the result used to evaluate the success and failure of the implemented change management based on the verified business problem showed by the business leaders. This finding confirmed the research of Srivastava and Sushil (2015), who noted that organizational leaders have increasingly focused on an information systems strategy as a strategic tool to achieve their long-term goals, thrive in a competitive market, and overcome managerial challenges associated with business sustainability.

Theme alignment with the RBV. The key theme of online collaboration and process improvement strategy aligns with the RBV of strategic management, originated by Penrose (1959), because leaders need internal and external resources to sustain organizational performance and information systems as a driver of firm performance improvement. The online collaboration and process improvement that improved strategy is in alignment with Wernerfelt (1984) who extended on Penrose research on RBV that leaders should adopt an effective technology strategy to enhance the firm's resources and engagement. The SME owners used information systems and technologies with online collaboration capability to improve working process and to determine the right management decision proposed through change management plan to extend business sustainability and relevance.

Theme 2: Firm's Resources Strategy

Firm's resources strategy refers to the business leader's strategy to attract, develop, and retain competent people into their organization with the plan to survive in an ambiguous environment; to establish standards that aim to produce a result and create organizational value through technological invention and adoption. The firm's resources may be tangible and intangible. P1, P2, P3, P4, P5 engaged in continuous employment of qualified candidates who may perform specific tasks. P3 stated, "I contracted some of the services to other companies with the expertise needed." The firm's resources theme confirmed the research of Parida et al. (2016) that the SME leaders may develop their critical capabilities of the internal and external resources to meet the ambiguities existing

in the marketplace and business environment. P4 stated “We engage in partnership with service companies over product development and hiring new employees.” In view of the evidences, I agree that business success is still a vital function of leaders acquiring the needed capabilities as an outcome of the organization's entrepreneurial knowledge orientation gained through the development of innovative strategic skills and tools. The theme of firm's resources confirmed Stachova et al.'s (2015) research outcome that organizational leaders must develop their human capital continuously through the creation of a working organizational culture and strategy, human resources management, and attention to the function of reward in the organizational development to achieve sustainable growth. The firm's resources also involve the leadership hierarchy from top to bottom and extend to the tools and mode of implementing day to day activity, contributing to the business success.

Leadership. Business leaders must develop the culture to invest in substantial resources needful to reach business sustainability. P4 acknowledged the substance of “setting up an adaptable and adjustable organization goal concerning technology advancement, but those goals can change, and goals are subject to change and flexible enough to adjust new development and decisions.” The participant's comments validate the research conducted by Stachova et al. (2015) that organizational leaders must develop their human capital continuously through the creation of a working organizational culture and strategy, human resources management, and attention to the function of remuneration in the organizational development to achieve sustainable growth. P2 affirmed the

adoption of information systems technologies into their existing business practice helps to increase the employee and business focus on new pathways, not neglecting the evaluation of the organizational, team weakness, and areas of opportunities that are ahead of the organization. SME owners adopt IT and information systems strategies to gain operational support and to boost the business efficiencies through the adoption of IT services daily supporting transactions, and operation cost management through the predictability functionality available through information systems (Qrunfleh et al., 2012). This finding confirmed the research of Endersby et al. (2017), who noted that businesses use online tools to supply valuable medium for few human resources to quickly review large volumes of information, in a briefer time, to meet organizational goals.

Hire and develop employees. The process of organizational leaders to adapt, learn, and adjust to rapid changes in well-organized management structures involves the managers acquiring human resources regarding the expertise required to drive the chosen business strategy to foster change management, which is an essential aspect of business sustainability (Nwosu, 2017). All the participants confirmed that employing competent people is still vital for business leaders to achieve the business target about the information systems dependent change management. P5 mentioned the use of technology and social platforms to prescreen prospective employees to reduce the cost of the headcount used to evaluate the numerous applicants resumes submitted to the organization. P3 and P4 also discussed the development of employees with the desired skillset adequate to execute the business motive for hiring. The findings of this subtheme

affirmed the research of Stachova et al. (2017), who noted that business leaders seek the development of human capital to increase the probability of successful implementation of innovative ideas for innovation success and competitive advantage. Business leaders hire new employees to meet customers demand, develop new and prospective business goals, drive business efficiency, and gain a competitive advantage in the marketplace through innovation and product enhancement for reaching business sustainability.

