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Innovation Strategies in Small Agrarian Businesses in Sierra Leone

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Walden University
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Abstract

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MS, Southeastern University, 2001

BS, Indiana University, 1993

Doctoral Study Submitted in Partial Fulfillment

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Abstract

In 2015, a sharp decline in the sustainability of small agrarian businesses in Sierra Leone resulted in the gross domestic product declining by 41%. The purpose of this multiple case study was to explore the innovation strategies owners of small agrarian businesses use to sustain their businesses for longer than 5 years. The disruptive innovation theory was the conceptual framework for this study. The participants were 16 owners of small agrarian businesses from Makeni, Kenema, Bo, and Freetown districts in Sierra Leone who have sustained their businesses for longer than 5 years. Data were collected using semistructured interviews, personal notes, and a review of the ministry of agriculture documents. Member checking and methodological triangulation increased the validity and reliability of the study findings. Content and thematic data analysis using Yin's 5-step process provided the basis for identifying the findings. Data analysis resulted in the emergence of 5 themes: financial support, leadership, technology, enhanced competency, and organizational culture. The implications for positive social change include the potential to create employment opportunities for youths in the communities by enabling agrarian businesses in Sierra Leone to succeed and expand using innovation strategies.

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Dedication

I dedicate this doctoral study to my wife Giileh Kebbie Scholz and my children Nchomalain, Tommy, and Juicy for their support during my study. Their continuous encouragement greatly pushed me to complete this program. I will never forget the day I told my wife that I was going back to school. She was flabbergasted but she never tried to discourage me not to do it. To my whole family who always pushed me to be better, I would not be in this position without your support towards the completion of my doctoral degree and for advocating for me in my entrepreneurial efforts. I also dedicate this study to all owners of small agrarian businesses who continuously work to improve their lives and create jobs for others and to all the people in Sierra Leone who need the help this study can provide.

Acknowledgments

I would first like to thank God for guiding my steps and helping me through this journey. I wish to acknowledge my committee chair Dr. Mohamad S. Hammoud, committee member Dr. Gregory Uche, and URR Dr. Matthew Knight, for their guidance and professionalism throughout this entire process. A special thank you to Dr. Susan Davis for all her leadership and support. Thanks to my classmates, workmates, and colleagues, whose advice and guidance helped me greatly during the process. I would like to acknowledge my family especially those from the village of Mofuss, Shenge in Kagboro Chiefdom, friends and colleagues for supporting me through this journey. Finally, there are many others too numerous to name, who have contributed to my success, and I want to thank you all.

Table of Contents

List of Tables

Section 1: Foundation of the Study

In Sierra Leone, the owners of small agrarian businesses are concentrated mainly in the provinces where most of the agricultural farming takes place (Sankoh, Whittle, Semple, Jones, & Sweetman, 2016). The paramount chiefs in Sierra Leone provide a safe environment in the chiefdom, solve disputes, and maintain law and order in each district. The paramount chief controls and makes business decisions as to who should own a portion of land, and where that land should be located. The business decisions made by these paramount chiefs often lead to business failures by the owners of small agrarian businesses due to lack of experience on the part of the business owners in implementing innovation strategy (Mkodzongi, 2016). The owners of small agrarian business have difficulties in sustaining their small agricultural businesses because they lack innovation strategies. The purpose of this qualitative study was to explore the innovation strategies that owners of small agrarian business use to sustain their businesses longer than 5 years.

Background of the Problem

The people of Sierra Leone depend on agricultural products to reduce the shortage of food and other essential product commodities. The failures of agrarian farming are the cause of unsustainability of productivity and goals in Sierra Leone (Weißhuhn, Helming, & Ferretti, 2017). Rice is the staple food of the country, and many owners of small agrarian business grow rice as their primary agricultural crop. Rice is cultivated in the provinces of Sierra Leone using the environmentally damaging method of slash-and-burn cultivation, which is not discouraged by the agricultural authorities (Kamara, Sidie Vonu, Lansana, Lansana, & Saidu Sesay, 2016). Yengoh and Armah (2016) claimed that about

95% of the Sierra Leonean farmers reside in the rural communities where they derive their livelihoods from agricultural activities, and yet, 39% of the staple foods are imported into Sierra Leone.

Subsistence rice farming is the primary agricultural activity practiced by nearly 85% of farming families (Kamara et al., 2016). Kamara et al. (2016) noted that owners of small agrarian businesses sustained operations for longer than 5 years when the leaders implemented innovative strategies. The use of slash-and-burn methodology is outdated and cannot be used by the small agrarian businesses owners to sustain operations for longer than 5 years (Kamare et al., 2016). Many policymakers worry about owners of small agrarian businesses using outdated methods of agriculture without considering the exploration of innovative strategies to maintain sustainability longer than 5 years (Kamara et al., 2016).

Problem Statement

The agrarian sector is the biggest employer in the Sierra Leone economy; farming represents 46% of gross domestic product (GDP; Siddik, Kabiraj, Shanmugan, & Kahota, 2015). GDP in the agrarian sector of Sierra Leone declined to 58% in 2009 and increased slightly to 59.2% in 2015 (Keen, Begum, Friedman, & James, 2017). The general business problem was that some agrarian business owners lack strategies to innovate, achieve goals, and maintain productivity. The specific business problem was that some owners of small agrarian businesses in Sierra Leone lack innovation strategies to sustain their businesses for longer than 5 years.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the innovation strategies that owners of successful small agrarian businesses in Sierra Leone use to sustain their businesses for longer than 5 years. The targeted population included four small agrarian business owners from four provinces of Sierra Leone (i.e., Eastern Province, Northern Province, Southern Province, and the Western area) who have sustained their small businesses for longer than 5 years. The results of this study could help owners of small agrarian businesses implement innovative strategies to foster growth and sustainability. The implications for positive social change include the potential to reduce failure rates among owners of small agrarian businesses, alleviate poverty, and employ rural villages' inhabitants.

Nature of the Study

Researchers use the quantitative method, mixed methods approach, and the qualitative method to conduct research. Rosenthal (2016) defined a qualitative method as a framework to gain an understanding of a phenomenon and interpret the significance attributed to individuals' experiences and reality. Based on the purpose of this study, the qualitative method was appropriate. A qualitative research method is used to answer questions about experience, meaning, and perspective, most often from the standpoint of the participant (Hammarberg, Kirkman, & de Lacey, 2016). The mixed methods approach is appropriate when the researcher chooses to combine qualitative and quantitative methods in a single study (Palinkas et al., 2015). The mixed-methods

approach was not appropriate for this study because I did not intend to combine qualitative and quantitative methods for addressing the study's specific business problem.

I considered three qualitative designs for this study: case study, ethnography, and phenomenology. Researchers use case study designs to explore and explain phenomena within the original context (Breslin, Chambers, Holness, Mustard, & Nichol, 2013; Ketokivi & Choi, 2014; Yin, 2017). The case study design was appropriate for this study because, in this study, I explored strategies used by owners of successful small agrarian businesses and collected multiple sources of information. The ethnography design was inappropriate for this study because researchers use ethnography design to determine what a group of people or culture do and say; ethnography may require time in the field observing in details (Van Maanen, 2015). The phenomenology research design was not suitable for this study because, as cited by Bliss (2016), phenomenology researchers gain valuable insight into the structure of how people understand their experiences. In the phenomenological approach, the interview process and life experiences are the required methods researchers use to collect data (Bliss, 2016). Researchers using the phenomenological design seek to explore the meanings of participants' life experiences to collect data; therefore, phenomenology was not appropriate for this study.

Research Question

What innovation strategies do small agrarian business owners use to sustain their businesses longer than 5 years?

Interview Questions

1. What key challenges have you faced in sustaining your business?

2. What innovative strategies do you use to sustain your small agrarian business?
3. What were the key barriers to implementing innovation strategies for your business?
4. How did you address the key barriers to implementing innovative strategies for your business?
5. How do you assess the effectiveness of the innovation strategies for your business?
6. How did you incorporate innovation strategy into your operational planning process?
7. How do you execute your innovation strategy plans?
8. What other information would you like to share regarding your experiences and innovation strategies as owner of a successful small agrarian business?

Conceptual Framework

The theory of disruptive innovation developed by Christensen in 1997 facilitates the creation of future strategies and increases customers' values (Christensen, 1997). The disruptive innovation theory was the conceptual framework for this study. The theory of disruptive innovation explains how leaders' implementation of an innovation disrupts current products on the market in transitioning from old technology to new and up-to-date technology. A disruptive innovation creates a market by introducing new products and services, which eventually disrupt previous and existing products or services (Yeh, & Walter, 2016). Christensen (1997) noted that early activity of business development should focus on searching for opportunities and addressing those opportunities through

suppliers, partners, and customers, and create a business model for dealing with these prospects.

The conceptual framework of disruptive innovation indicates the potential readiness of established value networks for successful new market entrants of disruptive innovations (Christensen, 1997). Four of Christensen's disruptive innovation elements were: (a) incumbents' improvements along a trajectory of innovation, (b) the pace of sustaining innovation overshoots customer needs, (c) incumbents' capability to respond but failure to exploit it, and (d) incumbents' floundering because of the disruption (King & Baatartogtokh, 2015). The disruptive innovation theory provided a lens to perform an in-depth exploration of the strategy owners of small agrarian businesses used to improve innovation implementation, sustainability, and productivity.

Operational Definitions

Business failure: A business failure is a business whose leaders report a loss in net profit rather than gains for the prior 2 years; such losses may, and usually do, result in business closure (Jenkins & McKelvie, 2016).

Business success: Business success occurs when a firm's leader demonstrates efficiency through greater access to variables such as capital and management skills (Lussier & Corman, 2015).

Innovation: Innovation is the introduction of a new concept, technology, idea, process, product, and procedure that creates value for customers and stakeholders (Nasi et al., 2014).

Small business: A small business is a business that comprises 500 employees or fewer (U.S. Small Business Administration, 2016).

Sustainability: Sustainability refers to holding the gains of an improvement project, even in the face of staff and organizational turnover (Silver et al., 2016).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions of the study are important to define a basic set of beliefs the researcher brings to the study (Knafl, Leeman, Havill, Crandell, & Sandelowski, 2015). Assumptions carry risk and should be treated as such (Rocca & Andersen, 2017). I assumed that all participants answered all the interview questions honestly and that they had experienced similar phenomena related to the implementation of innovative strategies in agrarian business. I assumed that the participants would provide adequate responses to the interview questions and were willing to disclose truthful information without bias. In assuming that the members would provide reliable answers, I clarified to the participants how I would preserve the data and their confidentiality and privacy. I assumed that participant responses would be reliable; however, participants may choose not to be honest if they fear that the information may not be confidential.

Limitations

The limitations of a study are potential study weaknesses, which a researcher cannot address (Harvey, 2015). In any qualitative or quantitative research, there are some elements of limitation and potential weaknesses that exist (Almalki, 2016). In this study,

limitations included restrictions such as access to the interviewees because of lack of infrastructure to meet and collect data from the participants.

The small sample size could have limited the reliability of the study. The selection of a sample of owners of small agrarian businesses from four provinces of Sierra Leone who voluntarily participated in the study was a potential limitation. A limitation may also be that not all the facts were included as the participants attempted to recall events over the last 5 years without written documentation.

Delimitations

Delimitations refer to the bounds or scope of a research study. Delimitations describe the boundaries and what is in and out of the study's scope (Yin, 2014). I interviewed 16 agrarian-business owners in four provinces of Sierra Leone. The scope of the study was limited to (a) the size of the farms from five to 10 acres belonging to agrarian business owners who have sustained their businesses for more than 5 years, (b) the limited number of the provinces, and (c) making sure that the time allotted for conducting the study did not exceed 12 months after receiving Walden University's Institutional Review Board (IRB) approval. (#06-27-18-19021205)

Significance of the Study

The purpose of this qualitative multiple case study was to explore the innovation strategies that small agrarian businesses in Sierra Leone used to sustain productivity for longer than 5 years. The knowledge acquired from the study could improve the ability of small agrarian business owners to improve their innovation strategies to increase productivity and maintain sustainability. The implications for positive social change

include the potential to reduce failure rates among agrarian business owners, alleviate poverty, and employ the rural village population by agrarian business owners' implementation of strategic innovation business practices.

Contribution to Business Practice

The innovative strategies included in the findings may help small agrarian business leaders in Sierra Leone who lack innovation strategies to sustain their businesses for longer than 5 years. Small agrarian business leaders in other countries with similar conditions may also benefit from this study. The results from the study have the potential to add to the practice in small agrarian businesses on how innovation strategy may help to sustain their business longer than 5 years.

Implications for Social Change

Implications for social change from this study may include assisting Sierra Leone Agricultural Research Institute (SLARI) to improve training and development of capacity for innovation in agriculture. Implementation of the innovation strategy for the agriculture businesses may generate benefits such as creating job opportunities for youths, reducing poverty for rural farmers, developing communities through infrastructure, and improving agricultural innovation which may be beneficial to the economy of the country.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to explore the innovation strategies used by owners of small agrarian businesses to sustain their businesses longer than 5 years. The focus was on owners of small agricultural businesses in Sierra Leone

that lacked the innovative strategies to maintain their business for longer than 5 years. The exploration of scholarly literature included various agricultural sectors before I included evidence from scholarly sources that focused on owners of small agrarian businesses.

Sierra Leone has had instances of devastating war, and the Ebola epidemic took place in 2014 (McPake et al., 2015). During the civil war between 1991–2002, between 70,000 and 200,000 lives were lost, property was destroyed, about half of the population was displaced, and many skilled professionals were driven away (Gasparatos et al., 2018). The people of Sierra Leone received limited resources from foreign investors, especially during and immediately after the war. These issues and conditions were the essential factors in considering the sustainability of the small agrarian businesses in Sierra Leone.

The disruptive innovation theory, developed by Christiansen (1997), was the conceptual framework and the lens I used to explore the innovative strategies owners of small agrarian businesses used to sustain their businesses longer than 5 years. The analysis of the relevant peer-reviewed literature helped me gain the necessary knowledge about small agricultural business owners' strategies for implementing innovation in agriculture. There were insufficient studies on the sustainability of small agrarian businesses in Sierra Leone. Therefore, I also included information regarding small agrarian business sustainability in other developing countries such as Liberia, Guinea, Nigeria, Ghana, Kenya, Cameroon, Tanzania, and the Philippines. The literature review was a resource of supportive evidence during the data analysis phase of this study.

Literature Review Strategy

I selected relevant scholarly articles within the required time frame using the following database search engines and sites: Walden University Library Dissertations/Books, Government sites, Google Scholar and Google Search, mABI/INFORM, Academic Search Complete, Business Source Complete, The World Bank, The United Nation, ProQuest Central, EBSCOhost, and Sierra Leone Trade and Industry. I identified literature related to innovation strategies by entering the following keywords: *small agrarian farming, challenges of access to markets, opportunities for small-medium and microenterprise, crop and food security in Sierra Leone,* and *radical product innovation capability.* I further searched for implementation of small business success and failure using the phrase: *the challenges and benefits of innovation strategy*. I aligned the literature review with the tenets of disruptive innovation theory.

I completed the critical review of empirical literature related to the doctoral research topic, analyzed the assumptions and conclusions presented by the researchers, and detected emerging key themes across the literature. To do so, I collected scholarly peer-reviewed resources that met the Walden DBA program's selection criterion that at least 85% of the sources should have publication dates within 5 years of the graduation date. I used a classification matrix to organize the research (see Table 1).

Table 1

Synopsis of Quantity of Sources and Percentage of Literature

Reference Type	≥ 5 Years 1997 to 2014	≤ 5 Years 2015 to 2019	Totals
Total literature uses in the current study	30	183	216
Germinal & seminal books	1	0	1
Government resources	0	1	1
Dissertation/doctoral study	0	0	0
Peer-reviewed articles	29	180	214
Percentage of peer-reviewed articles	14%	85.0%	99%

The growth of small businesses in Sierra Leone has been mixed. The high budget deficit, high inflation, exchange rate instability, and the civil war that erupted in the country from 1991–2002 (Davis, 2017), were the contributing factors for the economy's weak growth (Kargbo, Hui, Li, & Gupta, 2017). The purpose of the literature review conducted for this study was to summarize and compare different perspectives from various researchers about the central research question: What innovation strategies have owners of small agrarian businesses used in Sierra Leone to sustain their business longer than 5 years?

The categories that I analyzed in the literature review were (a) theory of disruptive innovation, (b) agricultural innovation in Sierra Leone, (c) factors influencing agriculture innovations in Sierra Leone, (d) access to financial services, (e) accessibility,

affordability of farming tool, and equipment, (f) 11 years of rebel war, (g) the use of traditional technology, (h) foreign aid and donor support, (i) limited business skills and innovation strategy, (j) small agrarian business opportunities, (k) innovation opportunities in cocoa and coffee, rice and cassava, palm oil, and ground nuts and cashew nuts.

