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Strategies for Developing Sustainable Supply Chain Links With Local Producers

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This is to certify that the doctoral study by

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Abstract

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by

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MS, Bournemouth University, 2007

BS, University of Buea, 2004

Doctoral Study Submitted in Partial Fulfillment

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Abstract

Failure to sustain agriculture supply chain links with local producers may lead to supply chain disruptions affecting the flow of products and materials. Successful strategies are essential for agribusiness supply chain managers to maintain profitability. Grounded in the value-based supply chain model, the purpose of this qualitative multiple case study was to explore strategies agribusiness managers used to develop sustainable supply chain links with local producers to maintain profitability. Semistructured online interviews were conducted with six Cameroon agribusiness managers who developed sustainable supply chain links with local producers for more than 5 years. Data analysis of the interviews and administrative documents using Yin's five-phase analysis led to four themes: forecasting and planning deliveries from local producers, stakeholder engagement and communication, organizing and coordinating value chain operations, and financial management. A recommendation is that agribusiness managers adopt integrated plans matching the output production plan of local producers with the input consumption plan of the buying organization. The implications for positive social change include the potential to increase the number of direct and indirect jobs within the value chain and broaden the availability of reliable local food supply throughout communities.

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Dedication

I dedicate this doctoral study to my beloved parents, Theresia Ngwa and Joshua Ngwa, who taught me how to be an individual with integrity and great moral values. I know you are both smiling from heaven with pride. To my lovely wife, Adela Ngwewondo, for watching my back while I spent many hours working. Special thanks to all my siblings, Neh, Lum, Muma, Ayinwi, Angu, and Fuh, for their moral and financial support, I also did this for you.

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I must express profound gratitude to the six agribusiness supply chain leaders who participated in this study and provided invaluable responses. I wish you continued success in all your endeavors. This journey was possible only because of the network of support from wonderful family and friends who were my constant motivators and biggest cheerleaders.

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Section 1: Foundation of the Study

The development of business sustainability during strategic decision making is a concern for managers of many business organizations (Yun et al., 2019). Business managers need to incorporate sustainability and supply chain strategies within their businesses (Alzoubi et al., 2020). These strategies signal an increase in internal and external collaboration among all supply chain parties to maintain their competitive priorities (Yun et al., 2019). Business managers can achieve such competitive priorities by developing sustainable supply chain links with local producers.

Background of the Problem

Companies seek to adopt competitive strategies that achieve sustainability standards, not only in achieving economic success but also in serving society and preserving the environment (Alzoubi et al., 2020). Companies relying on their supply chain to remain competitive in a rapidly changing environment must be more agile in perceiving and developing opportunities, more responsive to disruptions, and more resilient against external threats (Shekarian et al., 2020). Business managers need strategies to develop sustainable supply chain links with local producers that can integrate supply chain collaboration, competitive priorities, and social and environmental dimensions. A research gap exists regarding strategies for developing sustainable supply chain links with local producers. I explored agribusiness supply chain managers' strategies to develop sustainable supply chain links with local producers.

Problem Statement

Supply chains are increasingly subject to many types of disruptions and catastrophes, with little or no predictability and with increasing frequency and high impact (Suresh et al., 2020). On average, firms that experienced a supply management disruption faced an operating income decrease of 27%, a drop in return on sales of 13%, and a drop in return on assets of 16% (Baghersad & Zobel, 2020). The general business problem was that production input shortages accrued from locally sourced supply chains may lead to diminished profit margins. The specific business problem was that some agribusiness managers lack strategies to develop sustainable supply chain links with local producers to maintain profitability.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that agribusiness managers used to develop sustainable supply chain links with local producers to maintain profitability. The targeted population for this study consisted of six agribusiness managers who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years. The implications for positive social change include creating sustainable supply chain links with local producers, which may increase the number of direct and indirect jobs within the value chain and broaden the availability of reliable local food supply throughout communities.

Nature of the Study

Qualitative research is designed to reveal a participant's range of behavior and perceptions and seek an in-depth understanding of social phenomena within their natural

setting (Hennink et al., 2020). Quantitative researchers systematically collect data about a phenomenon and use standardized measures and statistical analyses to examine relationships among variables through testing hypotheses (Burić et al., 2018). Mixed method researchers integrate quantitative and qualitative approaches within a single investigation or sustained study of inquiry (Burić et al., 2018). The purpose of this study was not to examine relationships among variables through testing hypotheses but to seek an in-depth understanding of strategies that agribusiness managers used to build sustainable supply chain links with local producers. Thus, the qualitative method was appropriate for this study, and both quantitative and mixed methods were not suitable.

The multiple case study design is a qualitative design used by researchers to systemically gather information on how systems operate by exploring multiple bounded systems and multiple forms of data collection (Yin, 2018). Researchers who use a phenomenological design seek to understand the subjective personal meanings of lived experiences and perspectives of participants (Thompson, 2018). I did not intend to explore the personal meanings of the lived experiences of study participants, so a phenomenological design was not appropriate for this study. Researchers who use an ethnographic design seek to observe cultural phenomena within the context of a study (Yin, 2018). I did not intend to explore cultural phenomena, so an ethnographic design was not appropriate for this study. Because I intended to explore multiple bounded systems that agribusiness managers used to develop sustainable supply chain links, a multiple case study design was preferred over a single case design.

Research Question

What strategies do agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability?

Interview Questions

1. What strategies did you use to develop sustainable supply chain links with local producers to maintain profitability?
2. How did you determine the best strategies for developing sustainable supply chain links with local producers?
3. What were the key challenges your organization faced when developing sustainable supply chain links with local producers?
4. How did your organization overcome the key challenges encountered while implementing strategies to develop sustainable supply chain links with local producers?
5. Based on your organization's experience, how did your supply chain strategies contribute to the profitability of your organization?
6. What additional information regarding strategies for developing sustainable supply chain links with local producers to maintain profitability would you like to add that we have not already discussed?

Conceptual Framework

The conceptual framework for this study was the value-based supply chain (VBSC) model. The concept of a value chain was first described by Porter (1985) as a set of activities that a firm operating in a specific industry performs to deliver a valuable

product for the market. Stevenson and Pirog (2008) defined the VBSC from a supply chain perspective, leveraging Porter's description of the value chain. According to Stevenson and Pirog, VBSC is a managerial process in which organizations link supply chain strategies, measurement techniques, and operational processes to create shareholder value. Attributes of VBSCs include a collaborative, transparent, trustworthy, and open communication environment (Stevenson & Pirog, 2008). Additionally, Stevenson and Pirog observed that VBSCs are characterized by equitable power relations and are used by organizations to guarantee fair prices across the value chain. Small and midscale producers can adopt a more favorable pricing strategy for their products and enhance social benefits by using a VBSC (Stevenson & Pirog, 2008). Agribusinesses use VBSC as a communication channel because their values are supported through the food chain (Clay & Feeney, 2019). I used the VBSC model as a lens to support my exploration of how agribusiness managers develop and deploy strategies to build sustainable supply chain links with local producers to maintain profitability.

Operational Definitions

Bullwhip effect: The bullwhip effect is a distribution channel phenomenon in which forecasts yield supply chain inefficiencies (Goodarzi & Saen, 2020).

Double marginalization: Double marginalization is a vertical externality that occurs when two firms with market power, at different vertical levels in the same supply chain, apply a markup to their prices (Glock et al., 2020).

Hockey stick effect: The hockey stick effect is characterized by a sharp rise or fall of data points after a long flat period (Jerath & Long, 2020).

Local producer: A local producer is a supplier who supplies production inputs to an agribusiness located in the same business environment (Drejerska et al., 2019).

Supply chain integration: Supply chain integration is a close alignment and coordination within a supply chain, often with the use of a shared management information system (Pinto & Diemer, 2020).

Supply chain orientation: Supply chain orientation is defined as the recognition by a company of the systematic, strategic implications of the activities and processes involved in managing the various flows in a supply chain (Ocampo et al., 2020).

Supply chain performance: Supply chain performance refers to the extended supply chain's activities in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary inventory and capacity in the supply chain to deliver that performance responsively (Fatorachian & Kazemi, 2020).

Sustainability certification: Sustainability certification for business typically involves a business owner investing in a program that lays out green initiatives that can be reviewed for completion or added to a list of new projects to launch (Schleifer & Sun, 2020).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are factors beyond the researcher's control that are required to frame and conduct a study (Hoover et al., 2018). In this study, I assumed that the inclusion criteria of the sample were appropriate and therefore assured that all participants had all experienced the same phenomenon of interest in the study or a similar phenomenon. The

second assumption was that respondents had a sincere willingness in participating in this study and did not have any other motives to provide misleading information. It was assumed that respondents answered the interview questions honestly and candidly. Finally, although the qualifying criteria of agribusiness managers had been established, the assumption was that their level of needed credentials led to high-quality data.

Limitations

Limitations are occurrences that arise in a study that are out of the researcher's control (Theofanidis & Fountouki, 2018). In this study, interviews were carried out via video conference due to physical meetings restrictions as a result of the Covid-19 outbreak. Videoconferencing restricts the researcher's ability to assess the participant's environment, which often provides rich contextual data to situate the interview during the data analysis phase (Irani, 2019). Researchers also cannot observe a full range of body language and non verbal communication because the participant's image is often displayed from the waist up (Irani, 2019). Researchers may face technical or internet connection problems that affect the clarity of the voice and image, as well as the quality of the interview and the audio-recorded file, resulting in the interviewers and participants focusing on fixing the problem instead rather than on the original purpose of the interview (Irani, 2019). The possibility of the reluctance of agribusiness managers to disclose strategic information was a limitation. The aforementioned limitations apply to my study given that I conducted virtual interviews.

Delimitations

Delimitations of a study are those characteristics that arise from limitations in the scope of the study and by the conscious exclusionary and inclusion decisions made during the development of the study plan (Theofanidis & Fountouki, 2018). The first delimitation of this study was the focus on data collection from agribusiness managers and not from managers in other types of businesses, such as telecommunication businesses, pharmaceutical businesses, or civil works businesses. Qualitative research is restrictive in scope due to the researcher's role as a tool for subjective and personalized collection (Theofanidis & Fountouki, 2018). Six agribusiness managers with a direct influence on supply chain operations within their respective businesses participated in this study. The final delimitation for this study was the geographic region with the selection of agribusinesses within Cameroon.

Significance of the Study

Researchers and practitioners have developed an interest in how to manage supply chains' volatility efficiently as a result of the evolution in business challenges (Nitsche & Straube, 2020). Organizations must revisit the structure and optimization of supply chains in response to risks to global food security (Cohen & Kouvelis, 2021). Agribusiness managers need to assess the effectiveness and efficiency of existing supply chain structures and devise customized models for developing countries to address concerns of food security and create jobs.

Contribution to Business Practice

Business organizations can achieve a competitive advantage by designing differentiated supply chain network linkages (Tsai & Lasminar, 2021). Producers and traders can create value chain partnerships or strategic alliances to address challenges related to limited access to market intelligence and poor road infrastructure (Manyise & Dentoni, 2021). Small and mid-scale farmers who develop close partnerships can reduce transaction costs and dismantle institutional barriers that generate fragments within a potentially sustainable value chain. Accordingly, agribusiness managers could use the findings from this study to further improve associated business practices and potentially increase their profit margins.

Implications for Social Change

Some agribusiness managers who create sustainable supply chain links with local producers could increase the number of jobs available and reliable local food supply. Agribusiness managers use the value chain approach to identify gaps requiring interventions that can favorably impact marginalized groups such as women and the poor (Masamha et al., 2018). Agribusiness managers can take into consideration corporate social responsibility issues to enhance sustainability when designing closed-loop supply chains (Raza, 2020). Agribusiness managers experience stronger environmental and social impact with backward linkages with suppliers than with forward linkages with distributors (Li et al., 2018). Findings from this study could contribute to positive social change by empowering and enabling the constituencies of local producers to sustainably

establish subsistence in local communities. Financially empowered local producers may be able to initiate and drive poverty-alleviation activities in their local communities.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to explore the strategies that agribusiness managers used to develop sustainable supply chain links with local producers to maintain profitability. In this section, I assess the role of supply chain links as competitive differentiation tools while illustrating how business entities implement sustainability parameters. Second, I review the VBSC model as a conceptual framework and how it can be used to impact local producers. Third, I discuss the supply chain structure within the context of agribusinesses and resilient and risk mitigation strategies in agribusiness supply chains. Fourth, I assess the relevance of developing sustainable supply chain links with local producers and compare and contrast local production and importation supply chain operations. Finally, I offer a critical analysis of social change implications when developing local supply chains.

I obtained materials from the Walden University Library and reviewed studies from the following sources: Business Source Complete, EBSCO Host, Emerald Management, Food and Agricultural Organization (FAO), Google Scholar, ProQuest, and SAGE. The keywords used during the search included *agribusiness strategy*, *Cameroon*, *competitive advantage*, *local producers*, *supply chain,* and *value chain*. The information retrieved from these sources and used in this study was from current peer-reviewed journal articles and government regulatory websites. More than 86% of the works cited in

the literature review are current peer-reviewed journal articles crosschecked with Ulrich's Periodicals Directory and published between 2018 and 2022.

Overview of the Conceptual Framework: Value-Based Supply Chain

The conceptual framework for this study was the VBSC model. The value chain was first described by Porter (1985) as a set of activities that a firm operating in a specific industry performs to deliver a valuable product for the market. Value creation is often misunderstood due to the insufficient demarcation of issues such as what value is, how value is generated, and what the underlying processes of value creation are (Munksgaard et al., 2014). Three dimensions of value are value propositions, which deal with how the company creates value for its customers; value delivery, which deals with the process of creating value targeted at external partners; and value capture, which deals with how the company captures value (Munksgaard et al., 2014). Value creation is an integral part of a business and supply chain strategy.

Value creation has the aim of capturing the maximum value-added in financial and non financial terms. A supply chain view aims for designing operationally efficient supply chains (Holweg & Helo, 2014). Value chains differ from supply chains in that actors receive a benefit above the cost of production (Holweg & Helo, 2014). VBSCs have emerged as an alternative to commodity-based supply chains, embodying values of sustainability, equity, fair pricing, and transparency (Burmeister, 2017). This implies that supply chains can be used as a base for value creation.