Organizational learning and training. Business leaders must continuously engage in acquiring in-depth knowledge of the existing business strengths and areas of weakness to discover real opportunities and mitigate the threats to business continuity. P3 said they sought to expand geographically due to the increased customers found in other regions of the world. P3 and P4 established that the understanding of the achievable customer value base determines the plan for hiring competent employees who may serve the region. The findings validated Karanja et al.'s (2016) research that the organizational learning ability to operate procedures that can enhance the human-computer technology interaction led to reduced demand for display and exhibition space in malls and over the counter transactions.

There is the utmost importance that leaders and facilitators have or acquire the right skill set in both uses of technology and facilitation across virtual platforms. This finding of the business leader's engagement in organizational learning and continuous training confirmed Nwosu's (2017) research regarding the process of organizational leaders adapting, learning, and adjusting to rapid changes in well-organized management

structures. The process involves the managers acquiring human resources regarding the expertise required to drive the chosen business strategy to foster change management, which is an essential aspect of business sustainability (Nwosu, 2017). The business expansion, either geographical or otherwise, relies strongly on the business leader's understanding of the need for the added and resources to remain unbeaten and create value to the business growth. I reviewed P4 and P3's technology tools and services used for remediation of customer requests; the tool also have the function for capturing the employees' metrics regarding performance on meeting customer requests.

Geographical expansion. Geographical expansion is the process of creating a new branch of the same business in a different geographical location to increase customer satisfaction, save on operational cost, gain more customers for employee satisfaction. P3 mentioned that from the moment the leadership acquired modern technologies for process improvement, the customer base grew in capacity. P3 stated, "The business growth requires 24 hours a day and seven days week for us to keep with the orders." P3 decided to introduce 24X7 rotational shift across the global regions by recruiting more employees outside North America, specifically in Europe and India to meet customer demand. P3 shared the application which holds the employee profiles and details with respect to their work locations as evidence to the geographical expansion. The findings in this subtheme validated Luo et al.'s (2016) research, in which they established that the quantity and scope of investments in enterprise IT applications were positively related to cross-channel capabilities. The essence of the geographical expansion by the business was a

means to create value more tangible and intangible assets for business continuity and for gaining a competitive advantage over competitors in the marketplace.

Operational cost savings scheme. Business leaders use other means to save operational costs with the intent to grow the organization's profit. I identified two principal means of saving operational cost: equipment leasing and service outsourcing. P2 saved on equipment leasing for overtime and overhead cost by buying outrightly. P2 stated,

We have continued to use them because they have lots of resources like booking customer appointments to discuss issues and helps to remove any bottlenecks. So, partnership with the right service provider helped a lot because the company has many resources recommendations when needed by the company.

Leaders achieve more operational savings through a partnership with technology-based service delivery organizations in place of technology or asset acquisition. IT and information systems strategies are still a recognized vital contributor to the successful execution of effective strategies in many aspects of businesses globally (Srivastava & Sushil, 2015). P4 signified there is organizational gain through a partnership with cross-functional businesses that could make the needed service at a lower cost. P2 mentioned about their strategy to saving by using “The services of a service organization that supplies the multidiscipline resources applicable to business solutions, management software, computing equipment supplies, service, and repairs.” I reviewed the external organization systems setup that P2 used to manage their client, customer data

management, and payment processing systems. P3 acknowledged that the overarching goal regarding operational cost saving geared towards reducing customer cost and increasing business profit contributed to increasing customer loyalty and retention for business sustainability.

Firm's resources strategy alignment with the RBV. The firm's resources strategy aligns with the RBV framework developed by Penrose (1959) that leaders need internal and external resources to sustain organizational performance and leaders use resources to gain a competitive advantage in the marketplace. The findings in this research indicated that SME owners hired new employees and developed incumbent employees to gain the right knowledge to deliver the business goals. The SME owners watch the performance of the available resources to determine the need for business expansion towards cost efficiency programs in the organization.