I based the literature review on a broad approach to the conceptual framework of disruptive innovation theory examining small agrarian business success and failure in Sierra Leone. The key themes were the effect of governmental regulations on the agricultural sector for implementing innovation strategies, and the usefulness of disruptive innovation theory as a lens for understanding innovation strategy in the agricultural sector. The outline in Table 1 included scholarly and peer-reviewed publications and books. The purpose of the qualitative case study was to explore what innovation strategies owners of small agrarian businesses used to sustain their businesses longer than 5 years.

Theory of Disruptive Innovation

I used the conceptual framework of disruptive innovation to explore innovative strategies that led to small agrarian business sustainability and growth for longer than 5 years. In 1997, Christensen coined the theory of disruptive innovation to facilitate creating future strategies and increasing customers' values. A disruptive innovation creates a demand by introducing new products and services, which eventually disrupt old products (Yeh & Walter, 2016). Christensen (1997) noted that early activity of business development should focus on searching for opportunities and addressing those opportunities through parties, partners, and customers, then create a business

model for dealing with these prospects. The conceptual framework of disruptive innovation theory indicates the potential readiness of established value networks for successful new market entrants of disruptive innovations (Parry & Kawakami, 2016).

The four elements of Christensen's disruptive innovation theory are: (a) incumbents' improvements along a trajectory of change, (b) the pace of sustaining innovation overshoots customer needs, (c) incumbents' capability to respond but failure to exploit it, and (d) incumbents' floundering because of the disruption (King & Baatartogtokh, 2015). The element of incumbents improving along a trajectory of innovation complemented the innovation strategy that the owners of small agrarian businesses in Sierra Leone used to sustain their businesses for longer than 5 years. The disruptive innovation theory provided a lens for me to perform an in-depth exploration of the strategy that owners of small agrarian businesses use to improve innovation implementation, sustainability, and productivity.

Some qualitative researchers use the innovation theory as a lens for understanding and evaluating data and information about participants (Ridder, 2017). The literature is used to support the conceptual or theoretical framework (Lederman & Lederman, 2015). Lederman and Lederman (2015) further claimed that the researcher starts by developing arguments by examining the role of theory in research. The researcher can formulate a distinction between areas of research that typically follow deductively versus inductive approaches to both the review of literature and data.

Research and development (R&D) used to be the strategies that business leaders would use to compete or to enter the open market (Martínez-Noya & Narula, 2018).

Competitive advantages derived from an open inbound innovation, which is a practice of leveraging the discoveries of others; companies need not, and indeed should not, rely exclusively on their R&D (Martínez-Noya & Narula, 2018). Martínez-Noya and Narula (2018) noted that rather than relying entirely on internal paths to market, people could look for external organizations with business models that are better suited to commercialize a given technology. Martínez-Noya and Narula posited that a stronger global competition has led to labor sharing and cooperation between firms. Martínez-Noya and Narula also noted that companies like Cisco, IBM, and Microsoft paved the way for small business innovation strategies toward sustainability.

Cisco is one of the leading companies in innovation. However, minimal effort is placed on innovation (Martínez-Noya & Narula, 2018). Martinez-Noya and Narula (2018) noted that most of Cisco's technology comes from external sources, where researchers and managers associated the establishment of a strong internal R&D capability with innovative strategies. Cisco Systems focuses on research to bring the best value on innovation technology for the effectiveness of the enterprise, which aligned with the innovation strategies small agrarian farmers used to sustain and generate profits for their businesses.

Innovation and technology tend to be the primary drivers of economic growth (Ramady, 2015). The growth of population can also impact technological input. Ramady (2015) wrote that a fascinating socioeconomic problem arises concerning how both population and population growth are linked to technological innovation. The population growth in Sierra Leone rural areas affects innovation, aligned with technological input.

Population migration after the civil war reduced productivity and innovation for small agrarian businesses. Innovation and technology with high population aligned with the factors that require small agrarian businesses in Sierra Leone to sustain their businesses longer than 5 years.

Leaders of companies such as Cisco, IBM, and Microsoft invested time and money in research to innovate new products that will increase productivity in the long run (McNeill, 2015). McNeill (2015) claimed that owners of small agrarian businesses lack these strategies for sustainability in the longer term because they do not have the financial strength to research and develop or innovate new concepts. Another area of innovation is process innovation, which business owners use as a strategy to improve business success (Cozzarin, 2015). The business success results show that process innovation strategy mainly shaped by a wealth of knowledge, acts as an essential mechanism for countering a firm's weak internal capabilities (Cozzarin, 2015).

Innovation is key to the survival and the growth of any business. Innovation has changed the way business owners conduct their business and how they satisfy the needs of the customer (Felix, 2015). Small- and medium-sized enterprises (SMEs) represent 99.7% of enterprises worldwide (Felix, 2015). The substantial contribution of SMEs to the economic and industrial development in most countries has become crucial for innovation study. Innovation in an organization occurs in several functional areas including some of the key sectors that are product process, service, and technological innovation (Felix, 2015). In the agrarian business, innovation should align with production and technology for sustainability.

Agricultural Innovations in Sierra Leone

Agriculture is a significant economic activity in Sierra Leone, contributing 47% to GDP in 1996, 45% in 2000, 40% in 2004 and 46% in 2010 (Ewetan, Fakile, Urhie, & Odunatan, 2017). The crop subsector remains dominant, contributing 67% to agricultural GDP in 2010; other contributions to GDP by subsectors included fisheries at 23%, forestry at 10%, and livestock at 5% (Ryan, 2017). Small-scale producers dominate farming operations. The combination of customary and statutory land laws has permitted the coexistence of traditional farming with the establishment of tree crops plantations, as well as the recovery of inland valley swamps (IVS) for agriculture. Agriculture is not as risky as other industries, and it does not require an array of federal subsidies. Subsidies to farmers are costly to taxpayers, but they also harm the economy (Lusk, 2016).

To promote the development of the agriculture sector, outreach programs have been and are conducted primarily by Njala University College, referred to as Njala University, Sierra Leone Agricultural Research Institute (SLARI); Rice Research Station at Rokupr, called Rokupr Agricultural Research Centre (RARC); and the extension services of the Ministry of Agriculture Forestry and Food Security (MAFFS). The innovation sector is in the hands of research institutions like SLARI and RARC. From 2003 to 2011, the agriculture sector contributed over 40% of GDP and was more significant than any other sectors during the period (Gboku & Bebeley, 2016). The livelihood of Sierra Leone depends on agriculture, which is the key driver for food security, poverty reduction, and overall economic growth (Gboku & Bebeley, 2016).

Citizens all over the world and particularly in developing countries are preoccupied with the struggle for livelihood safety measures, which primarily entails the access to basic human necessities, including food, shelter, clothing, good health, safe drinking water, education, good governance, and sustainable living, among others (de Gaay Fortman & Marcatelli, 2015). McGuire (2015) writes that worldwide more than seven million people suffer from hunger, lack of access to safe drinking water, and other forms of socioeconomic deprivation.

This restricted access to basic human needs is more prevalent in developing countries, in which to a considerable extent are also least capable of alleviating such basic human needs (Siddik et al., 2015). Siddik et al. (2015) claimed that Sierra Leone primarily depends on agriculture for its survival. Siddik et al. also noted that the poor performance of the agriculture sector can be attributed mainly to farmers' inadequate knowledge inappropriate practices, land degradation, poor natural resource management, insufficient agricultural extension services, poor farm-to-market infrastructure, high marketing costs, and the inadequate access to or unavailability and utilization of appropriate inputs. The poor performance revolves around inadequate innovation to improve businesses for livelihood survival in Sierra Leone (Siddik et al., 2015).

Because of the conflict that started in 1991 and ended on 22 February 2002, the 2-year Ebola outbreak beginning in 2014, and extreme poverty, the citizens of rural communities in the remote districts of Sierra Leone also had little or no access to formal sector financial services (Asangna, 2017; Kaner & Schaack, 2016). Farming in

Sierra Leone was found to be skewed toward the use of traditional tools such as cutlasses or machetes and hoes. Consequently, farmers were and still are restricted to subsistence farming with few means of increasing and improving the value of their yields. Business owners in the agriculture sector experience limited skills and knowledge in managing financial resources; credit services have restricted economic growth and undermine creativity, which would bring development in these areas. The lack of innovation strategies prevents farmers from moving from small-scale subsistence production to commercial-based agriculture. The spillover effects resulting from these inadequacies hinge on stagnation in the growth of small agrarian businesses, or just farming to consume instead of farming to market (Gboku & Bebeley, 2016)).

Gboku and Bebeley (2016) revealed that the loss of human lives and the displacement of populations during the civil war and the Ebola outbreak led to the decline of agricultural knowledge and skills, loss of labor force, dysfunctional organizational structures and market systems; infrastructural damage, and weakened institutional linkages leading to less creativity. Mansaray and Barrie (2016) wrote that agricultural activities in Sierra Leone are primarily rain-fed. Mansaray and Barrie (2016) noted that cultivation of the staple food rice is usually carried out in the rainy season, which starts in April or May and ends September or October while harvesting takes place in the dry season between November and January. Mansaray and Barrie added that because of low agricultural productivity, inadequate innovation for improvement, poor food management, farmers' food supplies, and sales run short

during the rainy season as they wait for the harvest. For this reason, the period from June to September or October is referred to as the lean or hungry season (Mansaray & Barrie, 2016). During the hungry period, owners of small-scale agrarian businesses find it difficult to improve their businesses. In its entirety, therefore, the agricultural sector faces a lack of systematic approaches to innovation (Mansaray & Barrie, 2016).

The only two agriculture research institutions, Sierra Leone Agriculture Research Institution (SLARI) and Rukupr Rice Center (RRC) have the goal of investigating and discovering innovations related to agriculture sector remains incapacitated. Even where innovative researchers function, researchers focus mainly on improving agricultural production with little or no attention to marketing agricultural products to maximize profits (Siddik et al., 2015). Consequently, discoveries made by SLARI are inadequately disseminated to intended users due to inadequate agricultural extension systems and facilities. Empowering farmers and owners of agrarian businesses to manage their scarce financial resources by way of improving their knowledge and skills, therefore, remains a challenge (Bataineh & Zecca, 2017). The usefulness of this study was to explore strategies that could replace the traditional practices of buying and selling agricultural products rather than suggesting innovative strategies for improving small agrarian businesses for profit maximization. Finding an appropriate means of creating innovative ways of developing small agricultural businesses remains a gap in the academic milieu, especially for business purposes.

Innovation Opportunities for Cocoa and Coffee

Cocoa is one of the three most important cash crops in Sierra Leone and an important foreign exchange commodity (Schroth, Laderach, Martinez-Valle, Bunn, & Jassogne, 2016). Schroth et al. (2016) noted that West Africa, including Sierra Leone, grows more than 70% of the world's production of cocoa. Vast plantations of crops that include cocoa, coffee, and palm kernel can grow in rural areas. Industries use cocoa for the manufacture of a range of products such as chocolate, Ovaltine, cocoa butter, wine, and soap (Wilson & Baumann, 2015). The cocoa product was also suitable for animal feed. Wilson (2015) noted that cocoa is grown in the most desirable areas of Sierra Leone. Therefore, the primary production areas were in a belt of Moa River drainage basin, from the northeast of Kailahun, Kono, and Kenema, to the south of Pujehun district (Wilson & Baumann, 2015). MARI-SL researchers observed that Sierra Leone cocoa export increased exponentially after the Sierra Leone Civil War (Beekman, Bulte, Peters, & Voors, 2015). Cocoa was the largest export earner for Sierra Leone after the war (MAFFS, 2014). The export volume increased tenfold to 28,000 metric tons between 2003 and 2011 (MAFFS, 2014). Much of MAFFS work addressed concerns about the availability of enough coffee and cocoa of desired quality, which in turn led to concerns about productivity, farmer livelihoods, climate change adaptation, pest, and disease control.

Cocoa farming production in African countries is essential to their economies (Schroth et al., 2016). Cocoa beans are in demand outside Sierra Leone for the manufacturing of cocoa and chocolate. The prices farmers received were subject to

fluctuations in the international markets and corrupt traveling merchants. Private operators that included companies and agencies, for example, farmers' organizations, control the export of the crop.

Coffee is one of the three most important cash crops in Sierra Leone (Saravia-Matus, y Paloma, & Mary, 2016). The cultivation of coffee was typically done in the rural areas, especially the southeastern part of Sierra Leone. Coffee beans were processed locally on a small scale into a beverage stimulant, and Sierra Leone exports the bulk for industrial manufacture of a beverage (Jackson, 2017). The Robusta species grown in Sierra Leone is the primary ingredient for instant coffee because of its high caffeine content. Coffee is also used in the pharmaceutical industry (Ferreira & Tobyn, 2015).

Farmers in different parts of Sierra Leone grow coffee. However, the areas of highest density are in the Kailahun, Kono, and Kenema districts in the Eastern Province. There are also sizeable plantations in the Bo, Moyamba, Bonthe, and Tonkolili districts. Ghosh and Mandal, (2015) noted coffee cultivation reduced drastically during and after the 11 years of civil war from 1991 to 2002. Coffee was one of the sources of foreign exchange for Sierra Leone, but most of the farmers who were growing coffee in the production areas either left the area or were killed during the war. The displacement and killing of coffee farmers, coupled with climatic factors, type of soil, traditional farm management, and crop production methods, are among the prominent factors that affect the growth and development of cash crops, including coffee (Alemu, 2015). Alemu (2015) noted that the increased shift from shade-grown to open coffee crop production systems affected the quality of coffee available to most consumers. The gradual change in

production processes has caused a decline in quantity and quality in many parts of the world, including Sierra Leone.

Coffee production is profitable, but profit margins depend on price fluctuations in the world markets. The Agricultural Sector Review estimates economic returns of Le 1,281,027 and Le 3,781,027 (Le is the Sierra Leone local currency, which is 7,500 Leones to a dollar) to traditional coffee and rehabilitated coffee respectively (Ryan, 2017). Similar to the situation with cocoa, private companies and agencies, including farmers' organizations, operate buying centers in Kenema, Kailahun, Bo, and Kono districts in the Eastern and Southern Provinces of Sierra Leone.

Factors Influencing Agriculture Innovations in Sierra Leone

Several factors account for such small production and failure to improve the agricultural sector as a business amidst the available agricultural opportunities in Sierra Leone. Below is a list of some of the key factors that were challenges and barriers limiting improved agricultural production the following underlining factors:

Access to financial services. In addition to providing a safe place to save and process agricultural products, inadequate capital for improved production and marketing of the agrarian sector were other strategic challenges. Small agrarian business groups, associations, and cooperatives are still in the process of being re-established after the end of the civil war that lasted from 1991-2002 (Davis, 2017) and Ebola outbreak, which lasted from 2014-2015 in Sierra Leone (Cilliers, Dube, & Siddiqi, 2016). As such, there were few formal financial services available to Sierra Leone's farmers and other rural entrepreneurs (Mason, Botelho, & Harrison, 2016).

Vulnerable rural household owners did not see alternatives to entering unfavorable agricultural contracts with intermediaries to access cash during the hunger period. These contracts undervalued the farmers' agricultural production and set them up for a similar situation to occur the following year. A means of providing access to financial services through savings and internal lending communities (SILC) was identified by Catholic Relief Services Sierra Leone (CRS-SL) as the only opportunity. Access to financial support, especially for owners of small agrarian businesses, presented several challenges. In most cases, small-scale agrarian farmers did not meet collateral security required to secure loans from financial institutions. Therefore, agrarian-business owners had trouble obtaining credit in the form of capital to start or continue the business. Sierra Leonean farmers are still using the informal financing method to support economic activities, which include historical and social factors, external factors beyond policymakers' control, and problems with government and donor efforts to promote rural banking and the expansion of the microfinance sector (Shahriar & Garg, 2017).

Accessibility, affordability of farming tools, and equipment. Another underlying reason for the poor performance of the agriculture sector innovatively in Sierra Leone was the inability of farmers to purchase necessary tools, viable quality seeds, and fertilizers needed for increased production (Binns & Bateman, 2017). Although the agriculture sector is intermittently subsidized through seeds and tools distribution by international nongovernmental organizations and the government of Sierra Leone, the current levels of support are still inadequate for most farmers to move beyond

subsistence farming (Binns & Bateman, 2017). Programs supported by the government, local, and international nongovernmental organizations offered significant potential to assist the rural poor to group together and create, through pooling, the financial resources needed to invest in increased agricultural production, but proved futile (Binns & Bateman, 2017). Binns and Bateman (2017) claimed that several intervention efforts have been made targeting farmers and businesses in Sierra Leone. Therefore, most farmers and small businesses faced difficulties in sustaining the business. Thus, the farmers faced challenges in limited infrastructure and the failure of innovation strategy did not only produce, but improved on marketing these products (Van Rooyen, Ramshaw, Moyo, Stirzaker, & Bjornlund, 2017).