An overview of the nature of VBSCs provides greater visibility of the economic stability for producers and other stakeholders along a supply chain and provides insight

on ensuring the delivery of high-quality products to consumers. Similar terms used synonymously with VBSC include “values-based value chains” (Conner et al., 2011), “food value chains” (Bloom & Hinrichs, 2011), “values webs” (Block et al., 2008), and “local food supply chains” (King et al., 2010). VBSCs are characterized by equitable power relations and are used by organizations to guarantee fair prices across the value chain (Stevenson & Pirog, 2008). Small and midscale producers can adopt a more favorable pricing strategy for their products and enhance social benefits by using a VBSC (Stevenson & Pirog, 2008). Agribusinesses use VBSC as a communication channel because their values are supported through the supply chain (Stevenson et al., 2011). The assumption in the value view of the supply chain is that firms can enhance their competitive position by considering the value streams that they are operating in, as well as other parallel ones that use the same supply and distribution and retail chains as a grid in which they operate. This assumption is different from the supply view, which indicates that most value is a product of linear flows of information and material with as little disruption as possible (Munksgaard et al., 2014). It is imperative to differentiate between a supply chain and a VBSC.

The distinction between a supply chain and a VBSC is a product of value attributes. A supply chain involves all organizations and activities associated with the transformation of goods from raw materials to end products used by a consumer (Stevenson et al., 2011). A supply chain is characterized by a wide diversity of actors in which large, medium, and small enterprises operate simultaneously either as competitors, as suppliers, or as customers. Generally, undifferentiated commodity products that are

often mass produced are associated with these supply chains (Stevenson & Pirog, 2008). VBSCs are characterized by long-term networks of business partners who seek to create strategic alliances and maximize value for all partners in the chain (Stevenson & Pirog, 2008). Key characteristics of VBSCs relate to economies of scale and dealing with products that are value added and targeted at premium markets. Each actor in the chain is considered a partner, rather than the usual vendor–buyer relationship that dominates in a conventional supply chain approach. There is a commitment to the welfare of all partners in the chain, including fair wages and profit margins for all in the chain (Stevenson & Pirog, 2008). These long-term networks are better established by VBSC partners by understanding how the VBSC works.

The Functional Characteristics of the VBSC

The characteristics of a VBSC are producing and spreading values equitably to all partners. Producers, processors, retailers, and consumers demand memorable products that are differentiated from similar products based on product attributes such as quality and safety (Hooks, Macken-Walsh, et al., 2018). VBSC depends on excellent cooperation and information flow between chain members during growth, aiming to provide transparency (Brekken et al., 2019). Such cooperation includes horizontal collaboration among VBSC partners, working with producer cooperatives, and partnering with informal networks of producers with the goal of aggregating products for downstream supply chain partners (Brekken et al., 2019). VBSCs represent long-term relationships among firms with shared values committed to the long-term sustainability of all of the partners in the supply chain (Hooks, Macken-Walsh, et al., 2018). VBSC results,

therefore, focus on linkages between supply chain partners, efficient resource use across the supply chain, and the continuous flow of products.

VBSCs allow middle-scale producers to create economies of scale, through a cooperative, for instance, and create a differentiated value-added product destined for premium markets. Cooperatives form strategic relationships with other supply chain participants of similar values and target markets to gain market access (Hooks, McCarthy, et al., 2018). VBSCs demonstrate not just the power of internal resources, but also their limits. VBSCs serve to transmit values of organic farming to a guiding philosophy for planning and management choices made by territorial actors. VBSCs are constantly applied and serve therefore as a tool to permanently transmit and practice the underlying values of the organic region. VBSCs are useful to capture values and to further share values among the population of a certain region (Brekken et al., 2019). The implementation of VBSCs contributes to a place branding process.

The Potential Impact of the VBSC on Local Producers

In a VBSC, the producer is valued for their production practices and is considered to be an equal partner in the supply chain. The VBSC partners are committed to the long-term sustainability of all of the partners. For example, in the agriculture sector, VBSCs aggregate, process, market, and distribute a significant volume of food products that are differentiated by locality, quality, environmental, social, or health claims, and they distribute profits equitably among supply chain participants, including producers (Hooks, Macken-Walsh, et al., 2018). Some producers are using VBSCs that are characterized by partnerships throughout the supply chain from producers to buyers and share a

commitment to environmental, social, and economic values (Hooks, Macken-Walsh, et al., 2018). A direct link created from producer to consumer in these alternative chains is said to create a stronger attachment of products to their place of origin (Fleury et al., 2016). This has beneficial outcomes for the supply chain system as a whole, which include reinvigorating consumers' confidence in what they buy.

Information about the producers' values must flow through each link along the supply chain for the producer to be paid fairly. The key challenge on pricing is negotiating a price that works for everyone (Hooks, Macken-Walsh, et al., 2018). Sometimes producers get less than they would like; other times, buyers get less. The VBSC partners help producers establish their brand identities with consumers (Hooks, Macken-Walsh, et al., 2018). Product differentiation and consumers' willingness to pay are significant in determining the price for products sold not only through VBSCs, but also in any market. VBSC channels promise to pay producers higher prices than wholesale, in part because they sell differentiated products, but price premiums are also limited by conventional retail competition and consumer willingness to pay (McLaren, 2015). A growing number of consumers recognize the value in supporting producers' growing products embedded with particular values and will pay a price premium for those values (Hooks, Macken-Walsh, et al., 2018). VBSCs also often set prices paid to farmers on the producer-reported cost of production or negotiation, to pass on a higher share of the retail price to producers (Feenstra & Hardesty, 2016). As long as all parties feel that their best interests are considered, sales will continue.

Competing Frameworks to the VBSC

Alternative food networks seek to provide a spatial, economic, environmental, and social alternative to conventional food chains. Rosol and Barbosa (2021) argued that it is very important to develop models of democratic control and ownership as well as economic arrangements in which created value is fairly shared. This will result in the realization of the potentials of new mediated models while avoiding the pitfalls of the conventional systems that they seek to replace (Rosol & Barbosa, 2021). Alternative food networks are usually based on short food supply chains, which are food chains involving fewer actors, more direct connections between producers and consumers, and shorter geographical distance between locales of production and consumption, referred to as *direct marketing*. Direct-to-consumer (DTC) farms in the United States rose by over 50% between 1992 and 2007 while value-added products accounted for 47% of total DTC sales (O'Hara & Benson, 2019). Therefore, while VBSCs' economic benefits may result from lower marketing costs, the rising trend in direct marketing needs cannot be overlooked.

VBSC entails lowering costs for producers to improve net economic benefit to their participating producers while other competing frameworks entail establishing higher pricing to other attributes. For example, alternative food networks for seafood employ different approaches along their diverse value chains yet typically share five common attributes—supporting small-scale and place-based fishing operations through the provision of traceable, sustainable, and high-quality seafood products to customers (Witter et al., 2021). Consumers of seafood prioritize product quality attributes situated at

the consumption end of the value chain (e.g., taste, appearance, freshness, affordability, health benefits, and seafood type) over harvesting-related features (e.g., sustainability, production method, and fair compensation to harvesters; Witter et al., 2021). Producers with a preference for direct marketing tend to experience less positive economic benefits from VBSC participation but may choose to participate for other reasons, including an inability to sell more volume or imperfect products through direct markets, relationship-building to scale up production, or other marketing risk management goals.

VBSC Conceptual Framework Recap

A VBSC is one type of intermediated midscale marketing option that

- aggregates, processes, markets, and distributes a significant volume of food products that are differentiated by locality, quality, environmental, social, or health claims;
- operates effectively at regional levels; and
- distributes profits equitably among the supply chain participants, including producers.

VBSCs have lower marketing costs than direct marketing but likely have higher marketing costs than conventional wholesale because farmers may have to maintain the higher quality product, preserve farm identity, or obtain food safety or environmental certifications, depending on the marketing strategy of the VBSC.

Challenges in Applying the Value-Based Supply Chain

Building relationships between different supply chain partners is a challenge related to VBSC coordination. Meaningful standards and certification procedures will

need to be developed to ensure the authentic transmission of values through VBSCs (Stevenson & Pirog, 2008). Organizations whose leaders do not understand values-based production systems or key components of VBSCs, such as trust and transparency, will not adequately serve producers in supply chains (Stevenson & Pirog, 2008). VBSC enterprises must put in place systems required to facilitate the transmission of values to producers.

Challenges at the Level of Producers

Small producers and large producers have different needs concerning pricing and volume. Small producers want to sell low volumes at high prices, while large producers want to sell high volumes at low prices (Amare et al., 2019). For example, smallholder producers in sub-Saharan Africa are often unable to integrate into markets and access high-value opportunities by effectively participating in global chains for high-value fresh produce (Amare et al., 2019). Amare et al. (2019) recommended that policymakers should not only focus on resource accumulation for farmers, but also pay attention to the inclusiveness of export market participation for smallholder farmers given that there is an offsetting effect in terms of higher prices and lower volumes, reflecting the stricter quality requirements of export markets. Coordinating equity among producers regarding price, volume, and diversity of products is a challenge.

Producers need to be educated on the role of VBSCs. Because VBSC is a relatively new business model for many small to mid-sized producers, lack of knowledge and ability to market through VBSC channels is often a limitation (Brekken et al., 2019). Producers marketing through VBSC channels often lack the skills and knowledge to

determine profitable pricing structures (Stevenson & Pirog, 2008). An assessment of various VBSC models will help edify its utilization.

VBSC leads to understanding the need to pay producers a fair price. VBSCs provide market access for a producer that better meets their size of production, as direct market options tend to move small amounts of product, and commodity markets often provide prices at or below the cost of production for producers (Stevenson & Pirog, 2008). VBSCs provide fair prices to producers versus remaining competitive in the marketplace. VBSCs allow producers greater market access, providing a price premium through product differentiation by values associated with production, location, and identity, and allowing them flexibility so that they can compete in markets other than just large commodity markets where massive economies of scale are necessary for survival (Stevenson & Pirog, 2008). VBSCs have several common elements that engage food system partners in environmental, social, and economic sustainability in regional food systems.

Challenges at the Level of Consumers

Customers must be willing to pay a higher price for values-based products. For example, consumers' attitude toward purchasing energy-saving appliances positively impacts willingness to pay a price premium even though energy-saving appliances are usually more expensive than ordinary household appliances (Zhang et al., 2020). Social concerns and waste minimization perspectives such as responsible waste disposal and health-based products play a major role in influencing consumer willingness to pay for the added value of a product (Chen et al., 2021). Bhattarai (2019) found that consumers'

mean willingness to pay a premium price for organic vegetables was 25% due to the undesirable health effects of conventional agricultural products. Products with value-based labeling do not necessarily guarantee supply chain transactions characterized by trust, transparency, and equity, given that consumers who have the willingness to pay the premium cannot assess the value at all times.

Consumers need to be educated on why value-based products cost more. Certain products are more likely to be successful on sharing platforms given that transaction costs and perceived benefits affect perceived value, which affects the intention of consumers to use an integrated platform (Liang et al., 2021). Personal norms to consume collaboratively are determined by consumers' altruistic, biospheric, and egoistic value orientations (Roos & Hahn, 2019). For example, consumers' positive experiences such as social, emotional, and functional values derived from using mobile media services positively explain consumers' belief in the usefulness of paid mobile media services (Youn & Lee, 2019). Meanwhile, consumers' negative experiences with technological barriers negatively influence consumers' beliefs concerning the usefulness of paid mobile service, while price risk negatively influences perceived usefulness (Youn & Lee, 2019). Consequently, consumers' perceptions of the usefulness of paid service positively influence behavioral intention for continuous use of the paid mobile media service (Youn & Lee, 2019). Consumers, therefore, need to be able to appreciate the intrinsic value of a product or service so that consumption can be triggered.

Challenges at the Level of Manufacturers

Disruption in the supply of production inputs leads to an increase in the cost of downtime at the level of the manufacturer. For example, Hatsey (2019) ascertained that downtime in groundwater irrigation results in sizable economic losses like yield loss, total crops loss, and opportunity cost. About 75% of freshwater is used in crop production out of which 63% is lost due to poor farm practices and evapotranspiration (Zahra et al., 2021). When the downtime duration extends from 1 week to 3 weeks, the loss upturns radically with an expected monetary loss increase of 10 folds (Hatsey, 2019). Collaboration has been identified as the most important strategy to cope with control disruptions, and flexibility has been identified as the most important strategy to cope with demand, supply, process, and environmental disruptions (Shekarian & Parast, 2020). The disruption of raw materials, consumer goods, customer orders, and supplier meltdowns can ruin a company's bottom line even if these disruptions are for a short time (Yoon et al., 2020). Increasing supply chain visibility through information sharing from first-tier and second-tier is a potential disruption management strategy for the manufacturer (Yoon et al., 2020). Closing the gaps in the value chain will create more value for all partners.

Relational Challenges Amongst Value-Based Supply Chain Partners

The efficiency of the VBSC depends on authentic relationships with customers or suppliers. There are instances wherein buyers took advantage of well-known producer names, using them in advertising to obtain more business, when, in fact, they may only have purchased from the producer once or twice (Hooks, Macken-Walsh et al., 2018). Such malfeasance is likely to destroy socially overlaid networks but is likely to be

tolerated in a market or network relationship for reasons of efficacy. The challenges include building inter-organizational trust beyond interpersonal relationships, dealing with the volatility of the marketplace, and maintaining authenticity in value claims (Hooks, Macken-Walsh et al., 2018). The efficiency of the VBSC can be significantly enhanced if these challenges are addressed.

VBSCs are more transparent than conventional supply chains. Values are communicated throughout the chain providing buyers and consumers with the information needed to pay more for products. VBSCs provide higher benefits to participating producers due to the chain's strategic partnerships and the fact that buyers are willing to compensate producers for particular values. VBSCs also hold potential for providing greater product access to low-income communities, school children, and other institutions (such as universities, prisons, and hospitals). For producers, earning a premium above commodity prices for the environmental and/or social benefits that they generate through their production practices is an objective of VBSCs. For example, VBSC is a viable strategy for sustainable, equitable, and just food systems development due to the trustful and collaborative nature of the partnerships within the web (Block et al., 2008). These benefits also contribute to the higher quality of products in alternative product networks.

Producers may also choose VBSCs for risk reduction and business connections as they grow and expand. VBSCs offer a marketing outlet that is consistent with the preselected production practices of producers such as sustainable practices (Bauman et al., 2018). There is no one perfect marketing mix for any type of producer across all

periods; each producer must evaluate the price–cost and other marketing channels' tradeoffs for their situation (Bauman et al., 2018). The interplay of price and cost relationships between channels translates into channel choice impacts.