Theme 3: Emerging Technology Strategy

Business leaders' interest in new and capable technology strategies is on the rise. Business leaders who are committed to delivering acceptable and profitable products and services must emphasize the adoption and embrace of emerging technologies, regardless of their business sectors. The findings of this research theme confirmed Schiavi and Behr's (2018) research that competition among companies in various industries is not exclusively dependent on the development of new products, services, and technologies, correspondingly through innovative business strategies. Because of the need for modern technology adoption in organizations, there is an increase in the development of

disruptive business models towards creating a replacement for known and existing business models.

All participants indicated that purchasing and developing new products, coupled with the integration of emerging technologies, was a key element for business sustainability. All participants commented that services such as business intelligence, data storage, customer engagement platforms, project management tools, and other relevant technologies, contributed immensely to their business growth. The findings confirmed Islam et al.'s (2018) research that innovation simultaneously adopted with durability is a means for business owners to obtain better solutions for meeting the requirements of existing organizational and marketplace needs.

The findings confirmed the research of Srivastava and Sushil (2015), who noted that leaders who recognized IT and information systems strategies as the vital contributor to the successful execution of effective strategies experienced improved performance and sustainability. Therefore, business leaders are inclined to the acceptance of emerging technologies and by making business decisions to foster investment in the research and development of innovative products and tools that will contribute to business success and sustainability. The findings from the research participants indicated that the business owners implement strategies for sustaining their business beyond 5 years through investment in innovation as well as research and product development towards process improvement and customer relationships.

Technology investment. Business leaders invest in innovative strategies to achieve business sustainability. Leaders implement successful innovation to address existing business social impact, life-changing aspects, emotional components, and functionality for the consumer. P1, P3, P4 invested in innovation and product development, addressing the areas of business needs. P1, P2, and P4 mentioned they invested in innovative products by hiring new employees who possess the right skillset regarding innovation and product development. The data collected from the P1, P2, P4, and P5 confirmed Lichtenthaler's (2016) research, who proposed the following concepts as innovation classifications: (a) product innovation, (b) service innovation, (c) process innovation, (d) business model innovation, and (e) management innovation. The derivative affirmation from the participants indicated that business leaders engage in capital investment by enrolling employees in professional training geared towards gaining right knowledge and skill set for technology development programs needed for driving their organizational process improvement. The employee skill development rate remains dependent on the available funds compared to the company's return on investment. The findings of this subtheme indicated information systems as a driver of firm performance for value creation for the company.

Capital. The absence or the inadequate access to capital is a known constraint to SMEs leaders' investment in technologies. Small organizations face trade-offs that limit their ability to dedicate or reallocate resources and attention specifically to technology assimilation. P2 stated, "We invested in modern technologies and computing machines to

improve our long-term sustainability.” P1 stated, “The investment we made in collaborative technologies paid nice dividends for the company.” P4 and P2 validated that product investment through partnerships with other service delivery companies was a means to reduce the cost of new technologies. The evidence from the participants confirmed the research of Ulloa, MacCawley, Santelices, and Pascual (2018) that investment on technologies have positive influence on performance-based organization; business leaders optimal capital investment level depends on the marginal return on IT defined by the potential for cost reductions, discount rate, and the marginal return on the technology investment. P2 stated “I saved a lot by purchasing computing equipment rather than contracting to third-party companies.” Business leaders continually engage in the evaluation of the product return on investment before engagement in capital spending. The five participants mentioned that they examined the value of the return on investment before engaging in technology purchases to compare the cost with contracting with third-party providers of technology. P3 stated “We capture different metrics through our intelligence analysis systems to capture, report data, and evaluate the data to make investment decisions.” P2 mentioned that they measure the return on investment between product development or acquisition before embarking on the choice. The findings of this subtheme confirmed the research of Baird, Davidson, and Mathiassen (2017), who explained that business leaders should remain committed to capital investment but with specific evaluation of the commitment and business oversight, hiring consultants,

attending extensive training, or achieving economies of scale and scope as the means to standardize the process across the entire organizational activities.

Product development. Contingent on the business capability evaluation, a higher return on investment (ROI) existed on product development in comparison to production acquisition. P4 commented that internally developed products eliminated some of the problems associated with using third-party products. P4 stated, “We must fine tune third-party vendor products to suit our business goals, which takes additional time and resources.” Rothwell (1994) revealed that the growing complexity and pace of industrial-technological change are prompts for leaders to invent new alliances fashioned to respond more efficiently to the evolving market changes. However, the product developed by employees who have a keen understanding of the business problem are more efficient and suitable to supply the right solution and customizable product. All participants noted the importance of their employees regarding product development, customer service, and business growth.