The small business owners could not afford high tech equipment to assist in producing the important product. The government subsidized equipment such as caterpillars' machines and irrigation tools but in limited supply (Yang & Gabrielsson, 2017). Yang and Gabrielsson (2017) claimed that automation and mechatronics have enabled huge steps forward in production efficiency, quality improvements and sustainability in agriculture. There is a new high-tech tool known as the Internet of Things (IoT), which is becoming very popular in the agricultural sector. IoT is expected to be a powerful driver that will transform farming and food into smart webs of connected objects that are context sensitive and can be identified, sensed and controlled remotely (Agarwal et al., 2017). Agarwal et al. (2017) wrote that IoT would be a real game-changer in agriculture and the overall food chain that will drastically improve productivity and sustainability. The availability of fiber optics in Sierra Leone may help

owners of small agrarian businesses to use the innovation tool to improve sustainability (Agarwal et al., 2017).

A challenge for farmers in Sierra Leone is the inability to obtain financing to purchase high tech equipment or tools to boost up productivity (Agarwal et al., 2017). Agarwal et al. (2017) claimed that Government subsidies were not enough to provide high tech tools or equipment. Agarwal et al. added that supply to the farmers was very limited, leaving most farmers without an innovative tool to plow or till the soil. The purpose of the study was to explore an innovative strategy these small agrarian farmers would use to sustain their businesses longer than 5 years.

The 11 years of rebel war and Ebola outbreak. The decade-long civil war in Sierra Leone ended in 2002 after the British and government military intervention to suppress rebel insurgency (Jang, 2015). The civil war lasted for 11 years, from 1991 to 2002 (Davis, 2017), and led to over 50,000 deaths and 500,000 displaced civilians. The war destroyed the economy and small business growth (Wilkinson & Fairhead, 2016). Even though the war was declared ended, the effects of the war lingered in the minds of Sierra Leoneans (Jang, 2015). By the time the war ended, Sierra Leone had sunk to the bottom of the United Nations Development Program (UNDP) on the human development index (HDI) (Wilkinson & Fairhead, 2016).

The propensity to hire employees to work on an agricultural farm in Sierra Leone had dropped because of migration of the labor force into the urban areas for social amenities and livelihood survival (Wilkinson & Fairhead, 2016). Reduction of the workforce had an adverse effect on production, which adversely affected agrarian

businesses.

Wilkinson and Fairhead (2016) acknowledged that during the conflict, farmers in the rural areas most affected by conflict decreased in productivity relative to those in less affected areas. These damages that the war created are visible even after the conflict ended in 2002 (Casey & Glennerster, 2016). In some low-income countries, such effects may be relatively minor; there is little capital at risk, and, after the conflict, replacements were easily imported. Saxena (2008) discovered that the civil war left no discernible long-term economic effects. Saxena noted that output partially rebounds after a civil war, in contrast to the financial crisis. Wilkinson and Fairhead, using a panel of data, discovered that half the loss was recuperated after 4 years, while the other half was a cumulative loss that remains for several decades. In Sierra Leone, recoveries after the war were prolonged.

The high budget deficit, high inflation, exchange rate, instability and the civil war that erupted in the country were contributing factors for the economy's poor growth performance (Kargbo et al., 2017). The basic facilities were not only destroyed, but farmers and agrarian-business owners lost most of their cash crops, capital, and animal poultry. Rebuilding infrastructures were accomplished within a short time. However, infrastructure rebuilding alone did not solve the persistent loss. The physical destruction was one of the most critical effects of civil war violence and farmers were likely to have the disruption of production through the flight of employees and unreliability of transportation. Farmers encountered unreliable means of transportation and had to carry larger agrarian business inventories locally on their

heads. The costs of disruption were characterized as technical regress in the formal, private sector of the economy and so raised the unit cost of commodities (Wilkinson & Fairhead, 2016).

Farmers were also affected by a decline in demand and supply. The demand and supply compounded by the decrease in revenues, and more importantly, cash revenues, as people moved liquid assets abroad for safety and shifted into subsistence farming (Wilkinson & Fairhead, 2016). The high demand for the productivity of the private sector thus reduced through a combination of the higher unit cost of its products and the reduced cash income of the wider economy. Because of the conflict, the growing agrarian farming products have become unsustainable. The need for a new technology or innovation became an important factor to assist farmers in rejuvenating agriculture productivity. Jackson (2015) claimed that the current situation in Sierra Leone with strategies for sustainability also impacts future strategies for owners of small business.

The transition from a conflict to the post-conflict environment was a delicate and challenging situation where society and economy move from a period of complete breakdown, public and international institutions were attempting to provide social protection, to a situation where the society and economy reconfigured (Ryan & Basini, 2017). This transition represented a change from an objective of social protection to one of improving livelihoods. Aldrich and Meyer (2014) suggested that moves to reducing vulnerability and increasing resilience in communities affected by conflict and disaster may be a more appropriate and efficient approach. The destruction in the

agricultural sector deters the sustainability of the owners of small agrarian businesses to produce in the competitive innovating environment.

Because of the 2014 Ebola epidemic, which lasted for over 2 years, the Sierra Leonean business sector continues to degenerate (Beekman et al., 2015). An epidemic usually lasts from 9 months to 2 years except for Equatorial Guinea, where the Ebola outbreak continued for 15 years (Camara et al., 2017). Ebola is a severe disease of humans and primates caused by Ebola viruses (Yamamoto, 2015). Human-to-human transmission occurs through contact with body fluids of infected individuals. The disease can spread exponentially with high case fatality 30% to 90%, when health systems are fragile (Hermans et al., 2017).

The Ebola outbreak in West Africa began in Guinea in December 2013 and rapidly spread to Sierra Leone, Liberia, and beyond (Kaner & Schaack, 2016). The Ebola outbreak started with the infection of a 2-year-old boy in the southeastern part of the Republic of Guinea in late 2013 (World Health Organization, 2014). Within a year, many more children became orphaned (Owens & Leyland, 2016). During the dry season of 2014, the largest and most complex Ebola epidemic in history spiraled out of control in West Africa including Sierra Leone, with a death total of 11,284 (Neiland et al., 2016). The news spread quickly around the world and, as a part of the international response to the crisis, the United Kingdom deployed its military and then the National Health Service (NHS) to combat the virus in Sierra Leone, regarded as one of the worst affected countries in West Africa.

Sierra Leone is one of the world's poorest countries; its residents have suffered a decade of civil war (Binns & Bateman, 2017). The Sierra Leone economy suffered another blow after the 2 year Ebola outbreak, which started in 2014 (Neiland et al., 2016). Both the economy and Sierra Leoneans' livelihood suffered tremendously, and the government and local communities were working to rebuild the economy (Binns & Bateman, 2017).

The Ebola outbreak in Sierra Leone halted the exports and the capacity to raise revenue via taxes due to a significant fall in economic activities (Dumbuya & Nirupama, 2017). A gradual recovery was started by the post-conflict strategy to increase foreign investment, but the Ebola crisis threatened further gains (Dumbuya & Nirupama, 2017). The Ebola epidemic outbreak completely devastated the Sierra Leone economy. The effect trickled down to the owners of small agrarian businesses and created a negative impact on their export products, like cocoa, coffee, and palm oil. Moreover, improving productivity after the Ebola epidemic became a challenge to the economy of the country.

The use of traditional farming. Although significant progress is in place, increased production in West African agrarian productivity has not improved over the past 4 decades (International Fund for Agricultural Development [IFAD], 2011; Pretty, Toulmin, & Williams, 2011). The technology used in cultivating land has not been in the interest of the poor. The use of some technologies does not benefit the poor; most often it can affect them quite adversely as claimed by Mottaleb (2018). Technologies that have economies of scale can favor the wealthy at the expense of the poor. Practitioners should, therefore, ensure that the innovations employed help promote pro-poor, and strengthen

the resilience of individuals and households to favorable events. Critical proper measures include employment generation by using improved tools, implements, and microfinance that can reduce vulnerability while contributing to capacity development.

Appropriate credit can be used to fund production or mitigate stresses from medical costs, weddings, funerals, droughts, or floods. It can also help those locked in debt traps to escape (Babajide, Taiwo, & Adetiloye, 2017). Babajide et al. (2017) noted that care must be taken regarding agriculture-related investments and service delivery to ensure that promotion does not come with unacceptable increased risk and vulnerability. Inappropriate inputs can also increase risks due to the greater investment required that cannot recover in adverse circumstances. Some such as agrochemicals may even have health and safety risks (Babajide et al., 2017).

The majority of Sierra Leonean farming still use the old method of traditional farming including the use of machetes or slashing and burning (Kamara et al., 2016). Kamara et al. (2016) claimed that motorized agricultural equipment was either not available or, if available, not affordable. The coping strategy of peasant farmers included shifting cultivation, mixed cropping, and mixed farming (Kamara et al., 2016) . Kamara et al. (2016) noted that at the end of the season, once harvested, the land was left to lie fallow for 5 to 7 years. This method of agriculture has continued for decades. With diversity in crop production; innovation strategies are taking place that will help owners of small agrarian businesses (Kamara et al., 2016).

As the population grows with the practice of shifting cultivation the arable land kept shrinking in many countries in sub-Saharan Africa, including Sierra Leone. Thus,

the intensification path and the practice of letting the land lie fallow for 5 to 7 years are quickly becoming impractical. This situation created continuous cropping, a common practice in many areas (Van Thanh & Yapwattanaphun, 2015).

Sierra Leone has a vast potential for the development and marketing of agricultural products (Huang et al., 2015). But the sign of creativity and innovation is underwritten by the interested parties in this sector. Technological packages to achieve high yields of some crops have been and were still in development stages. Human resources appeared to be adequate regarding numbers (Huang et al., 2015). More skills training was required to realize the potential of this labor fully. Instead of the above, Ahmed (2016) revealed that several policy-related factors have impeded the progress of the sector performance in the subregion including but not limited to:

- Lack of producer price incentives
- Weak institutional capacity to create and operate a modern and efficient production system
- Inadequate marketing and infrastructure
- Ineffective linkages between researchers, extension agents, and farmers
- Marginalization of women
- High levels and mostly unmonitored subsistence agriculture
- Accelerated land degradation and depletion of forest resources
- Informal cross-border trade and high trading margins to the disadvantage of producers and consumers

- Limited expenditure on the sector, putting it grossly at variance with its overall importance
- More appropriate skills training for the relevant personnel, especially the small-scale business staff.

Improvement of this trend to achieve sustainable growth of this sector was achievable through innovation, influenced by a strong political will, dedication, and concerted action by all stakeholders, including the government, private sector, donor agencies, NGOs, agrarian business leaders, and farmers (Ahmed, 2016). Invariably, the appropriate use of innovative mechanisms, which emphasizes the use of new technologies and commercial farming, boosted and sustained growth in the agrarian sector of Sierra Leone. Diversification in agricultural production, which was influenced by innovation, ensured quality processing of products for various marketing purposes (Morris, Henley, & Dowell, 2017).

Foreign aid and donor support. The mission of Ministry of Agriculture Forestry and Food Security in Sierra Leone (MAFF-SL) was to improve agricultural production and productivity to achieve food security, by providing the enabling environment for farmers and other agriculture-related employees. The MAFF-SL was promoting appropriate research, extension input delivery, and marketing systems, thereby improving rural incomes, reducing poverty, and protecting the natural resources (Mupangwa, Mutenje, Thierfelder, & Nyagumbo, 2017). The MAFF-SL mission was within the core values of Millennium Development Goals (MDGs). MAFF-SL efforts were to contribute to the achievement of the MDGs and Vision 2025.

In developing their organization's goals, MAFF-SL leaders took into considerations several compliance issues if support was to be given by the international organizations. Government's role was to create an enabling environment for a sound economy and infrastructure to stimulate the contribution of the private sector in the provision of rural credit, input supply, and output marketing; to strengthen research and extension services; and the empowerment of farmers. Most of these roles complement nongovernmental organizations at national and international levels. Some of these organizations whose members provide support to this sector include Food and Agriculture Organizations (FAO), International Institute of Tropical Agriculture (IITA), Sierra Leone Agricultural Research Institutes (SLARI), (Nabay et al., 2018).

Conversely, Kanyako (2016) noted that most of the funding for West Africa, including Sierra Leone, is dedicated to supporting production with little focus on how to creatively or innovatively farm products sustainably. In a situation where funding was available, funding agencies had rigorous requirements for reporting the use of funds; some of these external compliance issues were not suitable, yield small dividends, or overlook the concerns of domestic producers including agrarian-business owners (Kanyako, 2016). In contrast, Abraham and Fonta (2018) findings showed that most farmers' household only relied on informal financing sources such as family, friends, neighbors, and other relatives, indicating a lack of access to formal financing sources.

Limited business skills, opportunities, and innovation strategy. Appropriate skills and knowledge in every sphere of life is an asset. Investments in skills related to

irrigation, rural infrastructure, and marketing of farm products were designed to maximize potential benefit to the poor (Bjornlund, van Rooyen, & Stirzaker, 2016). The promotion of technological change promoted diversification of agriculture in ways that spread risk among different enterprises and for various production exercises. Many of the owners of small agrarian businesses had little knowledge and few skills in starting and maintaining a business (Mohamad Radzi, Mohd Nor, & Mohezar Ali, 2017). Laura, Levkoe and Schumilas (2018) noted that farmers play a critical role in food systems, rural economies, agricultural sustainability, and the social fabric of communities. The ability to scan the environment for business opportunities and the acquisition of capital was a critical factor in the lack of sustainability of small agrarian businesses (Laura, Levkoe & Schumilas, 2018).

Crop and livestock breeding involved trade-offs between yields and vulnerability for the poor. The weaknesses explained why the profit margins, especially for small livestock business owners, were limited compared to the cost of input (Donkor, Donkor, & Kwarteng, 2018). Donkor, Donkor, and Kwarteng, (2018) noted that more than half of the owners of small agrarian businesses did not know about running a business for profit maximization. Daily record keeping was a challenge for these business owners, as were the business transactions.

The agriculture sector that is the backbone of Sierra Leone economy comprises the following: food crops, tree crops, fishery, livestock, and forestry (Ryan, 2017). The tree crops consist of cocoa, coffee, and palm. The food crops are rice and cassava, followed by fishery and livestock. Ryan (2017) noted that there are several types of

small agrarian business opportunities in Sierra Leone. Ryan noted that owners of small agrarian businesses could produce enough products and income to sustain longer than 5 years if innovation strategies were applied. Ryan added that production of cash crops encompassed the following crops: rice, cocoa, coffee, cassava, groundnut, and palm oil. The production of some of these cash crops is not seasonal. The seasonal cash crops are rice, cassava, and ground nuts. Rice, cassava, and groundnuts are grown at the beginning of the raining season. The duration is about 5 to 6 months before harvest (Ryan, 2017). Harvesting for ground nuts takes place in August. Rice and cassava harvesting come much later, beginning in November until the end of the year (Ryan, 2017).

Cocoa, coffee, palm oil are perennial crops. The survival of these cash crops depended on climatic conditions given that these crops continue to grow during the dry seasons (Schroth et al., 2016). Schroth et al. (2016) wrote that cocoa and coffee have become less productive, and the marketability of these crops has dwindled because the small business owners lack the innovation strategies to produce the crops and make a profit. Schroth et al. added that West Africa produces 70% of the cocoa crop but receives less attention in global production because of climate conditions. The extreme concentration of the production of a commodity in one geographical region makes the global industry highly vulnerable to a regional decline in climatic suitability (Schroth et al., 2016).

Innovation Opportunities for Rice and Cassava

Rice is the single most important crop regarding production, consumption, and imports in Sierra Leone. Availability of rice is crucial to the well-being of Sierra Leoneans even when most of its citizens are involved in its production (Voors, Van Der Windt, Papaioannou, & Bulte, 2017). Voors et al. (2017) wrote that small national production of this important staple food hurts the economy of the country. Voors et al. added that the scarce foreign exchange is expended to procure this commodity rice to meet the shortfall in demand. Poverty reduction and increased prosperity in Sierra Leone cannot, therefore, be discussed without enough attention paid to improving rice productivity and production to achieve the national goal of self-sufficiency and food security (Voors et al., (2017).