Operational Challenges Within the Value-Based Supply Chain

Planning and synchronizing operations are fundamentally essential to ensure sustainability in supply chains. Growing pressures from governments and supply chain stakeholders are forcing organizations to recalibrate their operations strategies to include technology, environmental, and social sustainability perspectives in other to create value (Mangla et al., 2020). Several operational excellence-based paradigms such as big data, blockchain, circular economy, inter-organizational information technologies, internet of things, theory of constraints, and business process reengineering have been recently integrated with sustainable supply chains to create significant value within organizations (Bhandari et al., 2019). For example, the blockchain-based logistics monitoring system (BLMS) can be used to provide a solution for parcel tracking in a supply chain to support an open and immutable history record for each transaction (Helo & Hao, 2019). It is therefore imperative to address operational challenges as this will have a favorable impact on sustainable supply chains.

Supply Chain Links

The supply chain is a chain structure of different components that links suppliers, manufacturers, distributors, and retailers. The purpose of a supply chain is to serve as a whole function network, connecting an end user's core business with logistics information and capital flow, beginning with the procurement of raw materials, through

the making of intermediate and final products (Green et al., 2019). The facets of a supply chain requiring integration include demand planning, inventory management, staffing, customer service, delivery lead times, logistics, customer and supplier collaboration, and sales and operations planning. Such integrations can be facilitated by establishing strong supply chain links to enhance competitive advantage. Supply chains are developed to reduce business expenses and increase efficiency, however, disruption of a supply chain link can expose organizations to crises that can severely impact the reputation of a business (Green et al., 2019). Supply chain links are used as business differentiation tools.

An optimized supply chain link leads to low unit cost, inventory investment value, and high-quality service. Research shows that standardized management systems are useful in supply chain management regardless of the role that the organization plays in the supply chain (Zimon et al., 2020). The number of potential transportation links between supply network nodes is the most influential factor that affects the supply network and its robustness, as well as the service level that can be maintained after disruptions (Adenso-Díaz et al., 2018). Information technology integration and trust in supply chain members significantly enhance supply chain agility and innovativeness, which in turn positively affect a firm's competitive advantage (Chen, 2019). Supply chain controls to ensure on-time delivery, order completeness, and damage-free delivery are imperatively embedded within optimized supply chain links to drive operational cost reduction while enhancing high-quality service.

Supply Chain Links as a Competitive Advantage

Business organizations achieve competitive advantage by designing differentiated supply chain network linkages. Supply chain competitive advantage is enhanced by developing competitive priorities of supply chain links in terms of responsiveness, resilience, reliability, and realignment (Madhani, 2019). These competing priorities can be assessed through analytics. Although business managers assess analytics as playing a pivotal role in driving profit and creating a competitive advantage in supply chain management, a major proportion of organizations remain reluctant to use analytics or are not even familiar with it, due to, amongst other factors, lack of ideas about how to achieve advantage from it (Herden, 2020). Business managers also carry out product analytics when designing new product development value chains to gain a competitive advantage. New product development value chain strategy, apart from benefiting managers and increasing the entrepreneurial competitive advantage provides employment opportunities and new markets to the community holistically (Prasetyo & Dzaki, 2020). Business organizations may consider achieving competitive advantage by carrying out robust analytic assessments of supply chain links.

All aspects of an ideal supply chain are closely linked and add value to various stakeholders. Competition in modern enterprises is no longer a single competition, but the competition among supply chains (Green et al., 2019). There is an increase in the need for speed of delivery resulting in a change in the mode of operation and nature of market diversity for different enterprises. For example, there is an increase in the use of electronic commerce by enterprises as it significantly reduces the cost of each link.

Electronic commerce enhances information and funds transfer, shortens the cycle of production and research, and improves inventory management (Green et al., 2019). The design of supply chain links is either a process implementation activity or a value creation activity.

The success of a supply chain depends on the ability to manage the interests of various stakeholders faster than the competitors. Social sustainability has grown in importance as a pressurizing issue to push supply chain managers to assess their social impacts on the communities (Hussain et al., 2019). Proactive strategy and competitive pressure exert both independent and combined influences on environmental supply chain practices (Graham, 2020). This is especially important in service supply chains such as health care, where the human element is a part of every stage (Hussain et al., 2019). The proactive strategy appears to be a stronger driver of supply chain practices, suggesting that internal stakeholders such as directors, managers, and employees may be more influential in the adoption of certain practices than external stakeholder pressures (Graham, 2020). Supply chain managers adopt proactive strategies that will enable their organization to achieve a competitive advantage once the interests of various stakeholders have been met.

Innovativeness often strengthens the competitive positions of organizations. Innovativeness can be achieved by making relevant changes in supply chain links. To implement the innovation in terms of procurement of intermediate inputs, production and processing, and marketing, the innovating firm undertakes the strategic design of its supply chain by deciding what segments of the supply chain to undertake in-house versus

sourcing externally, and what institutions such as contracts and standards it will use to coordinate the suppliers assuring its external sourcing (Zilberman et al., 2019). For example, different types of innovations having a high potential to reduce and prevent food waste along the supply chain must be economically feasible for adoption by decision-makers in the food supply chain (Aramyan et al., 2020). Consequently, exploring the factors that influence agri-food supply chain operators' choices in innovation adoption is essential.

Knowledge is a fundamental source of competitive advantage in supply chain management. The impact of info-knowledge is visible in how management contributes to the global planning of a supply chain, and the possibility to deconstruct various supply chain links (Cabañas & Herrera, 2018). Supply chain managers monitor inputs of directive data and share with supply chain stakeholders according to functions thereby enhancing real-time strategic decisions (Cabañas & Herrera, 2018). The flow of materials between companies happens with a flow of information and knowledge that supply chain managers can explore to add more value to the business (Cabañas & Herrera, 2018). Organizations have realized that knowledge is a fundamental resource to create sustainable competitive advantages.

The use of time along with other resources determines the supply chain performance. Moin et al. (2020) investigated detailed activities of thirty supply chain contracts in the fashion industry and found that overall 45% of the contracts were non value-added activities throughout the chain. Moin et al. recommended that non value-added time should be minimized by implementing make to order strategy which can be

achieved by the use of advanced information, manufacturing, and operational technology in planning, manufacturing, integration, and collaboration of different participants of the supply chain. Moin et al. recommended different ways for quick replenishment of the product by a concurrent and parallel production of various styles. The methodology and recommended time compression ways of this study can be applied to other supply chains.

Supply Chain Operations Management

A holistic view of the operational mode of various supply chain components enables supply chain managers to identify value creation units. Pandemics have caused chaotic situations in supply chains around the globe, which have resulted in survivability challenges (Farooq et al., 2021). In this respect, there is a need to explore supply chain operation management strategies to overcome the challenges that emerge due to Covid-19-like situations and develop strategies for sustainability, and viability perspectives for supply chains (Farooq et al., 2021). It is necessary to focus on the cost of the socially influenced operations involving factors such as collection investment and the size of the end-user market that governs the product returns (Dev et al., 2020). There is a strong trend in the development of digital solutions to address many supply chain operation management challenges. For instance, digital encapsulation allows each unique digitally encapsulated artifact to be acted on independently by operations and supply chain management systems while redistributing activities across organizational and geographic landscapes and facilitating interactivity of the digital artifact with the external environment inputs (Holmström et al., 2019). Data confidentiality, interactive feedback mechanism, easy complaint, and transparency issues related to old systems of working

are the major issues resolved by new systems of working using android mobile applications to interface between customers and suppliers (Nneka, 2021). Supply chain managers should proactively adjust their supply chain operations management strategy concerning challenging environmental factors such as pandemics.

Sales and operations planning entails establishing an efficient operational relationship between production units and supply chain units. Sales and operations planning (S&OP) is a process used by business managers to facilitate cross-functional coordination across the marketing, production operations, and supply chain operations interface (Goh & Eldridge, 2019). Business managers should consider the implications of S&OP decisions on supply chain operations. Supply chain managers should empower ambidextrous S&OP teams to maintain balance using self-governing event-driven processes given that increasing firm size amplifies the negative effect of a standardized S&OP procedure upon supply chain performance (Goh & Eldridge, 2019). The alignment of the goals of different actors throughout the supply chain operations increases the value of a good or service for a final customer (Vilalta-Perdomo & Hingley, 2018). Supply chain operations should be adjusted to accommodate S&OP requirements in other to increase the value of the final goods or services.

Disruptive Supply Chain Links

Supply chain networks require efficient responses to operation disruptions given that on-time delivery of products is paramount. Supply chain robustness is the ability of a supply chain to resist or avoid change. Supply chain disruptions are unplanned events that result in the decay of the normal flow of products and materials in different layers of a

supply chain (Ghanbari & Bashiri, 2019). The number of potential transportation links between supply network nodes is the most influential factor affecting the supply network and its robustness, as well as the service level that can be maintained after disruptions (Adenso-Díaz et al., 2018). As progressively more links fail, the percentage of products delivered timely will decrease.

Supply chains need to be carefully managed as their disruption could lead to a business crisis. For example, the Covid-19 pandemic events and responses are unprecedented to modern operations and supply chains as many organizations have faced a major shock during this crisis (Sarkis, 2021). Karmaker et al. (2021) argued that financial support from the government as well as from the supply chain partners are required to tackle the immediate shock on supply chain sustainability due to Covid-19. Mashud et al., (2021) considered inflation, cash discount, price-sensitive demand, and preservation technology investment for non instantaneous deteriorating products and concluded that a hybrid payment scheme composed of multiple prepayments and a delay in payment should be applied to facilitate post-Covid-19 recovery due to the economic downturn. To survive and remain sustainable, businesses need to revisit their strategies during the current Covid-19 crises from three perspectives, including supporting human resources financial commitment, forming cross-functional teams, connecting with their supply chains, investing in corporate social responsibility and doubling down efforts concerning partnerships (Al-Mansour & Al-Ajmi, 2020). Business managers should assess the probability of occurrence of disruptions and the time to recover after such a disruption to better manage business continuity.

Supply chain risk management entails designing and maintaining resilient supply chains to be prepared for potential events that disrupt the flows of materials, to respond quickly to minimize those effects and to restore the system to its normal state. Supply chain risk management encompasses a wide variety of strategies aiming to identify, assess, mitigate and monitor unexpected events or conditions which might have an impact, mostly adverse, on any part of a supply chain (Baryannis et al., 2019). Supply chain managers engage in proactive planning and risk mitigation to ensure business continuity through proper resilience management activities (Pournader et al., 2020). Supply chain risk management fully mediates the association between supplier and customer integration, and operational performance (Munir et al., 2020). Supply chain managers need to embed supply chain risk management mitigations strategies to ensure business continuity.

Traditional supply chain management emphasizes competition rather than cooperation wherein each party focuses only on maximizing their interests while ignoring other members in the supply chain; hence, leading to uncoordinated supply chain issues, such as a bullwhip effect, hockey stick effect, and double marginalization. Decentralized supply chains exhibit a price effect, whereby upstream producers raise wholesale prices in the case of positive demand shocks and lower wholesale prices in the case of negative demand shocks resulting in upstream producers benefiting from the price effect and, thus, from a dampening of the bullwhip effect (Qu & Raff, 2021). Companies should not assume the hockey stick phenomenon to be an exogenous problem but rather improve financial performance policies required to manage a change process (Jerath, & Long,

2020). One way of avoiding the losses due to double marginalization is by integrating the two firms vertically through merger and acquisition of one of the firms by the other firm in the supply chain and thus reducing at least one of the deadweight losses (Glock et al., 2020). Supply chain problems manifested in the form of the bullwhip effect, hockey stick effect, and double marginalization adversely affect the overall efficiency of a supply chain and create disruptive events in different parts of the supply chain.

Decisions in a decentralized model lead to a double marginalization effect in a contract farming supply chain. For example, if a contract farming supply chain is running in a higher yield uncertainty agricultural product industry and cooperating with a more risk-averse farmer, the realization of a centralized decision model through effective mechanisms appears to be more important and can help to yield more benefit for the entire supply chain and prevent double marginalization (Ye et al., 2020). However, Xiao et al. (2021) argued that a cost-sharing contract generates more profit for organizations when the fairness concern intensity is high. Supply chain system achieves the highest profit under the revenue-sharing contract among decentralized contracts (Xiao et al., 2021). The fundamental issue of two firms involved in double marginalization is that both firms want to extract their profits and in so doing end up creating a significantly higher retail price, and a significantly lower quantity than it would be if they merged. Another way of avoiding losses due to double marginalization is by integrating two firms vertically through the merger and acquisition of one of the firms by the other firm in the supply chain (Glock et al., 2020).

One of the main criteria for evaluating supply chain performance is the bullwhip effect. Supply chain systems experience a bullwhip effect in order replenishment and inventory level, leading to severe inefficiencies of the system (Tang et al., 2021). Information distortion is universally known as a fundamental reason for the bullwhip effect phenomenon (Tang et al., 2021). Goodarzi and Saen (2020) developed a network worst-practice frontier slacks-based measure model in the presence of undesirable factors for measuring the relative bullwhip effect of non serial supply chain networks. Ernawati et al. (2021) found that the value of the bullwhip effect that occurred after the use of vendor-managed inventory in the supply chain changed from 1.359 to 0.514 at the manufacturing level based on demand forecasting and EOQ determination. Goodarzi and Saen (2020) mathematically found that when a non serial supply chain network performs worst in terms of a bullwhip, all its members have the highest demand amplification. Decision-makers can use the slacks-based measure model to limit the bullwhip effect in a supply chain.

Sustainability Parameters of Supply Chain Links

The integration of supply chain sustainability strategies with business strategies leads to sustainable development. A sustainable supply chain can be defined as the efficiency of using limited sources to be flexible to a changeable business environment and be agile to new customer demand (Koberg & Longoni, 2019). Companies consider a wide range of marketing functions and focus on value among all the supply chain components interaction to apply a sustainability agenda to the market (Koberg &

Longoni, 2019). The responsibility for sustainability development is shared between all supply chain partners.

Firms foster strategic collaboration when developing and managing interdependent relationships with strategic partners. Small and medium-sized enterprises adopt lean practices to reduce waste across their organizational value chain, which helps achieve sustainability (Dey et al., 2019). For example, the primary waste streams in the Chinese textile supply chain included sludge accounting for 42% of the total waste, followed by food/human (29%), textile (14%), other domestic (5%), cardboard/paper (4%), and chemical (3%) waste (Li et al., 2021). Such lean practices can also be translated into supplier social sustainability practices. There is a positive relationship between supplier social sustainability practices and supply chain performance mediated by supplier performance (Mani et al., 2018). For example, although the use of blockchain technology in the humanitarian sector is in its infancy, donors and government agencies are increasingly calling for building blockchain technology-enabled swift-trust and more collaborative relationships among various humanitarian actors to improve the transparency and traceability of disaster relief materials, information exchanges, and flow of funds in disaster relief supply chains (Dubey et al., 2020). The implementation of collaborative practices within the organization's value chain enhances supply chain sustainability.