Modern technology integration and assimilation. The assimilation of new and modern technologies is the process engaged by organizational leaders to broadening their existing processes from first or known awareness of the innovation to the potential, formal adoption, and full-scale deployment of the selected technology. The findings indicated that modern technology assimilation relates to the organization becoming aware of, adopt, deploy, and incorporate organizational technologies into their business practices to achieve sustainability. P1 said “We allow our employees to research, access,

and evaluate the most appropriate technology that will make the daily activities easy.”

The findings confirmed the research of Jalil, Prapinit, Melan, and Mustaffa (2019), who noted that the support gained from the business leadership during innovative technology integration positively influence users' perceptions of the latest information systems. P3 mentioned that the adoption of the remedy tools, such as a customer ticket resolution tool, helped the company leadership to foster the organization's interest in employing more people in new geographical locations and overseas as the strategy to engage new global customers.

Business leaders often have a strong justification for adopting and assimilating modern technologies. The information system users who receive enough support from their managers or supervisors have a better understanding and quick delivery regarding the relevance of the information system that is related to the apparent ease of use (Jalil et al., 2019). P2 mentioned about the importance of acquiring security systems and antivirus for “business data security against malware attack that may cause the great havoc to the business existence due to the vital customer confidential information stored in our systems.” The reasons adoption varies, in P2's case study, was they acquired the information and data protection technologies to protect the company's brand to the customers and intellectual properties. P1 adopted innovative technologies for employee collaboration on projects and software development environment to expedite product delivery to customers' requests. P1 and P4 adopted third-party tools that served a distinct purpose, such as business intelligence, performance, payment processing, and remote

access for employees, to achieve business sustainability. For data verification of the facts, I reviewed the participants' computer networks and verified the data protections security systems managed by the third-party companies. I also reviewed the business intelligence technologies used to capture business metrics and data analysis for the leadership decision making.

Monitoring, learning, prediction. Business leaders who adopted new technologies continuously engage in the evaluation of the business performance by continuously monitoring the adopted systems about the business change management and goals to continue to gain the knowledge needed to make business predictive and proactive decisions for business growth. The analyzed findings during data collection indicated that the decisions business leaders made during management learning and evaluation of the working process led to creating opportunities.

The findings indicated that the opportunities were continuous employee training, partnerships with third-party vendors, hiring more employees, capital investment, and deprecation of ineffective information systems technologies in the organization. For instance, P3 mentioned that the adoption of a remedy technology, a ticket resolution tool, was a means for the company leadership to foster the organization's interest in employing more resources overseas. P1, P2, and P4 established that they made decisions to acquire innovative technologies upon the evaluation of the return on investment attainable on new technologies. A leader's acquisition of resources must be value-driven, either to create rarity, inimitability, and the emergence of products and services (Gupta et al.,

2018). P2 and P4 affirmed that technology adoption was a means for them to increase the daily processing of business documents, reports, financial information, and databases for managing and storing data. P1 commented on the view of the technology platforms developed by skilled employees to improve on customer experiences.

The business leader's continuous monitoring, learning, and prediction lead to information systems technology adoption, development, and integration into the existing business process to gain sustainability. Business leaders should continue to encourage their organization members to spend time evaluating their performance and measure the impact of the adopted technology on the business prior the new technology, use assumptions, and revising their related business perceptions to meet the business goal after the technology adoption (Baird et al., 2017). The findings indicated that the adoption and assimilation of e-commerce technology, business intelligence technologies, data storage and data management technologies, and information security technologies were influencing factors for the participants' business continuity and growth beyond 5 years.

Emerging technology strategy alignment with RBV. The key theme of an emerging technology strategy aligns with the RBV of strategic management, originated by Penrose (1959) because business leaders used new information systems technologies for strategic planning through the available technologies and strategic innovation development to create sustainable competitive advantage in their respective marketplace. The outcome from the collected data indicated that business leaders adopted existing

technologies, such as e-commerce, for transparent and secured payment processing systems for their customers. Business leaders adopted tools useful to help them drive business decisions and business predictions through the evaluated business risk and performance services attainable through business intelligence. Participants confirmed they achieved remarkable business success under the data storage and data management services used in place of traditional paper filing systems. Consequentially, business leaders can protect their business and customer data from hackers through the adoption of innovative technology into the current business strategy.