As the primary staple food, most Sierra Leoneans eat rice at least once a day. Rice is also the choice of food utilized in many traditional and religious ceremonies in, for example, the preparation of rice porridge made from rice flour and cooked with sugar. Rice is produced in five major agro-ecologies in Sierra Leone (Voors et al., 2017). After the 11 years of civil war in Sierra Leone, rice cultivation rapidly increased either because of its less labor-intensive nature or because of the increase in demand (Voors et al., 2017). The growing population and increasing demand for rice as a staple food for all Sierra Leoneans created additional demand for more land cultivation for rice than coffee. Increasing the average yield of rice in the upland and Inland Valley Swamp (IVS) would increase the availability of rice and contribute towards meeting the goal of food security in Sierra Leone (Voors et al., 2017).

The growing population in West Africa, with inadequate innovation strategy, is a factor that compels citizens of West Africa to rely on import of rice from Asian countries to meet the food demands of West African nations (Chenoune, Belhouchette, y Paloma, & Capillon, 2016). The citizens of countries, including Nigeria and Ghana, saw a decline of rice sufficiency from 38% in 1999 to 24% in 2006, as noted by the Ghana Ministry of Food and Agriculture (MOFA, 2016). International organizations, such as the World Bank, and the United Nations (UN) are providing opportunities to help Sierra Leone improve the productivity of rice farming, which has the lowest rice productivity in West Africa (Chenoune et al., 2016). However, the various programs with goals to boost rice productivity suffer by an absence of research explaining the way rice farmers take the possible socioeconomic, technical, and natural production factors into account when making their decisions for business (Chenoune et al., 2016).

The quality of locally milled rice was low because of lack of access to modern, innovative technology such as rice milling machines. In contrast, the quality of imported rice ranged from low to high. Sierra Leone 2004 Agricultural Sector Review cited that, the price of locally produced rice is about 15 to 20% greater than that of imported rice, because of the better taste and nutritional quality of local rice (Kumar & Kalita, 2017). Nevertheless, traders have not had problems selling imported rice, because local rice production could not meet the demand for rice, especially in towns and cities. Government policy required institutions such as prisons, hospitals, and schools, who received funds from the government, to purchase locally produced rice. The marketing prospect for local rice was, therefore, positive, especially if rice could be cleaned

properly. But the innovative strategy of creating this quality remains a cause for concern (Hazra et al., 2016).

Nigeria has the highest cassava production in the world (Donkor, Onakuse, Bogue, & de Los Rios Carmenado, 2017). However, in Sierra Leone, cassava is the most important root crop and the second largest food crop after rice, the country's staple (Sesay, Ayeh, Norman, & Acheampong, 2016). The tuberous roots of cassava eaten in a variety of ways ranging from the boiled form to processed products like gari and foo foo. A considerable amount of cassava is also suitable for starch. The leaves are used to prepare the famous cassava leaf sauce.

With increasing commercialization of cassava leaves, cassava leaves are ground fresh and frozen, or dried and grained for sale in plastic bags and exported. Cassava could also be processed into products like chips and pellets and used as an ingredient for animal feed. Starch obtained from cassava could be used directly in many ways or as a raw material for further processing. Cassava is also a good source of alcohol, although the practice is not common in Sierra Leone (Benvenga, Librantz, Santana, & Tambourgi, 2016).

The government of Sierra Leone's crop diversification, especially for cassava holds promise for industrial use (Benvenga et al., 2016). Marketing opportunities for cassava in the rural areas were inadequate; the increased cassava production and food diversification has contributed to the growing demand in urban areas. The food diversification has created marketing opportunities for cassava (Benvenga et al., 2016). Cassava is processed into various products including, but not limited, gari, flour, and

starch. The availability of these cassava products using traditional innovation provided opportunities for small agrarian-business owners' sustainability.

Innovation Opportunities for Palm Oil

A sustainable innovation strategy for small-scale agrarian business in Sierra Leone was the promotion of palm oil in southern Sierra Leone (Hart, Sharma, & Halme, 2016). Palm oil is a food product, also used for personal care, and industrial biofuel. In 2011, a company known as Socfin Agricultural Company Sierra Leone LTD (Socfin SL) secured 6,500 hectares of farmland to plant a rubber and oil palm plantation in the Malen chiefdom Pujehun district in the south of Sierra Leone (Yengoh & Armah, 2016). Due to the successful production of the palm oil, the company acquired 5,000 hectares to boost up production. The innovation strategies used for palm oil production, even though productive, the inhabitants of Pujehun district were reluctant to accept the strategy, which they referred to as land grabbing.

A conflict for farmland emerged between the landowners and the Socfin Company Limited, which resulted in a reduction of agricultural land and the exploitation of the farmers who were employed for casual labor only. Yengoh and Armah (2016) introduced an innovation strategy for the method of cultivating oil plant on a large scale using improved technologies, motorized equipment, and ultimately rendering agrarian farmers more productive. This example aligned with the conceptual framework of this study.

Innovation Opportunities for Groundnut and Cashew Nut Crops

The groundnut, also known as the peanut, provides a regular source of income for many small-scale farmers who sell the harvested, unshelled nuts, both raw and dried. The raw nuts can be consumed either directly or in the boiled form (Ghosh & Mandal, 2015). The dried nuts are usually roasted and sold for local consumption. There has been a significant increase in groundnut production after the war in Sierra Leone, mainly due to men embarking on peanut production, which was formerly a woman's crop (Ghosh & Mandal, 2015). Ghosh and Mandal (2015) claimed that the groundnut fits well in the traditional farming system in which inputs, such as fertilizers, are minimal or nonexistent. The plant produces appreciable yields with few additional inputs, keeping the cost of production low. The Agricultural Sector Review of Sierra Leone reports net economic returns of Le 2,674,759 per hectare with the use of improved varieties and good viable crop- and soil-management practices (Ghosh & Mandal, 2015). There is an enormous local demand because groundnut is part of the daily diet of Sierra Leoneans as a component of the sauce eaten with rice (Ghosh & Mandal, 2015). Ghosh and Mandal (2015) noted that there is potential for peanut oil production for the export market once there is enough demand.

Although cashew has not been a significant cash crop in Sierra Leone, it is rated to be one of the most promising (Catarino, Menezes, & Sardinha, 2015). Since it is only recently that commercial productions received attention; recommendations for improved practices based on local experience are scanty. Catarino et al. (2015) cited that the cashew plant has many uses: the juice from the fruit can be processed into soft drinks or

fermented into wine; the cashew apple, when fully ripe, may be eaten raw, or preserved as jelly; and the industry uses the roasted nuts.

The potential for good returns from cashew production is high since the input and management requirements are small compared to the value of the output (Catarino et al., 2015) Caliendo, Hogenacker, Kunn, and Wiebner (2015) claimed that in Sierra Leone, locally roasted cashew nuts are commonly sold by owners of small agrarian businesses. A crop, which was considered only useful for soil conservation, forestation, and development of wastelands, has today assumed a status of a major cash crop and foreign exchange earner in Sierra Leone (Catarino et al., 2015).

Challenges Faced by Small Agrarian Businesses

Small agrarian businesses not only in Sierra Leone but also in West Africa, faced several challenges within the marketing sector (Adenle, Azadi, & Manning 2017). Adenle et al. (2017) noted that the marketing opportunity exists, but availability and affordability of agricultural products for commercialization, coupled with the inadequate skills and knowledge of business owners, remain a problem. Market research, skills, and knowledge, especially for agrarian business purposes, remain a gap amidst the opportunities available in West Africa (Adenle et al., 2017). Adenle et al. (2017) noted that more than 70% to 80% of small-scale agrarian-business owners lack the strategies necessary to efficiently and sustainably manage their businesses for profit maximization.

The youths influenced small business owners who have decided to subsidize unemployment by becoming self-employed in a broad labor market policy strategy (Caliendo et al., 2015). Self-employment, especially for agrarian-business owners, is a

conduit to escape unemployment and to improve their labor market prospects, compared to other unemployed individuals (Caliendo et al., 2015). The disadvantage facing small business owners is the lack of knowledge for seeking access to capital for the start-up of a business. When successful, it is believed that such small businesses will boost the economy of contemporary agrarian society (Caliendo et al., 2015).

Agrarian small business owners in Sierra Leone are experiencing difficulties in innovating and implementing strategies that will increase business sustainability because of lack of knowledge, perception, and attitude (Meijer, Catacutan, Ajayi, Sileshi, & Nieuwenhuis, 2015). One of the factors leading to the unsustainability of a small agrarian business is the concept of land grabbing in Sierra Leone (Ryan, 2017). This concept limited farmers in increasing their farm size. In this scenario, agriculture companies pay the minimal sum to the landowners on the pretext of increasing production but depriving property owners of their cultivation activities. Siddik et al. (2015) noted that small business owners have been instrumental in economic growth in emerging and developing economies like Sierra Leone, Nigeria, and Ghana.

However, sustainability was a significant factor affecting small business owners because they lacked the innovative strategies to sustain the business longer than 5 years. Davis and Terblanché (2016) noted that small- and medium-sized business leaders engage in external knowledge sourcing, a form of inbound exploration, or open innovation. Davis and Terblanché (2016) showed that open innovation is determined by the role of external sources of knowledge. The livelihood and socio-economic development of communities in many regions of the developing world have also

impacted productivity in the sub-region of West Africa, including Sierra Leone, through knowledge seeking (Ngoasong, Paton, & Korda, 2015).

A literature review was a broad approach to the strategy of small business owners' successes and failures in West Africa (Sierra Leone, Nigeria, Liberia, and Guinea). Chimucheka and Mandipaka (2015) acceded that small- and medium-sized business creation and sustainability is constrained by poor access to finance, lack of education in entrepreneurship, business skills, lack of marketing knowledge, inflexible regulations, inadequate access to business resources, high taxes, and poor market. Sierra Leone's owners of small agrarian businesses were not producing enough to achieve sustainability beyond 5 years because they lacked the strategy, access to finance and business skills, and were in a weak market. Lack of creativity and innovation determines, stimulates, and influences small business (Kabukcu, 2015). Kabukcu (2015) noted that unpreparedness at the initiation stage of not implementing the corrective innovation strategies, risk, and change management, of gaining a business success, is dependent on the type of investment portfolio. Sierra Leone's small agrarian-business owners' success was contingent upon using the correct innovative strategy for sustainability and growth (Kabukcu, 2015). The emphasis of this study was in the rural areas and the lack of infrastructure development for the agrarian-business owners to develop and sustain productivity.

SMEs are defined in this literature review as businesses with up to 500 employees. The owners of these small businesses are valuable tools in the fight against poverty and significant contributors to economic growth in developing countries (Collier,

& Venables, 2017). SMEs are responsible for most employment generation in advanced as well as in developing countries and disruptive innovation (Block, Fisch, & van Praag, 2016). Block et at. (2016) cited that SMEs are responsible for most of the private-sector jobs in developed countries. For example, SMEs are responsible for around 60 to 70% of employment in Germany, Finland, Belgium, and Canada. However, in African countries, SMEs are responsible for a smaller share of formal job creation, providing only about 20% of employment in Nigeria, Cote d'Ivoire, Cameroon, and Sierra Leone (Page & Söderbom, 2015). Collier and Venables (2017) also noted that the SME sector's contribution to employment shows a strong positive correlation with Gross Domestic Product GDP per capita income. Thus, in the path towards a more formalized labor market, employment generation by the SME sector plays a paramount role (Mekonnen, Spielman, Fonsah, & Dorfman, 2015). Small-and medium-sized business entrepreneurs can further link to economic growth through their ability to connect knowledge, product commercialization, and total factor productivity.

Banerjee and Jackson (2016) claimed that small business owners are becoming hostages of middlemen that bring provisions, agriculture implement, and domestic utensils for forwarding arrangements; hence, rural areas are poorly integrated into the firm. Most agricultural inputs and appliances used for forwarding happened during the planting season for the exchange of agricultural input after the harvest.

Informal lending to small business creates an image of farmers losing their pieces of land to the moneylenders (Ryan, 2017). These types of actions are in the sub-Saharan Africa region, including Sierra Leone owners of small agrarian businesses do not sustain

enough productivity. Small business owners are in most cases duped into turning over of their precious assets by moneylenders who force them to enter interlocked contracts. Small business farmers in Africa, including Sierra Leone, need an intervention into these contracts to sustain their business production for Sierra Leone.

Jost et al. (2015) focused on smallholder microfinance that has gained acceptance as one of the interventions that can be used to support small business farming. Microfinance cannot have an impact on small firms until it penetrates significantly in the rural areas where small-scale agricultural activities need financial assistance. One of the main reasons why small business farmers were failing is that they tend to operate along the lines of peasantry agriculture instead of running along commercial lines. Peasantry farming was another reason why small agrarian business in Sierra Leone was failing to sustain their production. Through friendly farming, minimal products were available for marketing purposes because most of their produce is insufficient for consumption (Siddik et al., 2015).

SMEs are different from large organizations regarding engagement with society and the environment (Williams & Schaefer, 2013). SMEs are not only perceived to be the primary drivers for generating employment, but also for promoting innovation and putting business ideas into practice, fostering regional economic integration, and maintaining social stability (Mazzei, Flynn, & Haynie, 2016). The process was a lens into the conceptual framework of this study where innovation strategy for sustainability is vital for improving small agrarian business in Sierra Leone.

Other Factors Affecting Small Agrarian Businesses in Sierra Leone

The lack of sustainability by the small agricultural business owners is also contingent upon several other factors. Environmental, climate change, political, economic, cultural, social, and financial factors affect small agrarian businesses in Sierra Leone.

Environmental factors. The researcher investigates business environmental, financial and infrastructural factors that influence the success or otherwise of SMEs in rural areas (Chimucheka & Mandipaka, 2015). Small and medium enterprises are critical to improving economic activity, job creation, and poverty alleviation in improving living standards (Chimucheka & Mandipaka, 2015).

SME entrepreneurs are the principal creators of employment in developing countries (Quartey, Turkson, Abor, & Iddrisu, 2017). The SME owners achieved this objective by encouraging entrepreneurial skills that adapt to changing market conditions. By being flexible, SME owners help developing countries keep pace with altering consumer needs. This development helps with diversifying economic activities that lead to entrepreneurs creating businesses aimed at increasing a countries trade position (Quartey et al., 2017). Creating jobs and being competitive in the global marketplace, were necessary to encourage entrepreneurship in SMEs (Wilkinson & Fairhead, 2016). Wilkinson and Fairhead (2016) noted that factors influencing entrepreneurship and small businesses was a well-researched area, but relatively little development took place on farm businesses in places such as South Africa and Sierra Leone. The creation of innovative strategies was, in this context, well-placed programs that empower farm

entrepreneurs to enforce business creation, thus a vital tool for improving rural communities and underdeveloped countries (Wilkinson & Fairhead, 2016).

Access to funding and sources of funding were also potential problems for the owners of SMEs (Quartey et al., 2017). The indication was that in the rural areas, the service infrastructure and business environment was not well developed and faced problems such as the inaccessibility of financial institutions. Sierra Leonean small and medium entrepreneurs face the same lack of accessibility to financial institutions in the rural areas (Quartey et al., 2017).

Climate change factors. Changes in climate conditions affect the lower agrarian net revenue in sub-Saharan Africa (Wood & Mendelsohn, 2015). There were no specific locations that may reflect the overall trend due to variation in baseline climate, soils, and socioeconomic factors that were difficult to model on a larger scale. Lower agrarian revenue contributed to high climate change over a small geographic area (Wood & Mendelsohn, 2015).

Several studies conducted on the effect of climate not only in the western world but also in Africa. Dube, Moyo, Ncube, and Nyathi (2016) showed that climate change, often referred to as a global warming, occurs from the release of anthropogenic emissions and greenhouse gases. Agriculture was one of the critical components of anthropogenic land use and land cover changes that influence regional climate (Ahmed, Wang, You, & Yu, 2016).

The impact of climate change was aligned with Sierra Leonean low productivity of cash crops (Dube et al., 2016). The land was no longer fertile because of heavy rains

clearing the soil via erosion. The climate change variability was triggering a threat to the food production industry in the country (Dube et al., 2016). Climate change, extreme events, and climate variability threatened food and nutrition security, affecting food system activities all around the globe, from production to processing, packaging, to distributing and retailing (Tirado, Hunnes, Cohen, & Lartey, 2015). The future security challenge was framed in small business farming and food system (Tirado et al., 2015). Also, increases in urbanization reduced small business agrarian income in achieving food security. The same concept applied to the owner of a small agrarian business in Sierra Leone who lacked the innovation strategy to sustain business longer than 5 years.