Agribusiness Supply Chain Strategy

An agribusiness supply chain includes several processes such as supply management, production management, and demand management to customers through a

competitive distribution channel. Common issues in agribusiness supply chains include a diversity of production and demand, bulkiness of produce, perishability, and seasonality. Bendinelli et al. (2020) demonstrated that urbanized countries show a 30% higher level of post-harvest losses when compared to more urbanized countries. The utilization of trucks for food distribution in France declined from 30% to 60% (Bakalis et al., 2020) while the production capacity of pork facilities across Europe decreased by approximately 25% due to the Covid-19 pandemic (Devereux et al., 2020). Agribusiness managers may implement strategies for developing sustainable supply chain links to maintain profitability.

Agribusiness Supply Chain Structure

An agribusiness supply chain structure includes various stages related to supply, production, post-harvest, storage, processing, distribution, and linkages between components. Although crops and livestock are common product classifications for agribusiness supply chains, agricultural products can be classified as perishable or long-life (Behzadi et al., 2018a). Agricultural food products referred to as crops include products obtained directly from plants at the supply stage. Agricultural products such as cattle, meat, or seafood obtained at the supply stage are known as livestock. The livestock category also includes dairy products (e.g., milk, cheese) and non food products (e.g., wool, hair, silk) derived from production. Importantly, both livestock products and crops are either perishable or long-life. For example, fruits, fresh vegetables, and meat products are perishable meanwhile wheat and wool are considered to be long-life. Perishable crops can be further classified into respiring or non respiring products. Perishable livestock is

divided into three classes of fresh, chilled, and frozen products. Within agrifoods, respiring crops and fresh livestock products are extremely prone to risk because of their particular biological characteristics (Behzadi et al., 2018a). The rate of the perishability of the agricultural product depends on the conditions put in place at the respective stages of the supply chain structure.

Operational collaborative activities are impacted by agri-food supply chains' characteristics, such as products specific handling conditions. First, strict food safety regulations and the products' specific requirements limit the choice of possible partners to companies from the agri-food sector, whose products require similar handling conditions and present low interaction risks (Badraoui et al., 2020). Second, seasonality in food products demand and production also limits the potential partners to those offering products with inverse seasonality, which allows increasing the utilization of the assets (Badraoui et al., 2020). Given that trust is the main element limiting the collaboration intensity, collaboration outcomes are influenced by operational collaborative activities through the mediation of relational elements.

Paradigm Shift and Positioning for Agribusinesses

Agribusiness investments accelerate agricultural expansion through the establishment of new markets and the development of a vibrant input supply sector. Agribusiness plays a crucial function in economic transformation through the development of agro-based industries and the provision of employment and income (Soetriono et al., 2020). The area in which maize is grown in sub-Saharan Africa has increased by almost 60% from the year 2007 to 2017 (Santpoort, 2020). Sub-Saharan

Africa investments in agribusiness and agriculture production are expected to rise to $1 trillion by the year 2030 as compared to $313 billion in 2010 (Adegboye, 2020). This rise will be a powerful catalyst for economic transformation and development for the region. Food markets are set to spur by 2030, exceeding $400 billion because of urbanization, thereby necessitating agribusinesses' investment in operational activities such as processing, logistics, and market infrastructure (Adegboye, 2020). Strategies for developing sustainable agribusiness supply chains to accommodate such an anticipated increase in demand and capacity are imperative.

Agribusiness supply chains are disrupted by emerging technological innovations and enhancements. The significant issues that need to be addressed to achieve sustainable agribusiness supply chain are lack of involvement of the small producers, lack of stringent norms to control product safety and quality, lack of industrialization, the inadequacy of the management, and information inaccuracy (Luthra et al., 2018). Technologies such as the internet of things (IoT) support the collection and sharing of information in real-time. IoT has the potential to augment the sustainability of the agribusiness supply chain through improved communication, coordination, and cooperation between nodes of the supply chain (Kamble et al., 2018). IoT and sensor technologies have been found useful in reducing the demand-supply gap and addressing the issue of product quality and security (Ben-Daya et al., 2019). The voluminous data generated by the IoT can be analyzed by using big data analytics that may help in identifying the weaknesses of the agribusiness supply chains (Manavalan & Jayakrishna, 2019). Blockchain technology also promises to be a significant enabler of a sustainable

agriculture supply chain (Sharma et al., 2018). These emerging technologies are driving the traditional agribusiness supply chains towards a digital supply chain environment that is data-driven.

The respective components of agribusiness supply chains tend to operate in silos resulting in disjointed initiatives required to address customer-specific requirements. Adopting an integrated move towards the supply chain management relationship is a positive path to conforming to the changing needs of the customer (Khan & Wisner, 2019). The aptitudes of the firm in making strategic alliances, sharing information, coordinating processes, and integrating resources are deemed as supply chain integration. Supply chain integration is useful in the sense that it enables an organization to cooperate with partners of the supply chain and supportively regulates internal and external organizational practices to accomplish proficient movements of products, services, data, finance, and decisions with the aspiration of rendering paramount value to its customer (Sutduean et al., 2019). Studies show that supply chain integration affects increasing supply chain quality, operational capability, and organizational performance (Tarigan et al., 2021). Agribusiness managers are accountable for promoting and sustaining consistency within the supply chain through integration and performance improvement.

Unfair trading practices between businesses in the food supply chain have a significant impact on the various stakeholders involved and on the environment. The cost of unfair trading practices is estimated by all stakeholders as an important percentage of their annual turnover, ranging from 6% for retailers to 32% for farmers; thus contributing to income loss for enterprises that have been subject to unfair trading practices (Markou

et al., 2020). Most actors agree with the inclusion of an entire supply chain in national legislation on unfair trading practices (Markou et al., 2020). A straightforward policy recommendation resulting from Markou et al.'s study is that policy and decision-makers should seek to reinforce the role and the bargaining power of small businesses in the food supply chain. This might be accomplished through the development of efficient producers' organizations, short food supply chains, interbranch organizations, and strategic partnerships.

Agribusiness Information System Strategy

Agribusiness requires a robust agribusiness supply chain visibility in other to maintain a sustainable supply chain. Agribusiness supply chain visibility is the extent to which actors within an agribusiness supply chain have access to or share the information which they consider as key or useful to their operations and which they consider will be of mutual benefit (Flores et al., 2020). Agribusiness supply chain visibility is not only the availability of the information but is also determined by the accuracy of the shared data, timeliness, usefulness, and the structure of the data (Kamble et al., 2020). The agribusiness supply chain visibility for any firm is achieved from the information being collected from the downstream and upstream activities of the supply chain and includes data related to the actual sales, forecasted demand, customer preferences, reactions, inventory, manufacturing, and delivery lead times (Kamble et al., 2020). A virtual agribusiness supply chain visibility will support monitoring, control, planning, and optimization of agribusiness supply chain processes in real-time, from remote locations thus addressing the various issues of agribusiness sustainability (Kamble et al., 2020). As

such, a modern data-driven agriculture supply chain is highly comparable with a production-based system, incorporating the activities related to planting, breeding, processing, production, transportation, and delivery.

Agribusiness supply chains are becoming more data-driven, and data-enabled with the use of smart equipment and sensors in the farming processes. Various applications of IoT and cloud computing technologies are pushing traditional agricultural practices towards smart farming (Manavalan & Jayakrishna, 2019). The data available through data processing applications are inadequate to analyze. The new data-driven supply chains will be required to equip themselves with a set of data analysis techniques and technologies with new levels of integration so that meaningful intelligence from these complex datasets is extracted making the agribusiness supply chain efficient (Kamble et al., 2020). Stakeholders in the agribusiness supply chain require access to large datasets to drive their decision-making and create more value for customers.

Agribusiness Supply Resilience and Risk Management Strategies

Agribusiness supply chains are sensitive to various sources of uncertainty. Resiliency is essential for such supply chains to decrease the impacts of various types of risks (Ghanbari & Bashiri, 2019). Resilience is the ability of a system to return to its original or desired state after being disturbed (Ghanbari & Bashiri, 2019). Resiliency is a key ability since even the most carefully designed supply chains are subject to unforeseen events (Ghanbari & Bashiri, 2019). Agribusiness managers must evaluate the resilience ability of an agribusiness supply chain given that various risks can occur in different layers of the supply chain and can decrease the capability of the supply chain.

Agribusiness supply chains are specifically vulnerable due to the perishability of agricultural products. Risk management approaches for perishable agriculture products require particular consideration because of the additional level of vulnerability associated with perishability (Behzadi et al., 2018a). Agribusiness supply chains are vulnerable due to the propensity of risk sources and risk drivers to outweigh risk mitigation strategies, thus causing losses and adverse supply chain consequences (Behzadi et al., 2018a). Vulnerability is a function of certain supply chain characteristics such as supply chain density, complexity, and node criticality that affect both the probability and the severity of supply chain risks (Behzadi et al., 2018a). Risk mitigations strategies for agribusiness supply chains should incorporate the vulnerability of the supply chain.

Agribusiness supply chains are impacted by uncertain factors concerning supply risks. Supply risks can be categorized into disruptions, yield uncertainty, capacity uncertainty, lead-time uncertainty, and input cost parameter uncertainty (Adegboye, 2020). Severe variations in either yield or lead time represent disruptions. Uncertain factors such as weather conditions regularly affect crop yields, but unusual weather conditions can produce an extremely low yield, which represents a disruption rather than a normal yield uncertainty (Behzadi et al., 2018a). The use of agricultural technology, such as high-yielding seed varieties in developing countries where the primary source of livelihood is agriculture is vital in reducing poverty, hunger, and promoting food security (Bello et al., 2021). As such, risk mitigation strategies for agribusiness supply chains should take into consideration the chain effect of supply risk from upstream to downstream.

Agribusiness supply chains are also impacted by different types of hidden risks. The hidden risk in the manufacturing industry occurs when a stock outage of a cheap spare part results in a significant loss in production (Behzadi et al., 2018a). In agribusiness, the massive use of highly specialized farms with large inputs of fossil fuels, pesticides, and other chemicals can be considered a hidden risk (Behzadi et al., 2018a). Agribusiness supply chain resilience strategies should be incorporated to limit or eliminate the potential adverse impact of a hidden risk on deliverables.

The availability of reliable local food supply in the community may experience setbacks due to the poor management of food supply risks by agribusiness managers. Food supply risks can be referred to as product contamination and recall, loss of access due to terrorism, loss of access due to protests, loss of site, reduced capacity, loss of people, loss of supplier, and reduced contractual cover in the event of a service failure or general shortage (Behzadi et al., 2018a). Pests and diseases could also be considered as another source of food supply risk (Behzadi et al., 2018a). Common risk mitigation strategies such as maintenance of safety stock, pest and disease control actions, and suitable incentive schemes of agricultural workers appear to be insufficient in the current agricultural environment.

Agribusiness supply chains involve more sources of uncertainty than typical manufacturing supply chains due to attributes such as long supply lead times, seasonality, and perishability. Agricultural products are generally highly sensitive to both the time to recovery and the recovery process due to their perishability and limited shelf-life (Behzadi et al., 2018b). Therefore, it is critical but challenging to mitigate risks in

agribusiness supply chains (Behzadi et al., 2018a). Failing to manage agribusiness supply chain risk taking into consideration its specificities will result in significant operational disruptions.

Risk mitigation strategies required by agribusiness managers to address different types of risk will normally be adopted by these managers following an accomplished risk assessment and classification exercise. Risk mitigation strategies in agribusiness supply chains can be divided into acceptance, inventory control, and finally sourcing (Behzadi et al., 2018a). The acceptance strategy means not protecting against disruption. The acceptance strategy is considered when the cost of dealing with a disruption outweighs losses from the disruption. Optimal mitigation strategies are applicable for perishable products when inventory control is not a possible option because of the perishability concerns (Behzadi et al., 2018b). Supplier diversification, which involves routine sourcing from multiple suppliers is one of the possible mitigation strategies when addressing supply risks (Behzadi et al., 2018b). A diversified supply strategy is less attractive for a cost-oriented supply chain model (Koberg & Longoni, 2019). Risk mitigation strategies will be adopted taking into consideration the global strategy of the organization.

Product substitution is one of the commonly used resilient risk management strategies. Product substitution provides flexibility for decision-making under risk when the decision-maker can allocate the product to different demand classes only after the realization of demand or supply uncertainty (Behzadi et al., 2018b). A product class to satisfy the demand for the same product class as well as for certain other product classes

can be used. Product substitution is also referred to as a reactive risk mitigation strategy. Such a reactive risk mitigation strategy occurs in downward product substitution when unmet demand for a low-quality product is replaced by an alternative high-quality product or a conversion of that high-quality product (Behzadi et al., 2017). Product substitution can also play an important role in planning under demand uncertainty. In this situation, the firm motivates the customers to buy an alternative product when their preferred product is not available (Behzadi et al., 2017). Product substitution can only be adopted following the substitutability mindset of the customer.

Resilience and robust strategies are adopted to prevent the transition from risk management to crisis management. Robust strategies in the supply chain are considered as proactive and upfront risk management options that mitigate risks and provide minimum variation in performance under disruption that could be provided through approaches such as stochastic programming and robust optimization (Behzadi et al., 2017). In comparison, resilience is referred to as a post-disruption recovering capacity and stems from characteristics including flexibility, availability, velocity, and visibility. Flexibility is a key measure in providing resilience that provides quick reactions to unforeseen circumstances (Behzadi et al., 2017). As such reactive and contingency planning is critical in minimizing the crossover from risk management to crisis management.

The reduction of the contract default rate of farmers is a critical factor for consideration by agribusinesses during sales and operations planning activities. Ye et al. (2020) developed a revenue sharing, production cost-sharing, and guaranteed money

(RPG) mechanism to facilitate the coordination of an agricultural supply chain under uncertain environments with risk-averse agents based on contract farming practices. Ye et al. showed that the RPG coordination mechanism can achieve perfect supply chain coordination to improve supply chain efficiency and enforcement of contract farming schemes. The sharing of revenue and production costs helps as an incentive and provides critical inputs to farmers, while the charge for guaranteed money can help to increase a farmer's lock-in cost and avoid opportunist behavior. As such, a contract default rate of contract farming schemes can be decreased and the quality supply of agricultural products can be ensured.

Cameroon Agribusiness Environment

Cameroon is located on the west coast of central Africa, covers 475,400 square kilometers (183,695 square miles), and adjoins Nigeria to the northwest, Chad to the northeast, the Central African Republic to the east, and the Republic of the Congo, Gabon, and Equatorial Guinea to the south. Agriculture is the backbone of Cameroon's economy, where 80% of the labor force is engaged in the agricultural sector and provides 22% of gross domestic product and 30% of its export revenues (Chitchui, 2019). Due to the low level of capital investment and the prevailing low level of government subsidies, the production of agricultural products and foodstuffs per capita declined by 23% and 13%, as a result of population growth (Chitchui, 2019). As a consequence, a provision of food for the local population will be competing with a provision of agribusiness production inputs resulting in tensions between commercial interests, local communities, and conservation priorities.