Applications to Professional Practice

The applicability of the findings of this research may support and improve the professional practice of business. The amalgamation or incorporation of the research findings with the existing winning business strategy may contribute to a company's sustainability. The analyzed data and research findings emanating from the SME owners who participated in this study may guide SME owners on the inevitability of information systems and technologies relevant to improve business practice. SME owners might use the findings of this study as a significant, positive influence to improve existing business practices, implement effective information systems strategies, and improve the sustainability of their businesses.

Business leaders implementing IT systems could contribute to effective business processes, experience cost savings, improve account management and marketing, and increase productivity (Nwosu, 2017). Kumar et al. (2018) proved that dynamic

capabilities and relationship-based collaboration between partners is an important strategic action undertaken by business owners to develop and support long-term sustainability. The findings in this research indicated that SME owners who use information systems for online collaboration and process improvement may achieve success quicker than business owners who do not apply information systems tools and services. The business leader's inclination to technology-based service is useful for reaching business goals.

SME owners may use information systems for firm's resources management and decision making. Information system strategies implemented by SME owners may result in increased profitability and long-term business survivability (Juwita & Arifin, 2017). The findings presented in this research indicated that business leaders make a good profit by exploiting the right capabilities. These capabilities may be the hiring of competent candidates to develop products, service customers, customer-to-business engagement, or by outsourcing services to competent technology services providers to increase the business cost efficiency and long-term relevance. The adoption of information systems tools may be relevant for businesses to make the right decision based on the data collection and tool capabilities.

Business leaders adopt information systems innovative technology for achieving business sustainability. Innovative technology assimilation relates to the process of organizational leaders adopting, deploying, and integrating organizational technologies into their business practices to achieve sustainability. SME owners seek knowledge about

the effective use of information systems strategies to increase their ability to use information systems web-based technologies to influence operational capabilities, improve business decisions, and increase business sustainability in the marketplace. Business leaders may adopt or develop information systems tools useful to help them drive business decisions and business predictions through the evaluated business risk and performance services, attainable through business intelligence, and payment process systems. SMEs owners who do not effectively use information systems degrade business models, reduce customer value, and diminish the prospects for business stability, profitability, and growth (Wiyatno et al., 2017). Therefore, SME owners may apply the findings presented in this study to help their business improvement plan and gain business relevance continuity further than 5 years.

Implications for Positive Social Change

The implications of the research for positive social change include the potential for SME owners to lower local unemployment rates, improve the local standard of living for employees and residents, provide more excellent local economic stability, and contribute to government revenue for socioeconomic development. Kumar et al. (2018) posited that business owners need dynamic capabilities and relationship-based collaboration with their partners to develop and support long-term sustainability. SME owners and leaders are significant contributors to job creation, economic growth, and the promotion of sustainable communities (Hyder & Lussier, 2016).

Successful and growing SMEs result in lower local unemployment rates, an improved standard of living for the local community, and sustainable economic growth in local communities (Benitez-Amado et al., 2015; Zhu, et al., 2015). The participants expanded the business geographically by employing candidates who may retain their present location, still work for the companies from the comfort of their homes, city, or country because of the existence of the online collaboration strategies adopted by the business leaders.

The lack of or limited employment in certain city limits tends to increase the poverty rate in the community. However, the adoption of technologies may increase customers to the business relationship and business employee relationship and collaboration through the adoption of modern technologies. Hence, SME owners can affect individuals, their respective communities, organizations, institutions, cultures, or societies positively by implement strategies to sustain their businesses beyond 5 years.

Recommendations for Action

The purpose of this qualitative multiple-case study was to explore the information systems strategies SME owners used to achieve sustainability beyond 5 years. In 2016, the U.S. SBA reported that only 78.5% of new SMEs survived for 1 year, 51.4% survived 5 years, and one third survived beyond 10 years (SBA, 2018). SMEs owners who do not effectively use information systems degrade business models, reduce customer value, and diminish the prospects for business stability, profitability, and growth (Wiyatno et al., 2017; Yeh et al., 2015). The findings in this research apply to many industries and

businesses. The research findings of this study confirmed that the SME owners serving as participants used information systems strategies to sustain their business beyond 5 years.