Cash crops such as cocoa and coffee were vulnerable to climatic changes. The vulnerability was due in large part to the high concentration of the product in a single location. However, Schroth et al. (2016) cited that there was often considerable spatial heterogeneity in the vulnerability to climate change within affected regions, implying that economic production losses could compensate the intensification and expansion of production elsewhere. However, this required that site-level actions integrated into a regional approach to climate change adaptation (Schroth et al., 2016).

Political factors. In the late 1940s and 1950s, the colonial government amalgamated the smaller chiefdoms to collect revenue by the administration and make such collections by the district commissioner more efficient (Acemoglu, Reed, & Robinson, 2014). Before the colonials created the amalgamation, each of the chiefdoms had their paramount chief. After the merger, smaller families could join larger families. Because the leaders obtained instruction from the colonial government and not the people

they governed, corruption began to kick in (Warf, 2017). Because of the indirect rule by the colonial government, Sierra Leone's first war against the colonial rule regarding payment of taxes took place. The war was known as the hut tax war (Wilkinson & Fairhead, 2016). Governor Cardew's intention was to improve the economy through taxation, but the governor failed to adequately explain plans to locals who had little knowledge of an economic system in which citizens paid taxes. The chief at the time, known as Bai Bureh, the main protagonist of the uprising, later surrendered and was sent into exile (Wilkinson & Fairhead, 2016). In the end, a British Commission concluded that the Hut Tax was obnoxious to the customs and feelings of the people, especially because the British offered no incentives to make the people accept the tax (Wilkinson & Fairhead, 2016). Government policy and inadequate subsidy by the government also created a problem for the farmers. Government supplied crop subsidies in August in any given year when farmers have already planted their crops and are ready to harvest (Wilkinson & Fairhead, 2016).

Economic factors. Research scholars and business professionals have proven that financing of business entities in developing economies, such as Sierra Leone, failed fundamentally because of the incapacity and inability of the owners and business agents to be creative (Kabukcu, 2015). Kabukcu (2015) noted that some entrepreneurs and managers showed some form of negligence and carelessness at the initial stage not following the corrective measures. The business tradition business practices, strategies, risk, and change management of gaining business success to maintain sustainability, depending on the type of investment portfolio, innovation strategies (Kabukcu, 2015).

Therefore, the purpose of the research study was to explore innovative strategies and to determine whether these indicators stimulate and influence business success to sustain growth longer than 5 years. Literature findings indicate that innovation and creativity can affect success in business performance and growth, especially in a developing economy such as Sierra Leone (Kabukcu, 2015).

The farmers bring something new and unique to the market that significantly alters and improves the existing commodities such as goods and services. Innovation is one of the prime factors for business growth in the industrial world and a growing competitive market for developing countries (Luqmani, Leach, & Jesson, 2017). The key point about innovation was its sources and strength. Innovation is very critical to the agriculture business. Sustainability is a big challenge requiring innovation for agrarian business. Many farmers have committed to innovate towards environmental, social and economic sustainability (Luqmani et al., 2017)

Serdyukov (2017) noted that innovation is essential to individual business success and plays a crucial role in creating a sustainable future. Serdyukov observed that innovation involves the survival of categorizing companies and individuals regarding the education and the functional relationship from which they derive benefits from a given product, process, or service innovation.

Drucker (2016) identified the following seven sources of innovation: the unexpected, incongruities (conflicts between opposing functions, requirements or values), process needs (necessity), industry and market structure, local and global demographics, changes in customer perception, and new knowledge. Drucker (2016) also categorized

that first four sources lie within the company, while the last three lies outside the company and can be used by leaders to develop new products and new markets. These factors provided direction for some fundamental changes and awareness that lead to innovation strategy. For this qualitative study, the aspects of innovation explored by Tidd and Bessant (2013) were useful.

Cultural factors. One of the important cultural factors that influenced the civil war in Sierra Leone was the economic motive, often referred to as the green perspective (Voors et al., 2017). Although poverty was not a leading indicator of the war, poverty played a pivotal role in the civil war and continued to do so after the war (Chatterjee, Pereira, & Bates, 2018). Despite a tremendous effort by the international community, about 70% of Sierra Leoneans were still in poverty after the war (Novelli & Higgins, 2016). Poverty in sub-Saharan Africa predominantly affects rural communities. Roberts, Anderson, Skerratt, and Farrington (2017) cited that the current focus on rural development and poverty reduction required a comprehensive view of rurality. Ripoll et al. (2017) claimed that rural development is not only rural agriculture development concerning all those people who live in the rural areas but also those in urban areas, that have close links with agricultural activities (Oka, 2018).

The tertiary education institutions offering agriculture programs in Sierra Leone performed the roles of teaching, research, and service to communities known for poverty, food insecurity, and lack of essential amenities (Ripoll et al., 2017). Ripoll et al. (2017) noted that graduates from these institutions worked as teachers, extension agents, and agriculture officers in the communities to implement rural agricultural development. The

communities remained underdeveloped even though the organizations continuously produced thousands of graduates in the agricultural sector every year (Ripoll et al., 2017).

Social factors. The social factors that brought the war in Sierra Leone were inadequate health care, poor infrastructure, low wages, unemployment among youths, lack of good education, and tribal differences. However, the chief instigator was the need for diamonds to fund the Liberia civil war (Quas, Dickerson, Matthew, Harron, & Quas, 2017). Cited by the research conducted by Youth Readiness Intervention in 2002, there was a significant post-intervention effect on youth in Sierra Leone after the war, such as mental health treatment (Newnham et al., 2015). The study was based on emotion regulation, prosocial attitudes, social support, and reduced functional impairment, and significant follow-up effects on school enrollment, school attendance, and classroom behavior (Betancourt et al., 2014).

Gender inequalities played a more significant role in the socio-cultural issues in Sierra Leone. The access to and control of resources was a severe concern in seed rice production (Betancourt et al., 2014). Several researchers such as Siddik et al. (2015), found out that many women contribute to about 60 to 80% of labor in the farm. However, women were still left out regarding owning farmland and controlling both the financial aspects and the material resources in the home (Mudege, Mdege, Abidin, & Bhatasara, 2017). Mudege et al. (2017 noted that women usually embark on 2 years in contributing to the productivity of the farm. Mudege et al. added that woman took care of the activities of the home and at the same time assisted in the farm activities during the day. The inequalities combined with cultural norms prevented women from participating fully in

the cultivation of the rice production but rather concentrate on the production of vegetables and caring for the children Mudege et al., 2017).

Financial factors. Availability of finance was an essential element for small business success. Funding was provided to farmers directly by the companies that were buying the product yields or through a multiple source's agreements involving a company, a farmer, a bank and, possibly, an input supplier (Chirambo, 2017). Chirambo (2017) noted that even places where new farming activities were profitable, cash-flow constraints made it impossible for farmers to become involved if they lack funds to pay for land preparation, inputs, and harvesting at the right time. Chirambo added that farmers working to promote inclusion should work with financial institutions to develop sound financing arrangements based on commercial principles while being aware of the dangers of creating excessive indebtedness amongst farmers**.**

Most people work for small businesses in developing countries. Often, the owners of those small businesses have limited access to financing opportunities due to their capability (Kargbo et al., 2017). Therefore, promoting access to finance was an integral part of the strategy for government and nongovernmental donors. For most countries in sub-Sahara Africa, small farmers suffered low production output because of the mechanism used to develop the farm for sustainability (Kargbo et al., 2017). In the case of Sierra Leone, where the agrarian system is based primarily on small-scale farming, farmers face low production output and an increased risk exposure with high seasonal volatility (Kargbo et al., 2017).

Small business owners must make accounting firms aware of their goals and the services they need. At the same time, accounting firms must strive to help the small business owners to achieve these goals and ensure that the small business remains competitive. An important issue for many businesses was how to obtain the financial information that would help them avoid being one of the casualties (Wolk & Wootton, 2015). Sierra Leoneans relied on the banking systems to finance business. Therefore, a failure in the banking systems limited the potential to obtain loans and hindered the growth of the economy (Kargbo. Ding, & Kargbo, 2016). The significant element in the development growth and success of any small business was the access to finance (Cowling, Liu, Ledger, & Zhang, 2015). Countries with weak economic conditions believed that micro-and small-scale businesses funded by credit sources propelled expansion and startup (Faupel & Süb, 2018; Mutyenyoka, 2014). The small business start-up is an important symbol of entrepreneurship for external financial capability (Boadi, Dana, Mertens, & Mensah, 2017; Ly & Mason, 2012; Park, 2017). The access to a source of funding was a potential problem for small business. The potential growth of small business in the rural area was negatively affected by the lack of financial support from the banking institutions (Chimucheka & Mandipaka, 2015). The same concept applied to the small agrarian businesses in Sierra Leone. Small business creation was constrained by inadequate access to finance, lack of education, skills, and marketing knowledge.

Transition

In section 1, I presented the purpose of the study, the way I conducted the study, and its importance. The goal in Section 1 was also to present a review of the academic literature and the exploration of innovative strategies that Sierra Leone owners of small agrarian businesses used to succeed in business longer than 5 years.

Categories analyzed in the literature review were (a) theory of disruptive innovation, (b) agricultural innovation in Sierra Leone, (c) factors influencing agriculture innovations in Sierra Leone, (d) access to financial services, (e) accessibility and affordability of farming tool and equipment, (f) 11 years of rebel war, (g) the use of traditional technology, (h) foreign aid and donor support, (i) limited business skills and innovation strategy, (j) small agrarian business opportunities, and (k) innovation opportunities in cocoa and coffee, rice and cassava, palm oil, groundnuts and cashew nuts. Section 2 included a thorough description of the research methodology and design, the role of the researcher, participants, population sampling, ethical research, data collection instruments, and various techniques used for the study. The segments in Section 2 included a detailed dialog on organization and data collection techniques, data analysis techniques, dependability, credibility, transferability, and confirmability. In Section 3, I included an introduction to the study, a discussion of the purpose of the study, the research question, a summary of the findings, and a detailed explanation of the outcomes of this study. Section 3 also included the presentation of the study findings, application to professional practice, implications for social change, recommendations for action, recommendations for further study, my reflections, and a conclusion.

Section 2: The Project

Purpose Statement

The purpose of this qualitative multiple case study was to explore the innovation strategies that owners of successful small agrarian businesses in Sierra Leone use to sustain their businesses for longer than 5 years. The targeted population included four small agrarian business owners from four provinces of Sierra Leone (i.e., Eastern Province, Northern Province, Southern Province, and the Western area) who have sustained their small businesses for longer than 5 years. The results of this study could help owners of small agrarian businesses implement innovative strategies to foster growth and sustainability. The implications for positive social change include the potential to reduce failure rates among owners of small agrarian businesses, alleviate poverty, and employ rural villages' inhabitants.

Role of the Researcher

The role of a researcher in a qualitative case study is to gather data by engaging and interacting with the participants (Fusch & Ness, 2015). I was the primary data collection instrument throughout this research process. A researcher using qualitative methods serves as a tool for collecting data (Mcusker & Gunaydin, 2015). My role as a researcher in this study included collecting data from the participants through semistructured interviews. Accordingly, I prepared for the data collection process by planning the schedule and putting together the research method procedure. The role of a researcher in mitigating bias during the data collection process is to have and follow an interview protocol (National Institutes of Health, 2015). It is important for the researcher

to match the sample demographics to the population. Therefore, I mitigated bias by defining the participants that aligned with the research study. The researcher may hold financial, personal, or ideological interests that may lead to potential bias during the research (Dunn, Coiera, Mandl, & Bourgeois, 2016). As a researcher, I mitigated bias by not offering any financial favors, neither did I have personal relationships with the participants. The participants may lack the understanding of the research to be able to respond to the interview questions proactively and more efficiently (Long, Ballard, Fisher, & Belsky, 2016). I used purposeful sampling process for the selection of participants.

Ethical research is essential when dealing with human subjects. Data were collected from semistructured interviews, personal notes, and review of the famers-based organizations (FBOs) documents and literature. In semistructured interviews with open-ended questions, participants have opportunities to expand their responses (Yin, 2017). However, the researcher should always maintain an ethical standard (Downe, Cowell, & Morgan, 2016). Researchers who comply with *The Belmont Report* observe the fundamental principles of respect for persons, beneficence, and justice (Miracle, 2016). Researchers use *The Belmont Report* protocol to integrate the basic principles when dealing with a study that involves human subjects (U.S. Department of Health and Human Services, 2015). To remain professional and to demonstrate integrity throughout my research, I practiced the three guiding principles identified in *The Belmont Report*.

I conducted interviews based on the geographical boundaries drawn by the representatives of the rural areas. During the interviews, I considered the risk factors

associated with conducting the study. Risk factors included emotional discomfort that will cause shame and financial and economic difficulties that may stagnate the participation in the research study. I notified the participants about the consent form containing my procedures so that they were aware of the study guidelines. I had no relationship with any of the participants and the relationship established with the participants during the interviews was of a professional nature.

Participants

The target population for this qualitative, explorative multiple case study comprised 16 owners of small agrarian businesses. The owners of small agrarian businesses came from the four provinces of Sierra Leone (East, North, South, and the West) who have sustained their businesses longer than 5 years. The participants represented owners of small agrarian businesses that own and manage small businesses, employed between five and 10 employees, and sustained their small businesses longer than 5 years. The participants were fluent in the English language. English language is the official language taught and spoken in schools in Sierra Leone starting from preschool or Class 1. The local languages are secondary to the English language, even though Creole is the *lingua franca*. The participants had a minimum education of West African School Certificate Ordinary (WASC), which is equal to a high school diploma in the United States. Participants with a minimum of WASC education was the criterion to ensure that communication in English without the intervention of an interpreter was appropriate. Another eligibility criterion for selection for this study was that participants were natives of Sierra Leone.

My strategy for gaining access to the participants involved communication by text and WhatsApp. WhatsApp is a communication tool used for personal messaging functions (Guler, 2016). Participants received the consent forms via either email or WhatsApp explaining to them the nature and intent of the study. The participants had to respond, "I consent." Participants were not interviewed if they did not consent. I conducted semistructured interviews with open-ended questions with participants to complete the interview in an onsite location in Sierra Leone. After the interviews, communication with the participants occurred through WhatsApp to facilitate member checking.

The participants' trust in the researcher is important for a qualitative study to be credible (Nowell, Norris, White, & Moules, 2017). Rubin and Rubin (2012) recommended that researchers and participants establish trustworthiness. To develop a working relationship with these participants, I was in constant contact with them via email or WhatsApp. In my communication, I followed *The Belmont Report* ethical guidelines. I also developed a plan for sharing the research study results with the participants upon completion.

I used member checking to validate the interview outcomes. In member checking, the researcher shares the interpretation of the interview with the participants for validation (Birt, Scott, Cavers, Campbell, & Walter, 2016). Member checking is a technique for exploring the credibility of the results from the interview (Birt et al., 2016). Participants had the opportunity to review my interpretation of interview data, information, and key themes after the interview for validation.

Research Method and Design

Research Method

There are three possible research methods: qualitative, quantitative, and mixed methods (Creswell, 2014). Almalki (2016) defined a qualitative method as a framework to gain an understanding of a phenomenon, and interpret the significance attributed to individuals' experiences and reality. Qualitative research is also an instrument for studying and understanding the value that people or communities attribute to human or social issues (Almalki, 2016). Almalki noted that the cause of research requires developing procedures, questions, and gathering information at the participant location. Based on the purpose of this study, which was to explore the innovation strategies used by owners of successful agrarian businesses to sustain their businesses for longer than 5 years, the qualitative method was appropriate for this study.

Ahmed (2016) cited that researchers use the quantitative research method to examine statistical data for testing hypotheses that determine the significance of relationships and differences among variables. Quantitative research favors a closed systems approach in which every effort is made to neutralize the effects of the observation context (Padgett, 2016). The quantitative method was inappropriate for this study because I did not examine the relationships or differences among variables, nor did I neutralize the effects of the observation context.

The mixed method is appropriate when the researcher chooses to combine qualitative and quantitative methods in a single study (Creswell, 2014). Furthermore, a mixed method is a research method that combines the elements of qualitative and

quantitative research for a deeper understanding of the research phenomenon (Siddiqui & Fitzgerald, 2014). The purpose of this study was to explore the innovation strategy small agrarian businesses used to sustain their businesses and did not require a mixed-method approach. Therefore, a mixed method was not appropriate for this study because I did not combine qualitative and quantitative methods for addressing the specific business problem of the study.