There is a need for agribusinesses downstream to revitalize their supply chain operations taking into consideration structural agricultural initiatives are driven by the government of Cameroon. Agriculture is the backbone of the national economy and the livelihoods of rural populations in Cameroon (Chia et al., 2019). The government of Cameroon in 2005 put forward the rural sector development strategy with the objectives to; ensure food security and self-sufficiency of households and the nation, contribute to economic growth and in particular, the growth of foreign trade and employment, increase the incomes of rural producers, improve the quality of life of the rural populations, and ensure the best use and sustainable management of the natural capital base for production (Chia et al., 2019).To achieve these objectives, the government intends to increase yields and agricultural land to about 30% compared to the 2005 levels (Chia et al., 2019). This will involve the promotion of large-scale farms, the revitalization of agriculture cooperatives, youth empowerment, and readjustments of agribusiness value chains.

Supply Chain Links With Local Producers

Global supply chains (GSC) have increasingly gained importance in linking developing countries to international markets. Initially, GSCs operated in only a few selected economic sectors and were largely confined to developed countries. Developing countries' participation in GSCs was minor and limited to labor-intensive processes. Today, a substantial share of GSCs' production processes is taking place in developing countries. The development and expansion of global value chains may create competition with local value chains for land, labor, water, soil nutrients, and other resources and on the other hand, positive spillover effects, such as investment, technical or institutional

spillovers, may occur and spur the development of local value chains (Feyaerts et al., 2020). Sustainable intensification of dryland agriculture is essential for helping to address the significant social-ecological challenges such as endemic poverty, malnutrition, and land degradation that overlap in dryland landscapes particularly in the context of accelerating climate change (Pervez et al., 2021). For developing countries, it is therefore important to implement economic policies that, at the same time as increasing the competitiveness of their enterprises, also improve their reliability and efficiency.

Challenges of Local Production Versus Importation

The advantages of local production are the overcoming of duties for many multinational companies in different markets. Political measures taken by governments in underdeveloped countries to protect their domestic markets, such as trade barriers and import taxes, are overcome by production in the target market. Other political requirements, such as local content, can also be neglected through value creation in the target market (Brönner et al., 2020). Companies can count on tax advantages and subsidies, which are incentives of the local government for the establishment of local corporate branches.

The product price is decisive in economically strained markets and can be significantly reduced by producing locally. For example, local production of WHO-recommended alcohol-based hand rubs and soap lead to low logistics cost and reduction of healthcare-associated infections in low and middle-income countries (Bauer-Savage et al., 2020). Additionally, low wages in developing countries have a considerable impact on production costs (Brönner et al., 2020). Components purchased locally also positively

influence the product price. Further value can be achieved by adapting the product to the quality demanded by the customer. With close-to-costumer production sites, corporates can react more flexibly to demand fluctuations and uncertainties (Szalavetz, 2019). This flexibility enables rapid product adjustments as they are required by the market and new products are faster on the market compared to global competitors (Brönner et al., 2020). Cooperation with local suppliers further increases the possibilities of flexibility, concentration on core competencies, and savings in purchasing.

When setting up new production sites, various influential factors on the organization's challenges must be taken into account. According to Adams et al. (2018), psychological factors such as fear of failure and fear of not being able to influence the outcome often prevent a successful start of companies in a developing country (Adam et al., 2018). Advanced manufacturing technologies (AMT) can modify the patterns of upgrading in manufacturing subsidiaries operating in foreign direct investment hosting factory economies (Szalavetz, 2019). AMT propels the upgrading of subsidiary-level research and development (R&D) capabilities by supporting specific R&D activities and by acting as enablers of innovation collaboration (Szalavetz, 2019). AMT created an integrated development environment and thus reduced the risks related to the decentralization of R&D (Szalavetz, 2019). For this reason, the communication between the subsidies and the parent company represents a decisive factor to take into consideration (Brönner et al., 2020). For production in developing countries, labor standards and conditions must be introduced and implemented according to known standards (Brönner et al., 2020). Although AMT may facilitate the governance around the

investments of multinational companies in locations in developing countries, this should be assessed in conjunction with other socioeconomic factors such as political stability and market adoption.

In addition to the organizational factors, influential factors on processes and technological challenges are considered. Local production processes should be adequate and not time-consuming (Brönner et al., 2020). They should be easy to build, technologically appropriate, and support workers (Brönner et al., 2020). Because of the high market uncertainty, the processes should be flexible in production speed, product mix, and quantities, have low complexity, and avoid effort (Brönner et al., 2020). Since the output strongly depends on the qualification level of the employees and the technological abilities, processes should be adapted to the site-specific requirements and use labor-intensive assembly methods (Brönner et al., 2020). The production technology has to face demanding climate conditions in a large number of developing countries and therefore needs to be robust against environmental influences.

Consumers will be willing to purchase products taking into consideration costs, function, quality, and social factors. Consumer preferences are mainly driven by intrinsic and extrinsic characteristics, as well as socio-cultural factors (Rondoni et al., 2020). While price is very important, especially in developing countries, the production method in developed countries is a relevant sub-factor, from which consumers make inferences about the health, safety, and sensory properties (Rondoni et al., 2020). General pro-social attitudes have a direct influence on green consumption values, and green values positively influence green buying behavior and receptivity to green advertising (do Paço

et al., 2019). Greater consumer choice and share of income available for food have undoubtedly contributed to increasing the phenomenon of food waste (Di Talia et al., 2019). Food waste at the consumption stage is also a concern as this has been partly attributed to a direct consequence of consumer buying behavior (Di Talia et al., 2019). The choice between locally produced and imported goods will be partly determined by consumer behavior taking into consideration the intrinsic and extrinsic factors mentioned above.

The decision to produce locally is accompanied by the question of the available workforce. This lack of implicit product knowledge and the different levels of education challenge production site planning (Adams et al., 2018). The attraction of top talents and managers poses to be an immense task (Adams et al., 2018). The selection of employees must aim at building long-term relationships and trust (Brönner et al., 2020). Furthermore, the social and cultural difference, the adaptation ability of corporates to local culture and language, influences the effort involved in shifting production (Brönner et al., 2020). Transferring the required know-how for production processes is the major task when setting up new locations.

A locally produced product must be appropriate for local social and political requirements, (e.g., in security and safety, recycling, and collective agreements) (Tate et al., 2019). Furthermore, import taxes, tariffs, and non tariff trade barriers, local content requirements, and financial restrictions challenge corporates (Tate et al., 2019). Politics in developing countries demand a social commitment of corporates (e.g., create jobs, increase GDP, and combat poverty) (Brönner et al., 2020). By contrast, some countries

are characterized by a lack of political support, corruption, abuse, and theft as well as political instability and high inflation rates.

Valued Added From Local Production

The concept of upgrading is used to imply the shift from low-value-added to higher-value-added activities and comprises the components of production, technology, knowledge, and skills. Process upgrading refers to the enhancement of production and distribution components that aims at achieving overall efficiency (Deribe & Kassa, 2020). Functional upgrading targets on switching of the value chain functions among the operators, for instance, shifting of primary processing to farmers (Deribe & Kassa, 2020). Value addition is the extra value generated as a consequence of upgrading strategies with local producers.

Local food production benefits sustainable regional development and should be considered as one of the pillars of sustainable regional development strategies. Local food producers share a common heritage because of the cultural and historical ties, while consumers tend to value food products produced locally (Cvijanović et al., 2020). The integration of agricultural production with the secondary and tertiary sectors will ensure a higher degree of marketability of agri-food products (Cvijanović et al., 2020). As such, the role of agriculture in the development of society is significant whether in terms of local development or sustainability of resources.

There is an association between consumer habits with locally produced commodities. Culture is a significant force in controlling human behavior, and its effect is so normal and automatic that its behavioral influence is usually assumed as natural

(Kereth, 2020). For example, cultural factors exert great influences on purchasing behavior of locally produced clothes in Tanzania (Kereth, 2020). The desire to consume fresh products is another motivation for purchasing from local producers. Khouryieh et al. (2019) found that 97% of respondents in their study stated that product freshness and product taste were very important or extremely important reasons for shopping at the local farmers' markets. Lastly, local food is seen as a response to increased demand for authentic foods. The same values and opinions tend to motivate organic consumers and a group of committed conventional Danish consumers of local foods (Ditlevsen et al., 2020). Business managers can therefore develop new supply chain networks to meet the needs of local consumers who seek to consume locally produced products due to their behavioral patterns.

There is a growing movement around the world to consume more local food. Research also indicates that customers are not only becoming increasingly interested in various types of local food systems but are also willing to pay an additional premium for food produced from these systems (Kinnunen et al., 2020). For example, it is estimated that over 15,000 tons of food is required each day to feed Melbourne but the projected 2050 population will demand at least 60% more food from a diminishing area of local arable land (Amato-Lourenço et al., 2020). Some major factors that influence large-scale land acquisition are the availability of land for the cultivation of plantations by investors, the soil fertility of the land in the district, and the freedom and peace enjoyed by investors to go about their businesses and enjoying good tax exemptions in such an environment (Quansah et al., 2020). Among the consequences of high food demand and shrinking

local supply is price inflation. Aiming to increase the resilience and sustainability of the city's food bowl while maintaining fresh food affordability, the Future Melbourne Plan has set a target for 30% of food consumed in the city to be grown within 50 km of the municipality by 2020 (City of Melbourne, 2008). Therefore specialization in agricultural production, food processing, development of distribution systems, and the long geographical distances from farms to places of consumption are critical requirements taking into consideration the aforementioned statistical trend.

Social Change Implications

The motivation to comprehend social change implications is very relevant within the context of agribusiness supply chain operations. Nguyen and Pervan (2020) found that there was an indirect effect of retailer corporate social responsibility (CSR) on consumer citizenship behavior (CCB) through perceived consumer effectiveness and consumer trust with a 95% confidence interval. In addition, retailer CSR was positively related to consumer trust ($\beta = 0.703$, $p < 0.001$), and consumer trust was positively related to CCB ($\beta = 0.219$, $p < 0.001$) (Nguyen & Pervan, 2020). CSR associations have a direct, positive influence on loyalty, and an indirect influence through their positive effect on brand awareness and consumer satisfaction (Ramesh et al., 2019). The literature reveals that the special position of a societal-driven impact in agribusiness can add value to industry-specific and the community.

Response to the Risk of Global Food Security

Food insecurity poses enormous challenges in developing countries. While many developing countries associate food security with food self-sufficiency, widespread

evidence shows that hunger may still coexist with the availability of abundant food supplies (Aji, 2020). Food access often depends on individuals' income, which is also influenced by their access to resources, markets, technology, social networks, and government support through food transfer programs or subsidies (Aji, 2020). As such, changing the connectivity mode between food production and consumption requires linking food to the social, cultural, and environmental contexts within which it is produced and distributed.

Achieving food security is more than just having enough food available. Understanding the future of food security requires insights into income distribution, purchasing power, political processes, and institutional change (van Meijl et al., 2020). Food security is not just the quantity of food available, but also the ability to access it physically and financially that matters, along with the ability to utilize food well through good processing and preparation practices (van Meijl et al., 2020). An agribusiness supply chain has a critical role to play in facilitating access to agricultural commodities.

Conversely, food instability means that people experience insufficient access to food periodically, with negative impacts on their nutritional status. From this perspective, adverse weather conditions, political instability, or economic factors such as unemployment and rising food prices, can all be a source of food instability (Schleifer & Sun, 2020). Sustainability certification can bring uncertainty to producers' income if price premiums are not ensured; on the other hand, sustainability standards may increase the climate resilience of agricultural production, and therefore increase the system's stability (Schleifer & Sun, 2020). Strategies for developing sustainable supply chain links with

local producers need to be adopted to ensure food stability and facilitate sustainability certification.

Urban agriculture is increasingly considered to also become an important contributor to future urban food security. Urban agriculture is defined as the production, process, and distribution of food and other products by plants and/or livestock raised in and around cities to meet local needs (Azunre et al., 2019). Various scales of innovative urban agriculture potentially contribute to global food security by supporting local food supply, strengthening the food value chain, and applying more sustainable practices than conventional agriculture (Armanda et al., 2019). In 2050, approximately 68% of the world's population is expected to live in cities, and by then, agriculture will need to produce almost 50% more food than in 2012 to meet the needs of around 9.73 billion people (FAO, 2017). Future agricultural supply chain links have to be adjusted taking into consideration changing trends as a result of urban agriculture.

Waste is also a major contributor to food insecurity. Approximately 30% of food waste occurs in the post-harvest stage of the food supply chain in developing countries. (Krishnan et al., 2020). Transport and storage infrastructure help improve food security as they promote trade flows (Bouchakour et al., 2018). Poor transportation causes waste and delayed delivery of food products. Good transport and market infrastructure reduce the prices of inputs, such as seeds and fertilizers, and the costs of transportation of farm output. The lack of infrastructure increases both the cost and the risk of farming, leading the farmer to find it more rational to work or invest in off-farm activities (Bouchakour et al., 2018). Approximately 33% of all produced foods (1.3 billion tons of edible food) for

human consumption is lost and wasted every year across the entire supply chain (Ishangulyyev et al., 2019). Strategies for developing sustainable supply chain links with local producers can be efficiently implemented to reduce or eliminate bottlenecks causing the waste of agricultural commodities.

As an agribusiness firm selects a farmer to be their supplier, they should not select the farmer that is too risk-averse to avoid the decrease of their utility. For example, Ye et al. (2020) found that wholesale prices are influenced by the interaction effect of a farmer's risk aversion and yield uncertainty while retail prices are influenced by the interaction effect of demand uncertainty and price elasticity (Ye et al., 2020). When an agribusiness manager signs a contract with a farmer with a certain degree of risk aversion, knowing that the farmer's supply is less reliable for higher yield uncertainty, a higher wholesale price should be set by the agribusiness manager to encourage the farmer to increase production quantity if yield uncertainty is lower, however, if the yield uncertainty is higher, an agribusiness manager should decrease the wholesale price to avoid the sharp increase of incentive cost and decrease of their utility. Agribusinesses should make a trade-off between profit and cost by taking the yield uncertainty and the degree of the farmer's risk aversion into consideration (Ye et al., 2020). As such, yield and market demand uncertainty and the degree of a farmer's risk aversion have profound effects on optimal decisions and utilities of the supply chain.