Business owners who appropriate online collaboration and process improvement strategies to the existing working business strategies might experience exponential business growth and expansion within a brief period. Business owners who integrate information systems technologies for process improvement may realize improved customer engagement and loyalty in their respective industries. Schiavi and Behr (2018) validated that competition among companies in various industries is not exclusively dependent on the development of new products, services, and technologies, but also through innovative business strategies. Existing and future business leaders who commit to delivering acceptable and profitable products and services must be willing to adopt and embrace of emerging technologies as a strategy to gain a competitive advantage over incumbent businesses.

Future researchers on information systems and sustainability may also pay attention to this research result and the literature reviewed in this study to gain knowledge about the current opportunities in information systems strategy adoption in the business world. I intend to disseminate the findings through journals, such as *Information Technology and Management*, *Journal of Enterprise Information Management*, *New Directions for Student Leadership Journal*, *Journal of Science & Technology Policy Management*, *Journal of Management Development*, or *International Journal of Doctoral Studies*. I might share the research result in relevant information systems and

technologies conferences, SME development conferences, IT sustainability conferences, and relative training conferences.

Recommendations for Further Research

This study was a limited scope multiple-case study; therefore, limited, if any, transferability of the finding to other cases by future researchers exist. An identified limitation of this study result was that the accuracy and validity of interview data collected relied on the experience of the SME owners in five companies located in the state of Texas, and does not reflect the experiences of the broader population of all SME leaders globally. Future researchers could conduct qualitative multiple-case studies in different states or countries within varying industries to test the transferability of the findings of this study.

The findings of this study may not be generalizable to a larger population of SME owners. Future researchers may conduct a quantitative or mixed-method study to overcome the limitation of generalization of this study by examining relationship among variables and further exploring the phenomenon through open dialog with participants. Future researchers may conduct extensive research regarding business sustainability within small or large businesses to expand the sample population used in this study.

Future researchers could conduct quantitative research to examine the existence of a relationship between information systems strategies and SME owners' sustainability beyond 5 years. They could also examine the existing relationship between information

systems strategies, innovation, and emerging technologies for SME survival beyond 5 years.

Reflections

I had remarkable experiences in the doctoral study completion process. I came from a pure science background. I had to unlearn concepts, and learn unfamiliar writing styles. During the research, I gained exceptional knowledge about technologies and strategies that small businesses used to remain relevant in the United States and beyond. During data collection, I had significant concerns centered on overcoming and limiting bias to the minimal. I obtained Walden University IRB approval, and I ensured to follow the interview protocol closely. I mitigated the bias and preconceived notions before and during the interview by ensuring I collected and analyzed valid data relevant to achieve a valid and credible study. My major challenge appeared at the data collection stage of the research. During participant choice, I ensured to select successful business owners in the state of Texas. I did not anticipate the difficulty of securing eligible participants. I gained profound knowledge about SMEs, SME leadership, and their involvement to ensure their businesses succeed.

I understood that I had limited knowledge about the strategies business leaders undertake to drive business operations and long-term sustainability. The communication between the participants and I improved my understanding of information systems and technologies implementation challenges. I recognized that inductive qualitative data analysis was the right approach for this research study. I gained significant insight into

the many techniques and strategies business leaders use to drive excellence in their businesses. I remain impressed by the passion the SME owners had for emerging technologies solutions to improve their business sustainability and growth.