Research Design

I used a multiple case study design. Researchers use case study design to explore and explain phenomena within the original context (Chambers et al., 2013; Ketokivi & Choi, 2014; Yin, 2017). A qualitative case study is the preferred design researchers employ when asking *how* or *what* questions (Nassaji, 2015; Yin, 2017). A case study is analogous to multiple experiments, and the test conditions justify the use of multiple-case studies (Boblin, Ireland, Kirkpatrick, & Robertson, 2013; Yin, 2017). The case study design was appropriate for this study because I explored strategies used by owners of successful small agrarian businesses and collected multiple sources and information. Distinctively, a case study design not only depends on data, but also upon semistructured interviews, and can be conducted using new technology such as WhatsApp or via telephone (Yin, 2017).

Five of the most commonly used qualitative research designs are phenomenology, case study, narrative, ethnography, and grounded theory (Marshall & Rossman, 2016; Parylo, 2012). The ethnography design was inappropriate for this study because researchers use ethnography to determine what a group of people or culture do and say;

ethnography requires time in the field observing in detail (Van Maanen, 2015). Yin (2017) noted that ethnography is appropriate to use in a study if the needs are to describe how a culture group works and to explore the belief, language, behavior, and problems facing the group, such as power, resistance, and dominance. Researchers use ethnography to determine how a broader culture works instead of developing an in-depth understanding of a single case (Yin, 2017).

In a phenomenological research, researchers use semistructured interviews to access participants views and experience (Chown, Soley, Moczydlowski, Chimento, & Smoyer, 2016). The phenomenological research design was unsuitable for this study because phenomenology deals with the understanding of a phenomenon as seen through the eyes of the people that have experience in it (Merriam & Tisdell, 2015). Moustakas (1994), Koopman (2015), and Trotter (2012) noted that phenomenology involves exploring a phenomenon from the lived experiences of the single or culture-sharing group. With the exploration of the innovation strategy for sustainability in Sierra Leone, a better selection for this study was a case study design.

Interviewing and data collection should continue until the researcher realizes data saturation (Fusch & Ness, 2015). Data saturation is considered complete when researchers are able to link themes from the data they have collected, and no new data emerges (Fusch & Ness, 2015). Fusch and Ness (2015) noted that researchers reach data saturation when they can explain the relationship between the codes and the themes emerging from the data. I interviewed the participants until data saturation was reached.

Population and Sampling

In this qualitative multiple case study, the population comprised 16 owners of small agrarian businesses from each of the four provinces of Sierra Leone that met the criteria of owners of small agrarian businesses and had sustained their business longer than 5 years. I used purposeful sampling to select the participants in the study. Purposeful sampling is a strategic selection of information-rich cases related to phenomena of interest (Palinkas et al., 2015). Researchers use their judgment in purposeful sampling to select their participants based on the study criteria (Korstjens & Moser, 2017).

The participants had a minimum education of Ordinary (O) level known as the WASC, which is equivalent to the Scholastic Aptitude Test (SAT) in the United States. Participants with a minimum of O-level education ensured good communication in English without the intervention of an interpreter. Being a native of Sierra Leone, and still residing there at the time of the study, was another eligibility criterion for their selection as a participant in the study. My strategy for gaining access to the participants involved communication by text on WhatsApp. WhatsApp was an effective communication tool used during the interview to reach out to participants to achieve data saturation.

Ethical Research

Researchers are ethically obligated to allow the participant to consent during the interview process (Ferrer et al., 2016). I submitted to the Walden University Institution Review Board (IRB) a completed electronic copy of the IRB application form. I started my data collection only after obtaining approval (#06-27-18-19021205) from the Walden

University IRB, which is the body whose members ensure all studies comply with the University's ethical standards, the United States government regulations, and appropriate international standards related to the human subjects participating in research. After I received my IRB approval, I forwarded an introductory email message to the identified participants using the contact information I received from the FBOs.

The consent forms were distributed to the participants when we met in their various agrarian business locations before conducting the semistructured interviews. The participants read and signed the consent form and returned it to me before the start of the interview. The consent form was part of a process where the participant was informed about the research purpose and protocols that the researcher followed by the IRB approved guidelines. Hem, Molewijk, Gjerberg, Lillemoen, and Pedersen (2018) noted that coercion and the use of force to induce participants into the study is unethical. Once the consent forms were signed, I reviewed the forms with the participants based on the IRB research guidelines.

I assured participants of their rights during the research process, including the right to withdraw from the interview at any time, without penalty. The participants were to inform me about withdrawal either by face-to-face communication, a written notification via WhatsApp or by telephone. With the consent form, I informed participants of the applicable method to ensure the confidentiality of the data and how information collected would be protected.

There was no monetary incentive for participants who took part in the study. Participants did not receive any reward such as cash or a cash equivalent. By signing the

consent form, participants did indicate their voluntary agreement to participate in the interview and consent was recorded, taped, or documented. I collected the permission for an interview before recording the interview. The researcher should establish the ethical principles to protect human subjects in research from unjustifiable exploitation (Nicolaides, 2016). As a researcher, I was obligated to assure participant protection against any harm from the research. Jamal et al. (2014) noted that participants should be made to feel safe and to make sure that the information obtained from them during research will remain private and confidential. Therefore, I followed *The Belmont Report* guidelines for participants' privacy, and the consent form informed the participants about the topic of research, the interview method, and how the data would be collected and stored (Byrne, Brugha, Clarke, Lavelle, & McGarvey, 2015).

The data were kept in a safe and secure location in my house to protect the participants' confidentiality. Participants were made aware that the information gathered was for this study only and not for a third party. I store all study artifacts in a securely locked safe in my house for a period of 5 years, and then I will destroy the data by shredding the hard copies and cleaning up my hard drive of any soft copies. Online software will be used to delete the soft copy documents permanently after 5 years. The researcher should not use the participants' personal information for the research study (Montalvo & Larson, 2014). Furthermore, researchers should maintain the confidentiality of all the personal information provided by the participants (Peter, 2015). I did not give the names of the participants to any person or organization. I used codes, such as P1, P2, and P3, to identify the participants.

Data Collection Instruments

I was the primary data collection instrument, and I utilized open-ended questions and semistructured interviews. The collection of the data is the primary responsibility of the researcher to safeguard the participants and their data (Hammarberg et al., 2016). The techniques used in data collection were interviews and document review (Hammarberg et al., 2016). McIntosh and Morse (2015) noted that interviews urged participants to go beyond answering issues in a qualitative study. I collected the data and information during the face-to-face interviews with the participants.

I also conducted document review. Prior to interviews, I conducted a pre-research process by researching in the department of agriculture and national database and online journals and newspapers to ascertain the specifics of the operations I explored. In the first meeting with the participants, I inquired about the business processes owners used to sustain productivity for longer than 5 years. I asked for other pertinent source documents related to their operations, mainly related articles and publications which provided additional data for triangulation with the interview data.

During the face-to-face interviews, I asked open-ended questions to explore innovative strategies that owners of small agrarian businesses used to sustain their businesses longer than 5 years. Member checking process was applied to enhance the reliability and validity of the data collection instrument process. I used member checking to ensure that participants validated the essence of my notes and interpretations of interview data and information. Member checking is a technique for making sure that the researcher's interpretations match with the information provided by the participants

(Harvey, 2015). In member checking, researchers check for validity by sharing the researcher's interpretations with the participants (Harvey, 2015).

I went back to the participant to validate what they told me and to affirm data and information gathered during interviews. These steps enabled me to improve the validity of the qualitative study. In member checking, the participants should be given the opportunity to review reports after the interviews (Peter, 2015). Therefore, the participants were provided the opportunity to review the interview notes and analyses. Member checking process was applied to enhance the reliability and validity of the study by sharing the interpretation of the interview with the participants and to ensure the accuracy of the data. Interview questions were developed and followed. The interview questions are available in Appendix A.

Data Collection Technique

I interviewed participants after I obtained IRB approval from Walden University. As part of the interview process, I explained to participants the background process, purpose, and the potential benefits. Yin (2017) and Birt et al. (2016) emphasized the importance of providing a background as a precursor to capturing the interest of the participants. The interview format was a semistructured analytical approach comprising of open-ended questions used to gather data and acquire insight into business skills that Sierra Leone owners of small agrarian businesses used to succeed in business longer than 5 years. Data collection can be very demanding as claimed by Rasdorf, Hummer, and Vereen (2015) and Sud and Thelwall (2014). Developing a substantive question that may contribute to *how* and *why* questions are necessary to a case study inquiry (Bielik &

Yarden, 2016; Yin, 2017). I reviewed the data for validity and accuracy after the interview with the participants. I used member checking to make sure that data interpretation matches with the participants' interviews. I used member checking for credibility and validity. Member checking is a technique for making sure that the researcher's data interpretation matches with the information provided by the participants (Harvey, 2015). In member checking, researchers check for validity by sharing the research interpretation with the participants (Harvey, 2015). I re-interviewed participants to validate what they told me and to ascertain that the story had not changed.

The advantages of qualitative research interviews are: (a) they are useful to gain insight and context (b) they help participants describe what is important to them, (c) they enable the researcher to develop a rapport with the participants (d) they give the researcher the opportunity to observe as well as listen, and (d) they enable more complex questions to be asked (Harvey, 2015). One of the advantages as cited by Punch and Graham (2016), is that the researcher can ask the same questions of each participant, which reduces variation in the responses. The disadvantages are: (a) interview questions may seem intrusive to the participant, (b) interviewing can be expensive, and (c) participants' responses can be susceptible to bias, which may include the participant's desire to please the researcher (Fusch & Ness, 2015). There was the need to say something rather than nothing if the participants cannot answer the questions. The researcher view can influence the participant's responses by expressing surprise or disapproval (Hofmann, Platt, Ruch, & Proyer, 2015).

Data Organization Technique

I collected and stored data on a personal computer, thumb drive, and an external hard drive to safeguard and protect against loss and unauthorized access to the data. I installed password protection on all devices, and I installed antivirus software. The safeguard process included printing hard copies and keeping them in a box in a secure location in my house. Data organization was a major component of data analysis. To develop a data organization, I organized data in an Excel matrix, coding participants. Each participant was assigned a code (e.g., P1, P2). I did not disclose the names of the participants at any time during the interview. The matrix contained all the peer-review journals, information brochures, and information on owners of small agrarian businesses in the study.

To protect the data storage audio files and computer soft copies, I saved each document with password protection on an external drive and replicated the same method with a thumb drive and one more computer. Nobody has access to the files or know the passwords except me. I needed devices such as an audio recorder, a computer, an external hard drive, and a thumb drive. The data will be kept in storage at my house for 5 years. I plan to destroy the documents and permanently delete the electronic files after 5 years.

Data Analysis

I used methodological triangulation by validating data through multiple source cross-verification to improve credibility. In a qualitative study, there are four forms of triangulation: (a) data triangulation, (b) investigator triangulation, (c) theoretical triangulation, and (d) methodological triangulation (Abdalla, Oliveira, Azevedo, &

Gonzalez, 2018). Abdalla et al. (2018) further identified two types of methodological triangulation: (a) within the method and (b) between the method using more than one way to gather data. I used methodological triangulation of data analysis for all primary data from the semistructured interview questions and documents. Methodological triangulation was an appropriate method to improve the reliability and credibility of the data.

The purpose of this multiple case study was to explore the innovation strategies owners of small agrarian businesses used to sustain their business in Sierra Leone for longer than 5 years. The overarching question was: What innovative strategies do owners of small agrarian businesses use to sustain their business for longer than 5 years? I used member checking to validate credibility and validity. Member checking applies after the interview of the participants and the collection of data (Yin, 2017).

NVivo QSR software is a tool for the qualitative analysis of data. NVivo coding uses words or short phrases from the data record that are participant-generated, even if terms are unique to a culture or subculture (Bairan, Boeri, & Morian, 2014). NVivo12 has commonly used software that was utilized was NVivo coding and is appropriate for qualitative researchers (Bairan et al., 2014; Zamawe, 2015). In addition to uploading participant transcripts into NVivo12, I uploaded portable document formatted (PDF) files, articles from the literature review, and other relevant data for analysis and query. Researchers use NVivo software to manage data and identify themes (Sotiriadou, Brouwers, & Le, 2014; Houghton et al., 2017). The output reports, combined with prior knowledge, allow the researcher to assess the specifics of the study and generate a quality

study (Roer-Strier & Sands, 2014; Yin, 2017). Using NVivo assisted me in managing my thoughts, developing theories related to the data, and finding common themes that identified key factors related to new and existing strategies.

I strived to produce high-quality analysis by looking at all the data, with an emphasis on the research questions of the case study and using prior knowledge to ensure the accuracy and the significance of the study. The data analysis process included the use of a qualitative data analysis software called NVivo. NVivo software is used to collect, organize, and analyze varied data types. Coding data around themes is a key characteristic of qualitative research. NVivo labels these storage containers like thematic analysis, attributes and folders as "nodes." Nodes can represent anything that the researcher wants them to be and grants easy organization and reorganization of themes in the data (Zamawe, 2015).

Yin's method of qualitative data analysis was adopted, which consisted of five sequential steps: compiling the data, disassembling the data, reassembling the data, interpreting the meaning of the data, and drawing conclusions from the data (Yin, 2015). After collecting the data, I analyzed it. Data analysis involves working through data to discover significant themes, patterns, and descriptions that answer the key research questions of the study (Yin, 2015). I began by organizing the data that I collected into categories relating to successful strategies by owners of small businesses. I then chose the initial categories originating from the findings from the literature review. With regards to strategies, I used categories such as efficiency, inefficiency, cost efficiency, economic

costs, skills and development, and growth. I also used categories such as communication, ethics, confidence, commitment, positive attitude, and creativity.

Reliability and Validity

Reliability

Dependability. The trustworthiness of qualitative studies is presented using terms such as dependability, credibility, transferability, confirmability, and authenticity (Elo et al., 2014). The trustworthiness depends on the data collection process. The information collected from the participant should be reliable and valid. The criteria are not measurable and need to be established using qualitative methods such as member checking of data interpretations, transcript review, expert validation of the interview questions, interview protocol, focus group protocol, and direct participant observation protocol (Knapp, 2016). The researcher uses the same interview guide for each participant. The researcher takes notes and observes the participants interactions. I enhanced dependability during the data collection process through member checking. Member checking can enhance dependability in qualitative research (Knapp, 2016).

Validity

McKim (2016) noted that validity focuses on the extent to which the findings get applied to other situations. Qualitative study validity includes credibility, transferability, and confirmability of the findings. Reaching data saturation added to the credibility, transferability, and confirmability of the research findings. I ensured validity by completing member checking for consistency.

Credibility. I used an interview protocol (see Appendix B) to enhance

trustworthiness by using data interpretation, participant transcript review, triangulation, focus group protocol, and participant observation protocol. Demonstrating qualitative credibility ensured the reviewers that the researcher addressed the findings from the perspective of the participants. Nowell et al. (2017) observed that the trustworthiness of the research findings is relevant to credibility. Participants have the right to privacy and their personal information should remain confidential in qualitative research (Saunders, Kitzinger, & Kitzinger, 2015). Researchers should give participants an option to correct any misinformation and misrepresentation, which helps protect the researcher and the participants (Saunders et al., 2015).

In methodological triangulation, the procedure may involve gathering and analyzing data from several sources (Abdalla et al., 2018). Data triangulation may be beneficial to improve the credibility of the research (Bielik & Yarden, 2016). I used methodological triangulation by collecting data through face-to-face interviews, documents, and analysis of public records. I achieved methodological triangulation by collecting data from four participants from each of the four provinces (East, West, North, and Southern province) through interviews and analysis of archival data. Choosing a small number of participants makes it easier for the interviewer to connect the participants' experiences and compare their responses to others (Fusch & Ness, 2015).

Transferability. Transferability in a case study should be of use to others in similar situations (Knapp, 2016). Transferability helps determine whether the findings are transferable. To improve the transferability of this study, participants received detailed and full descriptions while discussing the research process and findings.

Confirmability. Researchers who are interested in the confirmability of qualitative research assume that the researcher could bring a unique perspective to the study. Probing during interviews and follow-up member checking interviews, questions from different points of view, and triangulation are techniques researchers may use to enhance the confirmability (Varpio, Ajjawi, Monrouxe, O'Brien, & Rees, 2016**).** Elo et al. (2014) stated that the validity of the study is to ensure that the analysis supports the overall objective of the study. Korstjens and Moser (2017) claimed that triangulation and reflexivity detailed the use of confirmability. In a confirmation of data findings, data should be collected and compared with different sources (Nowell et al., 2017). I followed the methodology of collecting and analyzing various sources. I checked and rechecked the participants' responses to the interview questions, and I shared the results with the participants for their confirmation.