The Reputational Impact of Green Supply Chains

The adoption of sustainable environmental practices is becoming a necessity rather than a preference. The food supply chain is responsible for 31% of greenhouse gas

emissions (Krishnan et al., 2020). This degree of environmental impact is more prevalent in developing countries due to their ineffective practices across cultivation, processing, packing, and the transportation stages of the food supply chain (Krishnan et al., 2020). Semmler et al. (2021) found that green bonds can support carbon taxation by acting as a bridge financing instrument, smoothing the path toward a low-carbon transition, and overcoming financial market practitioners' and governments' short-termism. The total carbon footprint corresponding to the food wasted across all the stages of the food supply chain is estimated to be around 4.4 Gt CO2 equivalent per year (Carpio-Aguilar et al., 2019). Strategies for developing sustainable green supply chains need to be considered to reduce carbon emissions.

Companies that apply green supply chain management practices achieve better environmental performance but at an extra cost. Firms that reduce their environmental impact face an increased production cost but are also expected to gradually gain an increased market share (Shaikh et al., 2020). Returns on cost could be positively influenced when clients have a preference for the products/services of environment-friendly companies. Green practices provide improved customer satisfaction and attraction for retailers, distributors, and authorities (Shaikh et al., 2020). Investment can be minimized by proactively handling environmental parameters that may cause hurdles in the context of strategies for developing sustainable green supply chains.

This evolution of supply chain management is driven not only by mandatory regulations but also due to voluntary environmental programs. Green supply chain management aims at minimizing environmental impacts and increasing resource

efficiency through all phases of the supply chain, starting with product acquisition until its final disposal after use (Song & Gao, 2018). Green supply chain management practices help to build a win-win situation, considering both economic and environmental positive impacts (de Carvalho et al., 2020). Ahmad et al. (2021) argued that the diversification of exports and energy mix is recommended to improve the balance of trade, economic aggregates, and environmental sustainability. Working the green supply chain is a potentially effective mechanism for improving the company's track record in corporate social responsibility, improving reputation, reducing waste, and focusing on environmental regulations (Song & Gao, 2018). Green supply chain coordination objects not only include manufacturers and retailers in traditional supply chains but also include consumers.

Manufacturers need to not only produce green products but also show their environmental efforts to consumers through tools that help buyers make environment-friendly choices. The greenness of a product is difficult for consumers to observe directly (Guo et al., 2020). Using an eco-label is an effective strategy to publicize the environmental impact information of products to consumers (Murali et al., 2019). For example, seafood eco-labels could increase the consumers' willingness to pay between 16%–24% more for a product (Vitale et al., 2020). Given that consumers' willingness to pay can reveal a new form of an ecosystem approach to fishery management, there is a high chance that premium prices could become a tool for sustainable resource management (Vitale et al., 2020). As a result, firms generally affix eco-labels to their products, labels that are either produced by themselves (referred to as self-labels) or

obtained from non governmental organizations (Guo et al., 2020). Such labels can help to gain consumer trust and successfully carry out green marketing through agribusiness supply chain actions.

There are growing environmental, social, and ethical concerns as a result of the growing demand for natural resources for agricultural production. Consumers are demanding information about quality, safety, sustainability, the origin of the products, resources consumed, and shelf life of the product, which have a direct impact on agribusiness supply chain decisions (Krishnan et al., 2020). These challenges are focused squarely on how food can be cultivated, distributed, and consumed sustainably. Consumers, policy-makers, and organizations are pressuring markets in particular for better management of environmental resources across all stages of the agribusiness supply chain (Krishnan et al., 2020). Strategies for developing sustainable agribusiness supply chain links should be implemented taking into consideration social and ethical concerns.

Sustainable Livelihood Through Job Creation

The literature reveals that agriculture remains the main sector of employment in Africa. Raising agricultural productivity and smallholder income will result in the demand for higher-value foods and off-farm labor (Ma et al., 2019). Agribusiness currently accounts for one-quarter to one-third of Africa's off-farm work (Ma et al., 2019). As such, Africa's agribusiness supply chain is central to job enhancement and creation.

Strategies for developing sustainable supply chain links with local producers can also maximize inclusive job creation and poverty reduction. African agriculture must transition towards a market-oriented, integrated food system, away from more staple crop-oriented, smallholder subsistence farming in other to leverage food system job potential (Ma et al., 2019). Not all smallholder farmers are equally well positioned to adopt new technologies, commercialize their staples, and shift to higher-value crops and products, such as fruits and vegetables and dairy (Ma et al., 2019). Implementing strategies for developing sustainable supply chain links with local producers will spur the need to reinforce the factors required for smallholder farmers to increase labor productivity.

Horizontal integration through producer organizations can spur agricultural job transformation. Producer organizations can improve smallholder integration in high-value chains through several inter-related mechanisms; reduce transaction costs in contract arrangements, provide quality control, establish trust against contract breach, and facilitate aggregation and delivery to processors (Ma et al., 2019). Improved access to technology fosters collective savings and credit schemes, and increases knowledge exchange, increases farmers' bargaining power and the price they receive (Ma et al., 2019). Agri-business development requires new skills to accommodate the ongoing digital revolution within African agriculture and its rapidly expanding chains.

Literature Review Summary

The literature review revealed that there is an opportunistic window for national and international agribusiness to readjust to more resilient operational business and

supply chain models by focusing on strategies to develop sustainable supply chain links with local producers. This literature review illustrated that an agribusiness supply chain can be used as a significant competitive differentiation tool by adopting a VBSC conceptual framework. Sustainable supply chain links with local producers are imperative given that VBSCs offer a marketing outlet that is consistent with the preselected production practices of producers such as sustainable practices. Finally, companies can seek to adopt competitive strategies that achieve sustainability standards, not only in achieving economic success but also in serving society and preserving the environment at the same time.

Transition

In Section 1, I diagnosed the background of the problem, problem statement, purpose statement, nature of the study, the research question, interview questions, and conceptual framework on strategies for developing sustainable supply chain links with local producers. Additionally, Section 1 included operational definitions, assumptions, limitations, delimitations, and significance of this proposed study. Lastly, Section 1 covered the review of professional and academic literature. Section 1 is the foundation of the study.

Section 2 of this study includes a restatement of the purpose, the role of the researcher, the participants, research method and design, and population and sampling. Section 2 also includes ethical considerations, data collection, and data analysis. Lastly, Section 2 covers the reliability and validity of the proposed study. Section 2 will be dedicated to establishing a robust research methodology.

In Section 3, I present my findings. I discuss how my results correspond or detract from the existing literature and other peer review studies. I analyze and discuss how my findings are linked to my conceptual frameworks and potential alternative explanations. Further, I discuss the applicability of my results concerning the professional practice of business, implications for social change, and recommendations for action and future research.

Section 2: The Project

In Section 2, I discuss the processes, techniques, and methods of the research. I restate the purpose of this study, address my role as the researcher, and explain the eligibility criteria and sampling method for participants. I explain the ethical standards for this study as well as data organization and analytical techniques. I conclude with a description of the plan to achieve the dependability of the data and the credibility of the findings.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability. The targeted population for this study consisted of six agribusiness managers from multiple organizations who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years; consisting of supply chain managers and directors. The implications for positive social change include the creation of sustainable supply chain links with local producers, which may result in an increase in the number of direct and indirect jobs within the value chain and broaden the availability of reliable local food supply throughout communities.

Role of the Researcher

My role as a researcher involved identifying and selecting the participants for my study. A researcher is a primary person responsible for developing and executing a study (Yin, 2018). In a qualitative study, a researcher engages in initiating, investigating, and critically analyzing theories and phenomena (Thurairajah, 2019). A researcher acts as the

primary instrument to collect, organize, and analyze data (Thurairajah, 2019). As the sole researcher in the qualitative case study, I was responsible for overseeing the interview process involving how agribusiness supply chain managers develop strategies for sustainable supply chain links with local producers to maintain profitability.

I have 10 years of experience as a supply chain professional in the Cameroon agribusiness sector. This engagement with local agribusiness affords me a level of expertise that may support producing a robust study, as researchers should be familiar with the geographical location of a study (Parashar, 2019).

I observed maximum ethical standards in conducting my research study, recruiting, and interviewing participants. Researchers should consider the validation of data collected by participants to avoid personal bias (Johnson et al., 2020). I ensured that participants checked the content of my interpretation and also proceeded with validation of the content. This was to ensure that the data that I was capturing were free from personal bias and accurate.

One of my crucial roles as a researcher was ensuring that I observed the codes of conduct included in *The Belmont Report* (National Commission for the Protection of Human Subjects and Biomedical and Behavioral Research, 1979). The guidelines from *The Belmont Report* include the following: (a) researchers must minimize risk while maximizing benefits, (b) researchers must respect participants, and (c) researchers must be fair in distributing risks and benefits. I ensured that I adhered to these guidelines when interacting with participants (National Commission for the Protection of Human Subjects and Biomedical and Behavioral Research, 1979).

It is imperative to remain unbiased throughout the data collection process. Bias is a critical concern in research because of the possibility of collecting data that reflect the researcher's view (Johnson et al., 2020). Circumstances that might lead to biased views should be put aside to produce best-case study results (Yin, 2018). A researcher should avoid participants with whom a current or prior personal or professional relationship exists to mitigate bias (Johnson et al., 2020). I ensured that participants were not linked with my past personal associations. I guarded against any personal influence on participants by being neutral and by not offering any advice. Furthermore, it is important to ensure that the data interpretation reflects the opinion of the participants and not that of the researcher (Yin, 2018). I used open-ended interview questions during the interview process to obtain non biased and objective results. A face-to-face interview between a researcher and a participant enhances the reliability and validity of a case study (Mirick & Wladkowski, 2019). I did an audio record of the interviews to ensure an accurate transcript of the participants' responses and conducted member checking (Appendix B) to validate my interpretations.

Participants tend to provide information outside the context of a study during interviews. An interview protocol helps to build a boundary to avoid collecting ambiguous information (Gani et al., 2020). Researchers use an interview protocol as a way to standardize the interview process and reduce bias (Yin, 2018). I used the interview protocol (Appendix A) to ensure consistency throughout the interviews, provide guidelines during the interview process, and screen for ambiguous information.

Participants

Effective participant selection is critical to getting robust results in any qualitative study (Yin, 2018). I used purposive sampling to select participants. Purposive sampling helps the researcher select participants who have experience, knowledge, and understanding of the research question (Bakkalbasioglu, 2020). For this study, the participants were agribusiness supply chain leaders with a valuable understanding of the phenomenon. Participants should have had sufficient knowledge and experience with the subject matter to provide the rich and diverse data required to attain saturation and develop credible findings (Yin, 2018). Participants should also have been willing and able to share their knowledge and experience (Yin, 2018). The chosen participants met the following eligibility requirements: (a) served as agribusiness supply chain leaders in Cameroon, (b) possessed an understanding of the phenomenon, and (c) had applied a strategy to develop sustainable supply chain links with local producers. Researchers should verify that the eligibility requirements for participants align with the research question (Yin, 2018). The targeted population for this study consisted of agribusiness managers who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years.

Researchers in an academic setting must meet the ethical standards and requirements set forth by their university's Institutional Review Board (IRB) to gain access to participants (Tsan & Tsan, 2020). I designed my study to comply with Walden University IRB's ethical requirements for accessing participants to receive approval to proceed with data acquisition. Upon gaining Walden University IRB approval to

interview participants, I accessed online resources, contacts, and trade associations and communicated with professionals, using emails and phone calls to identify potential candidate organizations. It was critical to recruit only from agribusinesses that supported the criteria stipulated in my case study. The appropriate standard in research is to inform participants of the purpose, goal, risk, impacts, and confidentiality of research (Yin, 2018). I contacted the authorized representative of each company for permission to speak to the agribusiness supply chain leaders. In compliance with Walden's IRB standards, a community partnership agreement was not needed. Furthermore, once confirmation was obtained for participation, I conducted online interviews with the participants.

Researchers use various methods to establish relationships and trust with participants. To succeed in research, a researcher must build robust relationships with the participants (Yin, 2018). I built trust and relationships with the participants by (a) obtaining informed consent, (b) employing effective interviewing skills, and (c) maintaining confidentiality. Once I received informed consent, I contacted each participant via email or phone and scheduled the interview at a time that was convenient for the participant. Researchers have to be self-critical at all times, in particular concerning their role and influence on the interview setting and the interviewee (Kaliber, 2019). At the beginning of each interview, I reminded the participant that participation was voluntary. Additionally, a researcher must ensure that the information provided by the participants gets used appropriately and not against them and that the participants' names remain anonymous (Celestina, 2018). I reiterated that the reports from the study would not include any information that could reveal their identities. Throughout the

interview, I remained professional, followed the interview protocol, and employed effective interviewing and listening skills.

Research Method and Design

Research Method

A researcher chooses a research method based on the study's purpose, problem statement, and research question (Allan, 2020). Yin (2018) identified the three main research methods: qualitative, quantitative, and mixed method. Qualitative research is an iterative process in which improved understanding of the scientific community is achieved by making new significant distinctions resulting from getting closer to the phenomenon studied (Aspers & Corte, 2019). Qualitative research involves an interpretive, naturalistic, and holistic inquiry into a phenomenon in a natural setting (Boardman & McCormick, 2018). I selected a qualitative research methodology to explore strategies for developing sustainable supply chain links with local producers.

Researchers adopt the qualitative method to ask open-ended questions to explore the knowledge and experience of participants on particular phenomena (Yin, 2018). The qualitative method is used as an analytical technique and a structured approach for examining and building on existing theories and literature (Allan, 2020). Through qualitative methods, researchers gain insight into the reasons that participants make decisions or take certain actions (Hayashi et al., 2019). The qualitative method is suitable for gathering information from participants regarding their attitudes, experiences, knowledge, understanding, and feelings (Allan, 2020). Researchers use open-ended questions for exploring strategies based on participants' experience and knowledge

(Hayashi et al., 2019). I applied the qualitative study to explore the strategies that agribusiness supply chain managers use to develop sustainable supply chain links with local producers. The qualitative method was appropriate because I used open-ended questions to explore the knowledge of participants to collect rich data from the participants and gain an in-depth understanding of the phenomenon.

Quantitative researchers identify variables, collect data, and conduct statistical analysis of numeric data to discover social and cultural relationships between variables (Stockemer, 2019). The quantitative researcher may also focus on determining relationships, associations, and trends between dependent and independent variables (Hosseini et al., 2019). A researcher uses the quantitative method to test hypotheses, study variables, and analyze numerical data to understand the phenomenon (Stockemer, 2019). For quantitative research, statistical analysis of information is used to answer research questions (Sablan, 2019). The quantitative method was not appropriate for this study because I was not testing for relationships, associations, or trends among variables using statistical analysis to answer the research question.