Conclusion

SME owners who do not use information systems effectively degrade business models, reduce customer value, and diminish the prospects for business stability, profitability, and growth (Wiyatno et al., 2017). Through the lens of the resource-based view framework, the purpose of this qualitative multiple-case study was to explore the information systems strategies small business owners used to sustain their business beyond 5 years. I collected data from semistructured, face-to-face interviews with five SME owners in the state of Texas, a review of their company documents, and follow-up interviews with participants. I analyzed data using Yin's 5-step analysis process to identify the three emergent themes of an online collaboration and process improvement strategy, a firm's resources strategy, and an emerging technologies strategy. The findings indicated that owners of SMEs sustain their businesses beyond 5 years by using online collaboration with stakeholders, ensuring their firms have adequate long-term resources, and embracing emergent technology. Business owners might use the findings of this study to implement or improve their information systems strategies. Existing and future SME owners should acknowledge their responsibility to continue to learn about and acquire information systems and technologies to extend their business sustainability. Business leaders should understand the role of information systems and embrace the

adoption and assimilation of emerging technologies as ways to advance their firms' resources in capital planning and operational cost efficiency. SME owners could use the findings to contribute to positive social change through job creation, economic growth, and the promotion of sustainable communities.

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Appendix A: Interview Protocol

Interview preparation. I shall e-mail the potential participant an invitation to participate and attached the informed consent form to the e-mail. I shall provide a medium for the participants to provide informed consent by replying, "I consent" to the request e-mail. Or provide the means to sign the informed consent for if the need be, and signature is not a requirement; just documentation that they provided informed consent. The interview setting will be a face-to-face interview at the interviewee-preferred location.

Opening the interview. I shall begin the interview with an introduction of myself, the purpose of my study, and the possible benefits of my study (business and social) as stated in my proposal.

Informed consent. To expedite my note-taking and bias avoidance, I would like to inform you that I will be recording the audio of our conversations today. For privacy protection, please sign the release form. For your information, only researchers on the project will be privy to the tape. The tapes will be destroyed after full transcribed and interpretation.

I like to inform you that all information collected during this interview will be held confidential, your participation is voluntary, and you may stop me at any time if you feel uncomfortable with any of the questions, and I do not intend to cause any harm during the interview. Thank you for your agreeing to participate.

Conducting the interview.

1. How have information systems strategies contributed to the sustainability of your company?
2. What information systems strategies did you use to sustain your business beyond 5 years?
3. What organizational resources did you use to implement information systems strategies to sustain your business beyond 5 years?
4. What information systems strategy was the most effective to sustain your business beyond 5 years?
5. How did you measure the effectiveness of the implemented information systems strategies to sustain your business beyond 5 years?
6. How did you manage the organizational change from implementing information systems strategies to sustain your business beyond 5 years?
7. What significant challenges did you face while implementing the information systems strategies to sustain your business beyond 5 years?
8. How did you overcome the significant challenges in implementing the information systems strategies for sustaining your business beyond 5 years?

What other information can you provide about the information systems strategies you used to sustain your business beyond 5 years?

Follow up with probing questions. I shall proceed with probing questions once I receive the primary answer to the above mentioned interview questions, for additional information and clarity from the previous answers from the above questions.

Theme verification. I will ask the participant about the major themes discussed in the interview. To ensure that I understand the intent of the participant.

Coding. Explain the procedure you will use to code the participant's name to protect confidentiality.

Recording reflexive notes. In addition to recording the interview taken, I will take notes to document any reflexive thoughts I might have while the interview is proceeding. For reference and clarification of thoughts.

Ending the interview. I will thank the participants for the time and information and inform them that I will contact them later to verify the accuracy of the transcript, and to engage in member checking to obtain any additional information they might offer relating to the topic of discussion.

Appendix B: Invitation to Participate

Hello, my name is Oluseyi Solomon Awotayo. I am a doctoral student at Walden University conducting a study on the information systems strategies SME business owners use to sustain their business beyond 5 years. I identified you as a potential participant in my study through a search on the Internet and a local chamber of commerce public directory. The eligibility criteria for participation in the study are (a) an owner of a SME, (b) implemented information systems strategies, (c) remained in business at least 5 years, and (d) the SME business location must be in the state of Texas. I would request permission to review some of your company documents, such as information systems policies, operational manuals, and business licenses... If you meet the eligibility criteria, would you be willing to participate? I have attached a copy of an informed consent form that contains more information about the study, your rights to privacy, and some sample interview questions. You can provide your agreement to participate in this study by replying "I Consent" to this e-mail. If you prefer, you can print, sign, scan, and e-mail me a copy of the informed consent form. Thanks, you so much for your consideration. If you have questions, please contact me.

Respectfully,

Oluseyi Solomon Awotayo