Data saturation. During the research process, the selection of the participants can be a factor in data saturation. I reached data saturation when there was no new data shared by the participants during the interviews. Data saturation has an impact on the trustworthiness of the research findings (Fusch & Ness, 2015). Saunders et al. (2017) noted that data saturation helps to improve the accuracy and validity of the research study. Researchers reach data saturation when there is no new information, no new coding, and no new themes to explore (Fusch & Ness, 2015). Member checking helps to achieve data saturation. Confirmability refers to the potential for other researchers to substantiate the results (Korstjens & Moser, 2017). The credibility of qualitative studies was challenging to document since it explored whether the researcher's instrument allows

the study to confirm the research object (Korstjens & Moser, 2017). To address confirmability in the study, I consulted an expert reviewer. I presented the research questions to an expert academic practitioner with interests in small agrarian business sustainability for his or her opinions to ensure confirmability of the data collection instrument.

The small agrarian business expert academic practitioner, with enough and relevant educational background and experience in business planning, reviewed the research questions for confusion, clarity, and alignment. Fusch and Ness (2015) cited that in research, one achieves data saturation with repeated noting of themes or behaviors, affirmation of a general picture of information, and when no new or relevant information emerges in the newly constructed theory. Based on interviews and information collected from the study, the researcher reaches data saturation when he or she notices the repetition of information among interviewees and no new information emerges after interviewing the last participant (Malterud, Siersma, & Guassora, 2016). Onwuegbuzie and Byers (2014) stated that researchers reach data saturation when data becomes repetitive and no additional information arises.

Transition and Summary

The objective of Section 2 of this study was to provide a description and justification of the research process. The research processes consisted of an expert review used in the study to refine data collection plans. The goals also consisted of the criteria for (a) design and method; (b) participant selection process; (c) sampling of participants; (d) instructions to ensure ethical research; (e) overview of organization plans and data

collection; and (f) the addressing of the dependability, credibility, transferability, and confirmability. The purpose of this qualitative multiple case studies was to explore how small agrarian businesses sustained their business longer than 5 years. In Section 3, I discussed the findings of this research study in detail. I also discussed the application to professional practice and application for social change of this study in Section 3.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore the innovation strategies that owners of successful small agrarian businesses in Sierra Leone use to sustain their businesses for longer than 5 years. Participants' willingness to share their knowledge and experience was crucial to answering the overarching research question. I identified five themes associated with strategies required for the owners of small agrarian business sustainability for longer than 5 years. The themes were: (a) enhance competency, (b) financial support, (c) organizational culture, (d) leadership, and (e) technology. The main themes I identified were sources of innovation strategies that owners of small agrarian businesses use to sustain their business longer than 5 years. In Section 3, I outline a detailed description of the outcomes of the study that included the presentation of the findings, application of professional practice, the implication of social change, recommendations for action and further research, reflections, summary and the study conclusions.

Presentation of the Findings

The overarching research question for this study was: What innovation strategies do small agrarian-business owners use to sustain their businesses longer 5 years? To collect data, I conducted semistructured interviews with owners of small agrarian businesses in the four districts of Sierra Leone and recorded the interviewees' answers using an audio tape and took notes. To ensure confidentiality of the participants and their businesses, I assigned a letter and a number for identification such as P1 to P16 for the

participants from small agrarian businesses. I was able to comprehend the phenomena, the experience, and the participant's viewpoint as I analyzed the data. I mitigated my bias by using an interview protocol and member checking.

Member checking increases the validity, credibility, and accuracy of the data captured during the interview (Birt et al., 2016). I collected and reviewed farmers' documents, collected interview data, and used multiple data sources to increase transparency, credibility, and trustworthiness of the study. I used business websites, farmers' comments, and official government documents, besides the interview data for triangulation. I used data triangulation as a strategy to ensure the validation of the study results.

I identified the 16 participants as P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, and P16 to ensure the confidentiality of the research participants. Subsequently, I used an autocoding feature of NVivo 12 software to identify and link similarities in the data with propositions and emerging themes as well as reviewing the data manually for redundancy, checking for accuracy, and identifying themes within the data. I entered all the collected data into NVivo 12 to identify nodes, themes, and subthemes. I carefully reviewed the data and manually checked the data from NVivo to ensure accuracy, validity, and reliability. After identifying each theme, I analyzed and discussed the findings in relation to the themes. I was able to identify innovative strategies needed for owners of the small agrarian business to sustain their business for longer than 5 years, which consisted of (a) enhance competency, (b) financial support, (c) organizational culture, (d) leadership and (e) technology. Researchers use data saturation

to improve validity and trustworthiness (Wilkinson & Fairhead, 2016). I reached data saturation when no new information or themes appeared, and the data became repetitive as described by Fusch and Ness (2015). Table 2 shows the key themes identified in this study.

Five key themes emerged (see Table 2): financial support, leadership, technology, enhance competency, and organizational culture. All five themes influence participants in the development and implementation of the agrarian business innovation strategies. The initial codes and themes came from the transcribed interviews, other collected data associated with the research question, and the available knowledge from the literature reviews. The results included the strategies needed for owners of small agrarian business leaders to sustain their business longer than 5 years.

Table 2

Frequency of Key Theme References from the Data Triangulation

Nodes/Themes	*n*	*P*
Financial Support	48	34%
Leadership	32	23%
Technology	27	19%
Enhance Competency	21	15%
Organizational Culture	14	9%

Note. *n*= Number of occurrences. P= Percentage of occurrences.

Emerging Theme 1: Financial Support

Small agrarian business groups, associations, and cooperatives are still in the process of being reestablished after the end of the civil war that lasted from 1991–2002 (Davis, 2017). Small businesses faced numerous challenges obtaining finance and the explanation for the difficulty includes lack of credit history and collateral, and the risk of funding new ventures (Osano & Languitone, 2016). Gamage (2015) noted that banks are reluctant to extend credit to small businesses because of information translucence resulting in these small businesses relying on informal financing. Mason et al. (2016) supported the conclusion and argued that small businesses have fewer opportunities to raise funds because the capital market is out of the reach of the businesses, especially in the start-up stages. As such, there are few formal financial services available to Sierra Leone's farmers and other rural entrepreneurs. Small agrarian farmers implement various financial strategies to maintain sustainability for longer than 5 years of productivity. Most of the financial support comes from group member contribution, government, family members, and NGOs. Access to funding and sources of funding were also potential problems for the owners of SMEs (Quartey et al., 2017). Table 3 shows the four subthemes or components related to financial support in relation to owners of small agrarian business' strategies, and the frequency the participants referred to the subthemes.

Table 3

Subthemes Related to Financial Support

Subthemes	*n*	*P*
Group Members	21	54%
Family and Friends	3	8%
Government Support	13	33%
NGOs	2	5%

Note. n= Number of occurrences. P= Percentage of occurrences.

Subtheme 1: Group members. Group member contribution is one of the most important aspects of the small agrarian business owners for sustainability. All participants demonstrated the methodology they apply in raising funds to grow the business. One method used is group member contributions. Before the planting season starts, group members within the FBOs will meet to discuss how much they can tax each other for sustainability during the year. P1 stated, "We always have group meetings and decide who should do what and when then we execute based on the calendar of work." P2 stated, "We meet as a group at the beginning of the year to determine and execute the strategy." P3 stated, "Group members contribute amongst each other, help each other to sustain." P3 further noted that "Group members borrow from each other with low interest." P4 stated, "We meet as a group and plan what to do during the year." P3 also asserted that they execute the plan after the meeting by assigning responsibility to each group member. P13 stated, "We loan from a family member and pay them with interest." The study findings coincide with the findings of Shahriar and Garg (2017) that showed leaders of

small businesses in Sierra Leone were still using the informal financing to support economic activities that include historical and social factors, external factors beyond policymakers' control, problems with government and donor efforts to promote rural banking, and the expansion of the microfinance sector.

Subtheme 2: Family and friends. The situation between one's work and life is contingent upon the individual's role in the family and on the job (Wilson & Baumann, 2015). The work-life situation occurs when the expectations concerning a certain role do not meet the requirement expectations of family roles that prevent the efficient performance of the role (Henz & Mills, 2015). FBOs are farmer-based organizations formed by family and friends within the community. These groups registered as an organization to the ministry of agriculture. For the sustainability of the organizations, family and friends help to contribute to the preparation and financial support of these organizations for sustainability. In return, farmers sell the product to take care of family members. I noticed that most of the employees recognized by the leaders were also family members and friends. P1 stated, "We produce enough to sell and take care of family members." P1 further explained, "participants rely on family and friends to assist in the preparation of the land and for financial support." P13 stated, "We borrow from a family member and pay them back with interest." The process is very effective as the family and friends do not ask for a refund of the support given to the farmers. However, in many cases, these family and friends rely on the farmers for survival. Findings showed that most households' farmers only relied on informal financing sources, such as family,

friends, neighbors, and other relatives, indicating a lack of access to formal financing sources (Abraham & Fonta, 2018).

Subtheme 3: Government support. In any country, small businesses are the driving force of the economy. The importance of the financial industry to any nation's economy often depends on the regulators to enact financial regulations to mitigate the financial risk-taking, prevent unnecessary borrowing, and reduce uncertainty in the banking industry (Ramady, 2015). All participants were registered with the ministry of agriculture so that the ministry can give financial support, supply seed, and provide fertilizers for sustainability and growth. The study findings showed that all participants relied heavily on the government support to succeed. All the participants attested that government supplies them rice seeds and fertilizer during the season. "Government provides innovative tools such as rice thrashers, power tillers for us to develop the land that has been used several times," P15 stated. P16 stated,

> In the beginning of the farming season which starts in January, we wait on the government to supply us seed but the government is always late in the supply of seed. We depend on the ministry of agriculture to supply us the necessary products, but the ministry of agriculture does not always come through.

Contrary to the participant's assertion, the government tries to protect farmers against fluctuations in prices, revenues, and yields. The government subsidizes farmers' conservation efforts, insurance coverage, marketing, export sales, research, and other activities. Agriculture is no riskier than many other industries, and it does not need an

array of federal subsidies. Farm subsidies are costly to taxpayers and they also harm the economy (Ramady, 2015).

Subtheme 4: NGOs. Orchard, Stringer, and Manyatsi (2016) noted that agriculture (including forestry and fisheries) is the mainstay of the Sierra Leonean economy, employing over 60% of the labor force, mostly at the subsistence level. Rice and cassava are the key staples, while cocoa, coffee, oil palm, and cashew nut are the major cash crops (Orchard et al., 2016). Orchard et al. (2016) claimed that the agricultural sector is constrained by several factors, including a lack of improved inputs, labor shortages, and post-harvest losses. Land degradation and deforestation have resulted in declining soil fertility, undermining sustainable agricultural development in the country (Orchard et al., 2016).

NGOs like USAID, World Food Organization (WFO), and the World Bank have assisted owners of small agrarian businesses to sustain their businesses longer than 5 years. The owners of these small agrarian businesses get seed supplied from the NGOs during the planting season. P2 stated, “We need support from NGOs, and outside sources to help us continue our farming business.” P5 stated, “We need donor support like the NGOs to boost our productivity.” P7 stated, “We rely on NGOs to supply us with pure seeds.” Most of the funding for West Africa, including Sierra Leone, is dedicated to supporting production with little focus on how to creatively or innovatively farm products sustainably (Orchard et al., 2016).

Emerging Theme 2: Leadership

All the participants spoke of the strong leadership team and recognized the important role FBOs leaders have in the success of the innovation implementation. Three participants, P2, P3, and P5, described the leaders as effective in communicating a clear vision and promoting a culture supportive of innovation that grant participants' autonomy to implement farmers-based innovation. P2 stated, "We are motivated by good leadership in our organization." P3 stated, "We have good leadership. As a leader, I encourage members to attend the meeting, exercise patience, and contribute to implementing innovation strategies." P5 noted that leaders include retired managers from the Sierra Leone Ministry of Agriculture, give agricultural advice to the member farmers, and collaborate with the Agriculture minister. Farmers use leadership skills to improve productivity, increase profits, and sustain their businesses. All the participants mentioned leaders as pillars of their organizations; leaders always introduce innovative ways to improve the farming strategies for sustainability.

Consistent with this study's findings, Ulvenblad and Cederholm Björklund (2018) observed that agricultural owners of small businesses (a) benefit from leadership development programs in which the concept and practice of leadership are emphasized, (b) consider such programs more valuable if other actors are involved, and (c) emphasize the role of leaders in supporting the programs' participants. A combination of leadership style, communication, and accountability are the significant components of leadership that enable agrarian farmers to effectively influence the frontline employees and implement agricultural innovation successfully (Nguyen, Mia, Winata, & Chong, 2017).

Table 4 shows the three subthemes or components related to leadership in relation to owners of small agrarian business' strategies, and the frequency the participants referred to the subthemes.

Table 4

Subtheme Related to Leadership

Subtheme	*n*	*P*
Good Leadership	2	20%
Motivational leader	1	20%
Leadership in Agriculture	3	60%

Note. *n*= Occurrences. P= Percentage of occurrences.

Emerging Theme 3: Technology

Christensen (1997) coined one of the most common definitions of innovation which describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors. Other researchers have viewed innovation as a business's fundamental way of entering and attracting new market competitors, securing a competitive advantage, and increasing the business's market (Tavassoli & Karlsson, 2015). All 16 participants touched on technology and innovation, and the impact innovation has contributed to the success of the small agrarian business. Although the 16 participants still use old methods of farming, new technology and innovation continue to bring new ideas and tools that are helping the owners of small agrarian businesses to sustain their businesses for a longer period. P2 stated, "We use innovative strategies to

create new storage facilities with humidity elimination to store seeds for the next planting season." P2 stated, "We incorporate innovation strategy into our planning process by using the calendar of work." P3 to P16 all stated, "We use innovative tools such as power tillers to till the soil, rice mills, and rice thrashers to prepare the rice for sale into the market." Farmers are using innovative strategies to plant rice and vegetables. In the past, farmers used to plant rice in a non-formatted way. Rice is planted in rows to minimize space as some of the farmers have limited land to cultivate.

Table 5 contains a summary of factors affecting small agrarian businesses. The subthemes or components relate to the technology owners of small agrarian business used, and the frequency of times the participants referenced the subthemes. All 16 participants emphasized the need for new technology to improve productivity and implement a good strategy.

Table 5

Subthemes Related to Technology

Subtheme	*n*	*P*
Innovation Strategy	17	66%
New Technology	2	9%
Hoes and Machetes	4	11%
Lack of Innovation tools	6	14%

Note. n= Occurrences. P= Percentage of occurrences.

Emerging Theme 4: Enhance Competency

The strategies for the farmers to sustain their businesses is contingent upon educating their employees. The farmers lack experienced engineers to repair the sophisticated machines that come from China. P9 stated, "We do not have experienced engineers that maintain these machines to bring them into a working condition when they need repairs." The knowledge and innovation challenges in the agriculture business are very essential and can create an impact on the sustainability of the farmers (Vik & Stræte, 2017). From 2003 to 2011, the agriculture sector in Sierra Leone represented over 40% of GDP and was more significant than any other sector during the period (Vik & Stræte, 2017).

The livelihood of Sierra Leone depends on agriculture, which is the key driver for food security, poverty reduction, and overall economic growth (Gboku & Bebeley, 2016). Siddik et al. (2015) also noted that the poor performance of the agriculture sector can be attributed mainly to farmers' inadequate knowledge, inappropriate practices, land degradation, poor natural resource management, insufficient agricultural extension services, poor farm-to-market infrastructure, high marketing costs, and the inadequate access to or unavailability of appropriate inputs. Poor agricultural performance revolves around inadequate innovation to improve all businesses for likely survival in Sierra Leone. The concept of inadequate innovation aligned with the literature review highlighted in this study.

P7 described the challenges P7 faces in finding a qualified community-based technician. There are no technicians to maintain the machines and the cost of the spare

parts is also high. The literacy level is extremely low, making it difficult for users to understand the handling of the machines. The strategies farmers used to maintain the continuity of the innovation tools are to enhance the competency of the local workers through training. Since the cultivation in most areas is less than six acres, farmer-based organization (FBO) leaders give less attention to these farmers and do not provide technicians to maintain the tools. P8 stated, "We train youth as contractors to perform maintenance on these machines." P10 stated, "We enhance their competency by introducing what we called 'field school,' where the technicians are trained to get involved inconsistency farming." Consultancy is also encouraged to boost the consistency of the machine. P11 emphasizes how they encouraged consultancies like engineers from foreign countries to assist in handling machines. P9, P10, P11, P12, and P13 elaborated the need for machine maintenance and the need for innovative strategies to help them sustain their businesses. The government subsidized equipment, such as Caterpillar machines and irrigation tools, but in limited supply (Yang & Gabrielsson, 2017). Automation and mechatronics have enabled huge steps forward in production efficiency, quality improvements, and sustainability in agriculture (Yang & Gabrielsson, 2017).