A mixed-method researcher combines the hypothesis-driven rigor of quantitative methodology with the flexibility of qualitative methodology (Feldon & Tofel-Grehl, 2018). A researcher within a mixed-method approach uses open-ended questions to explore strategies and statistical analysis to test for correlation and relationships (Archibald & Gerber, 2018). Researchers often use the mixed method approach to combine qualitative and quantitative methods to test for relationships and to explore participants' experiences and knowledge (Archibald & Gerber, 2018). For this study, no

need existed for the use of statistical analysis, in that I did not intend to examine relationships, associations, or correlations to answer the research question. My intention was to gain a deep and rich understanding from participants' experience and knowledge of the phenomenon, coupled with literature and company information. I did not intend to create hypotheses or to use numerical data to achieve my goal of exploring the strategies that agribusiness supply chain managers were using to develop sustainable supply chain links with local producers. Therefore, using a quantitative or mixed methods methodology was less appropriate than using a qualitative method for my study.

Research Design

I considered three qualitative research designs for my study: case study, ethnographic, and phenomenological. I chose a multiple case study research design for this study. The case study design is appropriate for an in-depth understanding of a real-life phenomenon in its environmental setting (Yin, 2018). A case study design is appropriate when a researcher has some control over the events and seeks answers to why, what, and how questions in a real-life context of the phenomenon (Allan, 2020). The multiple case study design is a qualitative design used by researchers to systemically gather information on how systems operate by having an in-depth exploration of multiple bounded systems and multiple forms of data collection (Yin, 2018). Because I intended to explore multiple bounded systems used by agribusiness supply chain managers to develop sustainable supply chain links, a multiple case study design was preferred over a single case design. The qualitative multiple case study was appropriate for my study

because it enabled me to identify strategies that agribusiness supply chain managers used to develop sustainable supply chain links with local producers.

Researchers use ethnographic research design to collect valid, deep, rich, and reliable psychological data by entering into participants' settings for a sustained period (Beckett & Kobayashi, 2020). Researchers who use an ethnographic design seek to observe cultural phenomena within the context of a study (Yin, 2018). To understand the culture or subculture of a particular group of people, researchers use ethnographic research design by immersing themselves in the society and having active involvement in the culture while researching with the participants (Ulusoy & Schembri, 2018). The ethnographic design was not appropriate for my study because I did not intend to explore the cultural phenomena of agribusiness supply chain managers but rather to explore strategies that agribusiness supply chain managers used to develop sustainable supply chain links with local producers.

Researchers use the phenomenological approach to understand and garner the knowledge of the individuals' lived experiences of the phenomenon (Smith, 2019). Researchers who use a phenomenological design seek to understand the subjective personal meanings of lived experiences and perspectives of participants (Thompson, 2018). Phenomenological researchers garner knowledge of the participants' lived experiences through interviews, observations, and document analysis (McNarry et al., 2019). The phenomenological design was not appropriate for my study because I did not intend to explore the personal meanings of the lived experiences of agribusiness supply

chain managers but rather to gain agribusiness supply chain managers' knowledge of how sustainable supply chain links with local producers are developed.

A researcher can collect data through a structured interview and could validate the qualitative study by interviewing more people until reaching data saturation (Jin et al., 2018). In this study, I reached data saturation by continuing to interview agribusiness supply chain managers until no new insights or data emerged.

Population and Sampling

A research population is a large group of individuals with similar characteristics that constitutes the focus of the research query (Shaheen & Pradhan, 2019). The targeted population is the selected group of individuals whom the researcher identifies as people who potentially possess the knowledge needed to answer the research question (Farrugia, 2019). For this study, the targeted population was agribusiness supply chain managers from multiple organizations who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years; this group consisted of supply chain managers and directors. I conducted semistructured individual online interviews with six agribusiness supply chain managers from multiple organizations who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years; this group consisted of four supply chain managers and two directors. The planned number of participants for the online interview was 10. However, as I consolidated themes and subthemes during the interview process, no new insights or data emerged after interviewing the fifth and sixth

participants. This discovery indicated that I had reached data saturation, and I discontinued interviewing after the sixth participant.

Sampling is the process of selecting the population for the research (Yin, 2018). Sampling can vary depending on the research design and method (Shaheen & Pradhan, 2019). For this study, I used the purposeful sampling method. Purposeful sampling is a technique widely used in qualitative research for the identification and selection of participants with rich information (Shaheen & Pradhan, 2019). The purposeful sampling method is used by researchers to specifically choose the population to uncover knowledge, experience, and understanding of the phenomenon (Farrugia, 2019). Researchers commonly use the purposeful sampling method in a case study research study to explore strategies and discover the fundamental truth about a phenomenon (Shaheen & Pradhan, 2019). Purposeful sampling is an appropriate sampling method when the targeted population exceeds the number of participants required for the minimum sample size (Shaheen & Pradhan, 2019). In this qualitative research study, the participants in the sample size were chosen for their knowledge and not as a result of a statistical test for analysis.

Researchers use purposeful sampling when the participants must meet strict eligibility requirements (Campbell et al., 2020). Furthermore, researchers use purposeful sampling to select a population that aligns with the research question (Campbell et al., 2020). The purposeful sampling method was the most suitable sampling method for my research study. I targeted an appropriate population that possess an in-depth

understanding of strategies to develop sustainable supply chain links with local producers.

Research participants are vital elements of a qualitative study (Yin, 2018). The accuracy of the research findings depends on the information provided by the participants (Yin, 2018). To ensure research dependability and authenticity, researchers use participants who possess in-depth knowledge, experience, and understanding of the phenomenon (Campbell et al., 2020). To ensure the selected participants meet the eligibility criteria, I identified agribusiness supply chain managers who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years.

Studies are often vague when researchers explain the processes and justifications that have been used to determine sample size and strategy (Mthuli et al., 2021). Some provide no mention of sampling at all, whilst others rely too heavily on the concept of saturation for determining eventual sample size in qualitative studies (Mthuli et al., 2021).

Qualitative researchers typically present small sample sizes, so that they can understand how theories and psychological constructs apply in practical situations (Crick, 2021). Small sample sizes allow qualitative researchers to obtain rich findings with a smaller group of participants than quantitative research, which requires larger sample sizes to test theories in an aggregated format (Crick, 2021).

Researchers use different sampling sizes based on the research question, purpose, and design (Shaheen & Pradhan, 2019). Information power indicates that the more

information the sample holds, relevant for the actual study, the lower amount of participants is needed (Shaheen & Pradhan, 2019). A researcher using a case study design might require only one participant, based on the research question and purpose of the study (Yin, 2018). The sample size in a qualitative study is not as essential as the sampling procedure that the researcher uses to ensure the collection of rich, in-depth data from the participants (Yin 2018). Yang et al. (2021) used a sample size of one to explore how to engage with small fragmented farmers for supply chain collaboration and how to enhance the roles of cooperative supply chains in the vegetable industry in Vietnam. Kusraeva and Rebiazina (2021) used a sample size of less than nine senior management representatives of Russian agribusinesses to identify the main directions of changes in Russian agribusiness caused by the food embargo through the lens of interfirm relationships. For this study, I interviewed six agribusiness supply chain managers from multiple organizations, who successfully implemented strategies to develop sustainable supply chain links with local producers.

Researchers should choose an appropriate interview setting to facilitate an environment conducive to providing participants with comfort and confidentiality (Yin, 2018). Researchers must consider gaining access to the setting and participants, understanding the language and culture of the respondents, deciding on how to present oneself, locating an informant, gaining trust, establishing rapport, and collecting empirical materials (Hill et al., 2019). I set up interview appointments with each of the six participants based on their availability and preference to allow their comfort and convenience to participate in this study.

To set up the appointments, I booked appointments with participants to engage them in my study and align on a suitable interview date and time and follow up with emails for confirmation and reminders. I contacted participants through a phone call due to due to Covid-19 restrictions. I also considered interviewing during off-peak periods of the participant's schedule to reduce office distractions. Researchers use an interview protocol to guide the construction of the interview and maintain the discussion within the context of the research question and research phenomenon (Yin, 2018). Researchers use an interview protocol to help build boundaries and avoid collecting ambiguous information (Yin, 2018). I used the interview protocol as a guideline for the interviews and kept the conversation within the context of the research question.

Data saturation is the point at which all relevant concepts have been identified and no new concepts would be identified in the analysis for qualitative research interviews to continue (Gugiu et al., 2020). Data saturation is reached when the gathering of data by the researcher tends to a point of diminishing returns when no new data are being added; implying that estimation of sample size in a qualitative case study is a direct function of the data saturation concept (Sechelski & Onwuegbuzie, 2019). The concept of assuming data saturation just because one has exhausted the resources is not universally adopted or acceptable by qualitative case study researchers (Aguboshim, 2021). Some researchers claimed that data saturation is not all about the sample size alone, but about high quality and sufficient quantity of the data (Hayashi et al., 2019). Data saturation is very helpful especially at the conceptual stage, but its concept and standard are elusive because it

lacks practical guidance for estimating sample size for robust research before data collection (Aguboshim, 2021).

Various strategies employed to ensure the rigor of the work and data saturation may include member checking, triangulation, audit trials, reflexivity, peer debriefing, and reaching data saturation (Aguboshim, 2021). Member checking is a data collection method that establishes a two-way conversation between the researcher and the participants around every stage of the process of data collection as a means of achieving data saturation, by giving participants the ability to read the researcher's interpretations and provide any corrections or additional information (Leese et al., 2021). Member checking enhances data saturation by checking to examine and confirm interview data for corrections, additions, or complete deletion if the participant decides to back out completely (Aguboshim, 2021). Member checking is also used to establish a two-way conversation between the researcher and the participants throughout the processes of data collection, framing of the research question and vetting of the interview guide, data analysis and interpretation, individual themes and participant themes, presentation of findings to check if their interviews matched what they meant, and ensuring that accurate findings had been extracted from the interviews (Aguboshim, 2021).

To reach data saturation in my research, I used member checking to validate the information and ensure accuracy, allowed the participants to validate an interpreted summary of the interview transcripts, offered corrections if needed, and gathered additional data until no new themes occur. Using member checking, I understood the

participants' worldview about the phenomenon. I used member checking to enhance the quality of the data collection process as well as data rigor and saturation.

Ethical Research

Obtaining informed consent is a cornerstone requirement of conducting ethical research (Chapman et al., 2020). I obtained the participants' informed consent. The informed consent form contained background and procedural information about the study as well as details about ethical considerations such as the voluntary nature of the study and disclosure about payment for participation. The informed consent form contained an explanation of the expected commitment from the participants, the participants' rights, and the minimal risk associated with the study. To ensure participants have the autonomous right to self-determination, researchers must ensure that potential participants understand that they have the right to decide whether or not to participate in research studies voluntarily and that declining to participate in any research will not affect them adversely in any way (Barrow et al., 2020). Participants could notify me to withdraw by phone call or email any time during the process. I sought voluntary participants given that there were no payments, gifts, or reimbursements for participation in the study. Per the interview protocol, I reviewed the acknowledged informed consent form at the beginning of each interview and informed the participants of the risk involved in the research, noting that participation involved minimal risk.

Ethics are norms for conduct that distinguish between acceptable and unacceptable behavior (Goodwin et al., 2020). Researchers must maintain ethical standards to protect the safety, dignity, rights, and confidentiality of the participants

(National Commission for the Protection of Human Subjects and Biomedical and Behavioral Research, 1979). Adhering to ethical guidelines is essential in qualitative research involving human subjects (Goodwin et al., 2020). Researching according to recommendations in *The Belmont Report* is the minimum standard (National Commission for the Protection of Human Subjects and Biomedical and Behavioral Research, 1979). The construct of ethical research consists of principles and protocols that include privacy and confidentiality, data storage, prevention of conflict of interest, aversion of harm, participants' rights, and informed consent (Bannier et al., 2021). I refrained from researching until I received Walden University IRB approval, and adhered to the standards documented in the informed consent form to ensure the study is safe and protective for participants. The Walden University IRB approval number for this study is 11-12-21-0561701.

From a legal and ethical standpoint, risks to research participants' privacy must be identified and mitigated (Bannier et al., 2021). I excluded the names, addresses, and personal data of the participants from the published study to protect the identities of participants and assigned each participant an alphanumeric code such as P1, P2, etc. I stored the informed consent forms, interview recordings, and interview transcripts on a password-protected Universal Serial Bus (USB) and kept them in a locked safe. I will later destroy the USB drive with all information 5 years after completing the study by deleting each file. I will shred all paper documents and erase all audio recordings of the interviews 5 years after the completion of the study. I have excluded the names, addresses, and personal data of the participants from the published study to protect the

identities of participants and assign each participant an alphanumeric code such as P1, P2, etc.

Data Collection Instruments

The researcher is the primary instrument of data collection and is responsible for executing and developing the study (Yin, 2018). I served as a primary data collection instrument and I used a professional recording device to capture the participant's responses during interviews. I conducted semistructured interviews and reviewed company documentation under the interview protocol. In each interview, I followed the steps of the interview protocol asking the six open-ended semistructured interview questions listed in Section 1, probing for additional information as needed, and reviewing company documentation such as policies, process documents, or metrics reports. Before the interviews, participants reviewed and returned to me a consent form via email. Each interview lasted between 45 and 55 minutes, and all interviews were executed online. Qualitative researchers use documents to support the evidence collected from other sources (Yin, 2018). The company documents provided support for the information that was revealed in the interviews.

A semistructured interview is a standard instrument used for collecting data as well as gaining knowledge from individuals in a qualitative case study (Yin, 2018). A semistructured interview as an instrument of data collection when compared to other data collection techniques like questionnaires is more powerful in eliciting narrative data that allow researchers to investigate people’s views in greater depth (Monday, 2020). I interviewed the participants as part of the data collection process to gather detailed

knowledge from the participants to understand the phenomenon under study. A semistructured interview as a tool for social science data collection research helps to facilitate obtaining direct explanations for human actions through a comprehensive speech interaction (Monday, 2020). I conducted a semistructured interview to gather in-depth information about the topic. I conducted semistructured interviews while using other complementary methods such as obtaining company documentation to provide in-depth information about participants' inner values and beliefs. For instance, I used company documentation as a supplement to interviews to investigate participants' external behaviors and internal beliefs. Therefore, using more than one data collection instrument helped to obtain richer data and to validate the research findings.