Table 6 relates to the training and management skills farmers need to produce and sustain their businesses. The 16 participants emphasized the components related to enhancing competency among owners of small agrarian business, and the frequency that they referenced the subthemes. The participants stressed management skills and training among the agrarian farmers.

Table 6

Subthemes Related to Enhance Competency

Subthemes	*n*	*P*
Management skills	3	37%
Training	5	62%

Note. *n*= Occurrences. P= Percentage of occurrences.

Subtheme 1: Management skills. All participants spoke of strong executive leadership team support and recognized the significant role FBO managers have in the success of the innovation implementation. The 16 participants described the senior managers as effective in communicating a clear vision and promoting a culture supportive of innovation that grant participants' autonomy to implement evidence-based innovation. All participants acknowledged that managers in the FBOs have excellent managerial skills. Youth are motivated to participate in agriculture although they tend to move to bigger firms in the search for white color jobs. P3 stated, "I encouraged members to attend meetings, so they can learn new strategies for farming which will help them sustain their businesses." Many owners of small agrarian businesses had little knowledge and few skills in starting and maintaining a business (Mohamad Radzi et al., 2017)

Subtheme 2: Training. Community-based initiatives created sustainability solutions to the farmer's problems (Yamada, Shimamoto, & Wakano, 2015). In places like Cambodia, low-interest government loans and support for training led to the sustainable development of agriculture (Yamada et al., 2015). The emerging subtheme of

training came from all participants. All participants recognized the importance of training and experience to sustain their businesses. Mohamad Radzi et al. (2017) noted that human capital can improve business profitability. Some of the factors that contribute to small business survival and failures are business owners' skills and experience, which affect performance and profitability (Kusi, Opata, & Narh, 2015; Walsh & Cunningham, 2016) Training in agriculture takes place on a regular basis among farmers to maintain the function of tools such as the soil tillers, rice thrashers, and rice mills for sustainability and how to develop the soil for planting.

P4 stated, "To avoid these barriers, we train personnel to maintain the machines." P5 confirmed that our managers are retired, experienced workers from the Sierra Leone ministry of agriculture who have the expertise to train our youth worker how to subsidize, give members advice, and create a liaison between the organizational groups and the ministry of agriculture. P7 stated, "We avoid these barriers by introducing youth contractors that we train to perform maintenance on these machines." P12 stated, "We trained youth working on how to use the soil tillers and rice threshers." P12 confirmed that these youth workers later become technicians to fix the machines that they struggled to maintain. This situation of training technicians created continuous cropping, a common practice in many areas (Van Thanh & Yapwattanaphun, 2015). Laura et al. (2018) observed that farmers play a critical role in food systems, rural economies, agricultural sustainability, and the social fabric of communities. Farmers training is an area of growing interest and concern among new and experienced farmers (Laura et al., 2018)

Emerging Theme 5: Organizational Culture

Organizational culture emerged as a predominant theme. All participants described the organizational culture as an input to the strategy development process and a precondition for successful farming productivity. P1, P3, P4, P6, and P9 described the organization-branded program used to promote the organizational culture as a framework that enables the maintenance of the organization standard for better farming, which facilitates synergy between farmers, communities, and their relatives to create excellent outcomes.

The organizational culture generates an enthusiasm between farmers and their family members to achieve sustainable outcomes. Organizational culture changes the personal outcome in a positive or negative way. Organizational culture is one of the key elements of the work environment (Chatterjee et al., 2018). P4 stated, “Organizational culture is like the glue that binds us together and helps us accomplish our strategic goals and deliver excellent performance.” P1, P3, P4, P6, and P9 explained organizational culture as participative and leadership-centered; for example, P2 stated, “I have been in this organization for over 30 years. We have a culture of respect, fairness, integrity, and trust. The culture makes them work together as a family.” P6 stated, “If I do not have enough employees to help in my farming, I turn to my family and friends within the organization for help.” P9 stated, “We rely on our organizational culture for a successful and sustainable growth.” Idowu (2016) defined organizational culture as the common underlying assumptions, values, and beliefs shared by members of the organization.

All participants attested that organizational culture enabled them to develop and implement successful innovation strategies that improve the quality of product and profitability. Cross culture among the tribes enables the farmer to work effectively and to sustain their agrarian business longer than 5 years. Ethnic groups comingled and used different skills to teach each other's language, so they can work together. All participants attested that their groups are made up of all ethnic groups. Culture is a fluid multidimensional paradigm that evolves subtly and tangibly using modes of expression to express meanings (Oka, 2018). P9, P12, P13, and P15 stated, "we have mende tribes, temne tribes, mandigo tribes that form our community and together we form a culture group." P2 stated, "I speak most of the languages that allow me to communicate with every ethnic group in our community."

Table 7 shows how the organizational culture was mentioned several times by all the participants. P12 stated "We have several ethnic groups from over Sierra Leone. We get together at the beginning of the season to strategize." P15 stated, "We all speak different languages, but we learn from each other so that we can work together."

Table 7

Subthemes Related to Organizational Culture

Subthemes	*n*	*P*
Ethnic Groups	10	86%
Different Languages	5	9%
Learning New Language	3	5%

Note. *n*= Occurrences. P= Percentage of occurrences.

Applications to Professional Practice

The knowledge gained from this research study could enable the owners of small agrarian businesses to make sound financial decisions. The findings could benefit the community, society, government, and the future agrarian business owners. The small business owners can apply this information to their businesses, which may boost their accessibility to credit from banks, enhance growth, and promote development. The outcome of the study may also influence monetary policy and financial decision-makers in Sierra Leone to create an empowering atmosphere for owners of small agrarian businesses to access loans for development, which could help mitigate financial problems of small business enhancing productivity and sustainability in the country.

Relationship to the conceptual framework. Building relationships with the farmers, building commitment, providing financial support, using new technology, and improving on new ideas are components of farmers engagement that participants use to improve sustainability and growth. The findings align with the conceptual framework, which is based on the Christensen's theory of disruptive innovation. Practitioners of the theory of disruptive innovation focus on the process of using new ideas to reflect change and eventually boost production and growth. The participants explained the process of change as the engagements, responses, and relations between the various interested parties as they seek to improve from the current state to a better future state. In this study, relationships, commitment, and reassurance contribute to farmers' engagement as the FBO leaders seek to improve production and sustainability.

Implications for Social Change

The poor execution of sustainability strategies is the major cause of the failure of over 50% of small businesses within their first 5 years (Hahn, Figge, Aragón-Correa, & Sharma, 2016; Hyer & Lussier, 2016; U. S. Bureau of Labor Statistics, 2014). In 2009, the GDP in the agrarian sector of Sierra Leone declined to 58% and increased slightly to 59.2% in 2015 (Keen et al., 2017). By implementing effective strategies, small agrarian business owners increased growth and sustainability in their farms. As demonstrated in this study's findings, implementing sustainability strategies could assist owners of small agrarian business and FBO leaders to increase firm performance, which may generate economic growth for local communities. With improved growth and performance, these farmers would be able to inject more food into the market, thereby reducing the importation of rice and vegetables from other countries. This could also boost the economic growth of Sierra Leone and create employment opportunities for young people.

The study findings may contribute to positive social change by potentially reducing failure rates among owners of small agrarian businesses which will reduce poverty and provide employment opportunities to rural villages inhabitants. Upcoming small agrarian business owners could use the information gained from this study to establish their own small agrarian businesses and use the strategies for potential growth and sustainability. This growth will provide job opportunities to local citizens, contribute to the economic growth, and social change.

Recommendations for Action

Survival of a small business is contingent upon the effective strategies that are implemented. Adopting an effective strategy is crucial to the sustainability of small business (Gauthier, 2017; Hahn et al., 2016; Hyer & Lussier, 2016). I recommend that small agrarian business owners implement an effective strategy to sustain their businesses longer than 5 years. To sustain their businesses, FBO leaders should implement strategies that will help improve productivity and plant more profitable cropping. Not having a business strategy, or weak execution of a strategy, leads to poor firm performance and failure to survive beyond the first 5 years (Hahn et al., 2016; Hyer & Lussier, 2016). Small business leaders should establish business strategies to enhance the growth and sustainability of their firms (Amisano & Geweke, 2017). The ministry of agriculture that oversees these farmers should give more attention to the strategies used by the farmers. Most of the strategies currently used are outdated and need to be upgraded for better production and sustainability.

Some owners of small agrarian business lack strategies for sustaining their business longer than 5 years. The study findings indicated that owners of small agrarian business used a combination of strategies to sustain their businesses. I will send a summary of the research findings to the ministry of agriculture. The ministry of agriculture may: (a) disseminate the study findings among the leaders of the FBOs and to other agriculture research institutes to help train and educate the owners of the small agrarian businesses for sustainability and growth, (b) provide training and educational facilities to train young engineers to repair the new tools, and (c) implement a micro-

finance system to assist small business owners who are struggling to get additional funding from the government and NGOs.

Recommendations for Further Research

The purpose of this qualitative study was to explore the innovation strategy that owners of small agrarian businesses used to sustain their business longer than 5 years. I identified three limitations and two additional future research opportunities in the field agricultural sector. The limitations were (a) time constraints to conduct the interview and conduct the research, (b) the small sample size that did not include another small business entrepreneur who also contributes to the success of the economy, and (c) uncontrollable circumstances that conflicted with the study time-frame. Future researchers should investigate the relationship between FBOs and the agrarian business owners' strategies and innovation implementation success measures, and explore the other cash crops like cocoa, coffee, and cashew nuts for strategy effectiveness.

Reflections

The purpose of this qualitative study was to explore the innovation strategies that owners of small agrarian businesses used to sustain their businesses longer than 5 years. In conducting this study, I understood that owners of the small agrarian business could use various strategies to sustain and grow their businesses. In the study findings, I gained an in-depth understanding of the research problem and learned that owners of small agrarian businesses and group leaders use a combination of similar strategies to sustain their businesses. In reflecting on my experiences within the DBA study process, I have gained a better knowledge and understanding of the research process by reflecting a

positive change regarding personal biases and preconceived notion and values. In this study, I have gained knowledge and understanding of the research, and my skills have improved in academic research work.

I used purposeful sampling to select the 16 successful owners of small agrarian businesses that have sustained their businesses longer than 5 years and have used successful strategies to obtain successful goals. In selecting purposeful sampling for the participants, I observed a great improvement in networking and research skills. By choosing the qualitative research method, I conducted semistructured interviews and interacted with the participants, which provided me the chance to improve by listening, communicating, and using emotional intelligence skills. Conducting the interviews at the participant's convenient location and time enabled the responders to express themselves clearly and freely, providing the chance to gain an in-depth understanding of the strategies they use to sustain their agrarian businesses for longer than 5 years. Based on the responses received from the participants, I noticed that owners of the agrarian businesses used similar strategies to sustain their businesses for longer than 5 years. They emphasized training, new tools, and government subsidies. The study findings changed my personal biases on the perception I had for small agrarian businesses because I have gained knowledge and understanding from the 16 owners of small agrarian businesses.

Conclusion

The purpose of this qualitative multiple case study was to explore the innovation strategies owners of small agrarian businesses used to sustain their businesses longer than 5 years. The research process encompassed knowing the qualitative research method,

case study design, ethical requirements for conducting research with human subjects, and choosing appropriate study participants (NIH, 2015). The targeted population was 16 owners of successful agrarian businesses in the four districts of Sierra Leone. The selected geographic locations were Makeni, Bo, Kenema, and Freetown. The data sources for this study included (a) audio recorded data from participant's interviews, (b) interview notes, (c) government journals, (d) university journals, and (e) information from documents provided by the participants. I achieved data saturation in the process of the interview and member check when the 16th participant was interviewed and there was no new information available. The data analysis process included (a) transcribing the recorded interviews information verbatim, (b) identifying the individual participants with a unique identifier while maintaining their privacy, (c) developing codes for the interview data, (d) extracting themes, and (e) extracting themes from the analysis. The process enabled the identification of five key themes for discussion. The key themes that emerged included enhancing competency, financial support, organizational culture, leadership, and technology. The subthemes that emerged included group members, family and friends, government support, NGOs management skills, and training.

The interview protocol was in alignment with the central research question: what innovation strategies did the owners of small agrarian businesses use to sustain their businesses for longer than 5 years? My conceptual framework was the disruptive innovation theory. The theory of disruptive innovation explains how leaders' implementation of an innovation disrupts current products on the market in transitioning from old technology to new, and up-to-date technology. To gather credible and reliable

data to answer the central research question, I conducted semistructured interviews to collect the participants' experiences and practices. I reached data saturation after completing 16 interviews. The sample size for this study was 16 participants, four from each district of Sierra Leone.

I included numerous levels of validity and credibility throughout the analysis and interpretation of the data, and I was careful not to introduce personal biases. With converging information from multiple sources, such as participants interview transcripts, organization documents review, personal notes, and literature review, I was able to perform data triangulation to enhance the credibility of the research. These research findings show evidence of similarity with the old and new literature, grounded on systematic analysis and synthesis of literature associated with the conceptual framework of disruptive innovation theory.

The study findings illustrate how farmers implement strategies relevant to any small agrarian business owner to improve performance and profitability. Small business owners need to know the importance of having effectively practiced innovation strategies. A good performing organization performs benchmarking and adapts strategies that align with the change to achieve their goals with agility and efficiency (Nuchudom & Fongsuwan, 2015). The study findings are significant to small business owners and contribute knowledge about the strategies used by small agrarian business owners to improve productivity and sustain their businesses for longer than 5 years.

I determined that most owners of small agrarian businesses practice innovation strategies to implement innovation successfully, improve quality of farming, and increase

profitability. I described ways that the findings confirm, disconfirm, or extend the business practice by comparing the results with other peer-reviewed studies from the literature review, document review, and literature added since writing the proposal. The potential of the study to bring about social change is the opportunity to improve the quality of farming, increase productivity, and hire more people in the community. An improved farming system reduces hunger, promotes job security, and improves the economy.

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Appendix A: Interview Questions

1. What key challenges have you faced in sustaining your business?
2. What innovative strategies do you use to sustain your small agrarian business?
3. What were the key barriers to implementing innovation strategies for your business?
4. How did you address the key barriers to implementing innovative strategies for your business?
5. How do you assess the effectiveness of the innovation strategies for your business?
6. How did you incorporate innovation strategy into your operational planning

process?

7. How do you execute your innovation strategy plans?

8. What other information would you like to share regarding your experiences and innovation strategies as owner of a successful small agrarian business?

Appendix B: Interview Protocol

Participant's Pseudonym: _____ Participant Code: _____ **Interview Date: _____ Total Time: _____**	
What I will do	**What I will say—script**
Introduce the interview and set the stage—often over a meal or coffee	Welcome and thank you for your participation today. My name is Solomon Scholz and I am a doctoral student at Walden University conducting my study in partial fulfillment of the requirements for the degree of Doctor of Business Administration. Thank you for completing the consent form, this interview will take about 60 minutes and will include seven questions regarding your experiences as an owner of a small agrarian business in Sierra Leone. I would like your permission to tape record this interview, so I may accurately document the information you convey. If at any time during the interview you wish to discontinue the use of the recorder or the interview itself, please feel free to let me know. All of your responses are confidential. Your responses will remain confidential and will be used to develop a better understanding of innovation strategy owners of small agrarian businesses use to succeed in business longer than 5 years. The purpose of this study is to explore the innovation strategies owners of small agrarian businesses in Sierra Leone use to sustain their businesses longer than 5 years. At this time, I would like to remind you of your written consent to participate in this study. You and I have both signed and dated each copy, certifying that we agree to continue this interview. You will receive one copy and I will keep the other under lock and key, separate from your reported responses. Thank you. Your participation in this interview is completely voluntary. If at any time you need to stop, take a break, or return a page, please let me know. You may also withdraw your participation at any time without consequence. Do you have any questions or concerns before we begin? Then with your permission, we will begin the interview.
• Watch for nonverbal queues • Paraphrase as needed	1. What key challenges have you faced in sustaining your business? 2. What innovation strategies do you use to sustain your small agrarian business?

	3. What are the key barriers to implementing the innovation strategies for your small business?
	4. How did you address the key barriers to implementing innovative strategies for your business?
	5. How do you access the effectiveness of the innovation strategies for your business?
	6. How did you incorporate innovation strategy into your operational planning process?
	7. How do you execute your innovation strategy plans?
	8. What other information would you like to share your experiences as an owner of a successful small agrarian?
Thanking the participants	9. I want to take the opportunity to thank you for participating in this interview.