To enhance the veracity, validity, and credibility of the data collection process, qualitative researchers use member checking (Liao & Hitchcock, 2018). I conducted member checking and review of the study results. Member checking is when the researcher paraphrases the participant's responses for each question into the researchers' own words, and then the researcher asks the participant to ensure that the researcher accurately interpreted the participant's intended message for each question (Korstjens & Moser, 2018). I sent to each interviewee a summary of the findings of the study to review and validate my interpretation of the data collected after completing the data analysis.

When data collection involves conducting qualitative interviews, the instruments include the researcher and the interview questions (Roberts, 2020). To be effective, the appropriate instruments need to be developed and used appropriately. Developing effective qualitative interview questions and interview protocols takes experience and

providing resources for novice researchers that support this type of learning not only supports skill development but also reduces the likelihood of making mistakes (Roberts, 2020). Novice researchers can take control and forget not only their role but also the purpose of the study, by asking questions that steer the interview in the direction of confirming their suspicions, thereby guiding the process in a way that validates their expectations instead of capturing the research participants' perspective (Roberts, 2020). I used the interview protocol as a boundary instrument to avoid collecting ambiguous information from the participants. I used an interview protocol to ensure a smooth, efficient, and accurate interview process.

Data Collection Technique

There are multiple techniques for qualitative data collection, such as interviews, multiple source documents, observations, site visits, and audio recordings to ensure reliable, efficient, and effective data collection (Yin, 2018). As per my interview protocol, I used a script to open and close the interview, collect informed consent, start with basics and steadily progress with open-ended questions following the sequence in my interview protocol for every respondent. I conducted in-depth semistructured interviews and reviewed multiple sources of information such as the website and relevant documentation of participants. The use of multiple sources for data collection provides the researcher with numerous data sources to collect and confirm data and provides for methodological triangulation, creating a convergence of evidence (Heesen et al., 2019). Systematic data collection techniques involving multiple sources allow the researcher to collect and examine data from various perspectives and ensure validity and rigor (Yin,

2018). When researchers establish validity and rigor in their studies, they affirm the trustworthiness of their results and the overall research project (Yin, 2018).

My primary data collection technique was the semistructured interview. Researchers often use the semistructured interview technique to allow flexibility, improve dialog with participants, and for the ability to ask follow-up questions to gain an in-depth understanding of a phenomenon (Yin, 2018). Researchers use semistructured interviews to allow participants to feel comfortable as it is neither too rigid nor too open and allow new questions if needed to be brought up during the interview session based on the answers given by the participant (Aung et al., 2021). Conversely, in a semistructured interview, both the participants and the researcher remain vulnerable to bias in the data collection process because of personal opinions, worldviews, or perceptions (Aung et al., 2021). I used member checking to mitigate the bias disadvantage that emerges from using the semistructured interview as a data collection technique. In addition, the interview protocol served as a guide to establish rapport, ask interview questions, and set time for summary comments. The protocol enabled an efficient and accurate interview process.

An audio recording is another important technique for use in the data collection process to ensure reliable, efficient, and effective data collection during the interview process (Rutakumwa et al., 2020). While some researchers may prefer to avoid the intrusiveness of a recording device, recording devices are used to ensure transcript accuracy and to remember all shared information by the participants while freeing the researcher to employ observations and observe physical and verbal cues more acutely (Yin, 2018). This audio technique enabled me to mitigate the limitations of not being able

to carry out visual recording and describe non verbal communication, such as gestures, visual body language, and other behavioral observations during virtual semistructured interviews. Further, audio recordings allow for coding, analysis, and member checking, which are all critical elements of data analysis and rigor (Rutakumwa et al., 2020). The audio recording is how I relistened to the information to ensure data credibility.

Qualitative researchers often request and use company documents as another source of information and data collection technique (Heesen et al., 2019). Researchers use company documents to qualify the information collected from interviews and enhance the dependability, credibility, and conformability of the data (Heesen et al., 2019). I reviewed supporting, publicly available company documents, such as company website data, company publications, and other information posted on the Internet to triangulate the interview data. Reviewing company documents is a means for researchers to confirm or refute the information gathered from participants during interviews (Yin, 2018). Document review and archival records are excellent sources of information, but researchers may not be provided unobstructed access, and relevant information may be difficult to find (Yin, 2018). Reviewing company documents includes inaccurate, incomplete, or inaccessible documents (Heesen et al., 2019).

Data Organization Technique

Researchers conducting a qualitative research study gather volumes of data; therefore, data organization is a paramount process (Yin, 2018). Qualitative fieldwork often generates a considerable amount of data using a variety of tools such as digital voice recorders, NVivo software, electronic files in Microsoft Word and Excel, and paper

files (Lester et al., 2020). The manual organization consists of printing, labeling, organizing relevant peer review sources, and collecting hard copy data (Lester et al., 2020). Once organized, documents can be digitized and archived to my computer in folders. Archival records consisted of transcribed interviews, digital recordings, corporate documents, and relevant correspondences. The data was coded with source information such as the participant identifier, data type, date, and time collected. Organizing data through labeling and categorizing provides continuity, confidentiality, and a virtual database for the study (Yin, 2018). Scholars should keep all physical copies of organized data stored in a secured location for safeguarding, while all electronic data should remain in password-protected files (Lester et al., 2020). I used Microsoft Word and Microsoft Excel to organize the collected data.

NVivo 11 is an electronic application used for grouping raw qualitative data into clusters, categories, and themes (Feng & Behar-Horenstein, 2019). Researchers use NVivo 11 to code data, perform structural analysis, retrieve and compare data, and display data for interpretation in an automated mode (Mortelmans, 2019). I used the NVivo 11 software application to categorize the collected data, perform structural data analysis, retrieve, compare, and visualize data for interpretation. First, I uploaded the interview transcripts into the NVivo 11 application to obtain computerized results for data disassembling and reassembling. Secondly, I used NVivo 11 to compare and contrast the automated result to identify emerging patterns and themes. Finally, I used the NVivo 11 application to group the themes and track the ideas from the findings. Researchers use NVivo 11 application to organize data, analyze volumes of information into segments,

and identify themes (Yin, 2018). Researchers prefer using NVivo 11 in a qualitative study because of the compatibility with a Microsoft Office application (Yin, 2018). I used NVivo 11 to organize, analyze, and identify themes from the data collected.

Data Analysis

Data analysis is the systematic review of the data collected, interpretation of the data, and the unveiling of underlying meanings from the data (Lester et al., 2020). The value of structuring data analysis in phases is that it creates a transparent process for both the qualitative researcher and ultimately the reader of a given research report (Lester et al., 2020). Yin (2018) recommended five phases of data analysis: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding. I followed Yin's five phases while using methodological triangulation. Methodological triangulation is the use of multiple methods simultaneously in the belief that where one is uncertain about the reliability of any given method if multiple methods yield the same answer that answer is confirmed more strongly than it could have been by any single method (Heesen et al., 2019). Commonly, researchers use methodological triangulation, coding, and thematic analysis as data analysis techniques (Vaismoradi & Snelgrove, 2019). I accomplished methodological triangulation by gathering data through conducting semistructured interviews and reviewing company documentation.

The compiling phase involves preparing and organizing the data to create a database (Castleberry & Nolen, 2018). Compiling the data into a useable form is the first step to finding meaningful answers to the research question (Castleberry & Nolen, 2018). This entails gathering all of the audio-recorded interview files into one location,

converting observational notes to electronic format, and scanning documents retrieved in paper form (Lester et al., 2020). Researchers collect data from multiple sources to use methodological triangulation as a means of qualitative data analysis and data compilation (Heesen et al., 2019). I used Microsoft Excel to create a file database. I followed a structured naming protocol for each file and produced a master data catalog to set up the data set so that it could be imported into the NVivo qualitative data analysis software package. I carried out initial analysis to take note of the ideas or experiences described by participants that appeared in interviews, recorded in observation notes, or described in documents. Familiarity with the corpus of data enabled me to be aware of the limitations or gaps in the collected data and this inspired further data collection or marking of these gaps as areas for further research (Lester et al., 2020).

The disassembling phase involves separating the compiled data into meaningful fragments and labels (Castleberry & Nolen, 2018). After proper compilation of data to create a database, researchers categorize and label data in different parameters, such as date, time, source of information, and themes (Castleberry & Nolen, 2018). This process is often done through coding. Coding is the process by which raw data are gradually converted into usable data through the identification of themes, concepts, or ideas that have some connection with each other (Castleberry & Nolen, 2018). Coding involves researchers identifying similarities and differences in the data. The activity of coding involves identifying interesting features of the data systematically across the entire data set and occurs at multiple levels (Castleberry & Nolen, 2018). I used bracketing to mitigate predisposition and biases in the collected data and enhance rigor. Bracketing is

setting aside the everyday attitudes, theories, and preconceptions, and assuming a mindset of which nothing is taken for granted when examining a phenomenon (Husserl, 2012). I used different color-coding and bracketing to identify the emerging themes and to organize the data. I used tables from Microsoft Excel and NVivo software to categorize and label the compiled data (Feng & Behar-Horenstein, 2019).

The reassembling phase involves clustering and categorizing the labels into sequences and groups (Castleberry & Nolen, 2018). The codes, or categories to which each concept is mapped, are then put into context with each other to create themes (Castleberry & Nolen, 2018). A theme captures something important about the data concerning the research question and represents some level of patterned response or meaning within the data set (Castleberry & Nolen, 2018). Researchers use NVivo 11 software for grouping data in clusters and automatic coding of the data (Feng & Behar-Horenstein, 2019). Researchers upload data into the NVivo 11 application to allow automatic processing of the data to identify alignments, trends, and emerging themes (Mortelmans, 2019). I uploaded raw data from the USB drive into the NVivo 11 application to automatically process the data to detect trends and patterns, and to establish key themes.

The interpretation phase involves assigning meaning to the reassembled data and determining conclusions, significance, and the implications of the findings (Mortelmans, 2019). This critical stage in the research process involves the researcher making analytical conclusions from the data presented as codes and then themes (Castleberry & Nolen, 2018). Thematic analysis of the data facilitates the interpretation of current

research concerning existing research (Yin, 2018). When using the five stages of data analysis, researchers should consider the research question and critically think about how the collected data relates to the information in the literature review (Yin, 2018). Correlating themes from data analysis to other published studies and the conceptual framework demonstrates alignment and rigor in qualitative research (Yin, 2018). Furthermore, as part of the five-stage data analysis process, I compiled the data from the interviews and company documentation and identified key themes through the iterative process of disassembly and reassembly. The focus of data interpretation is to relate the established themes to the conceptual framework and the literature review as well as to generate new ideas and knowledge (Yin, 2108). I drew and reported my conclusions based on the data interpretation.

The conclusion phase involves responding to the research questions or purpose of the study (Castleberry & Nolen, 2018). Researchers using the qualitative approach conduct data analysis to identify key themes, develop the findings of the study, and relate the key themes to the conceptual framework and the existing body of literature (Lin et al., 2014). Noting how the key themes and findings confirm or refute the findings of previous researchers is an important activity of a researcher (Lin et al., 2014). I identified key themes through detecting and classifying the reoccurring ideas, phrases, and words drawn from the participants' interview responses, additional information gathered in member-checking sessions, and secondary data sources. I compared and contrasted the emergent themes to the published findings of other researchers.

Reliability and Validity

Reliability refers to the soundness of the research, particularly concerning the appropriate methods chosen, and how those methods were applied and implemented in a qualitative research study (Rose & Johnson, 2020). Validity refers to the process of determining the fidelity of the findings from the standpoint of the researcher, the participants, and the consumers of the research (Lincoln et al., 2013). The demonstration of trustworthiness issues in qualitative studies through particular techniques of reliability and/or validity is often either non existent, unsubstantial, or unexplained (Rose & Johnson, 2020). Trustworthiness in qualitative research refers to the systematic rigor of the research design, the credibility of the researcher, the believability of the findings, and the applicability of the research methods (Johnson & Parry, 2015). Rather than just prescribing what reliability and/or validity should look like, researchers should attend to the overall trustworthiness of qualitative research by more directly addressing issues associated with reliability and/or validity (Rose & Johnson, 2020). Researchers conducting a qualitative case study strive for dependability, credibility, confirmability, and transferability of the data and the findings of the study (Yin, 2018). Although often considered as single-event occurrences, reliability and validity processes should occur throughout the qualitative research process, as should concerns and expositions about researcher subjectivity and reflexivity (Johnson & Parry, 2015).

Dependability is an evaluation of the quality of the integrated processes of data collection, data analysis, and the entire research process (Yin, 2018). Researchers use methodological triangulation and member checking as a method of strengthening the

dependability of the study (Heesen et al., 2019). To highlight the active roles of participants in contributing to the research, member checking can be engaged as a process of validity where researchers involve participants' processes of correcting and reorienting researchers and the developed qualitative data to produce more representative analyses of social phenomena (Rose & Johnson, 2020). Triangulation involves recognizing multiplicity and simultaneity of cultural frames of reference providing a plurality of techniques to best ensure accurate description and presentation of a given situation (Rose & Johnson, 2020). I used member checking and methodological triangulation to strengthen the dependability of this research.

Credibility in qualitative research refers to the overall believability of a study or the degree to which research outcomes are accurate (Yin, 2018). Researchers strengthen credibility by providing an accurate description and interpretation of the information gathered from the participants (Nicholas et al., 2016). To complete member checking, I had participants review the interpretation of the transcripts to confirm accuracy, clarify responses, and provide additional information. In most cases, a good interpretation of the participants' responses is more important than agreement or disagreement with the findings (Rose & Johnson, 2020). Researchers also use purposive sampling to strengthen the credibility of a qualitative study (Yin, 2018). I used purposive sampling and member checking to enhance the credibility of my study.

Researchers achieve transferability when they provide a detailed description of the research study participants and processes used when researching so the reader can decide whether to use the study or not as per their setting (Korstjens & Moser, 2018). The

researcher must ensure that the research study has sufficient information, such as time, place, and individuals for the reader to determine whether to use the study findings (Abdalla et al., 2018). Researchers enhance transferability by providing detailed documentation of data collection methods and analyses and ensuring data saturation (Yin 2018). For this study, I provided a detailed description of data collection tools and procedures, participants, and research findings.

Confirmability of the study pertains to the ability of other researchers to confirm the study and ensure that the study's findings are derived from the data and not the researcher's imaginations (Korstjens & Moser, 2018). The concept of confirmability in a qualitative study depicts the accuracy and genuineness of the study's processes and findings (Korstjens & Moser, 2018). Researchers achieve research confirmability when they avoid biases in the data (Lyons et al., 2018). To strengthen the confirmability of the study, researchers should consistently document methodological procedures, aided by the development of detailed study protocols and a database, so that others can follow similar procedures (Yin, 2018). Researchers should search for theories, data, or discrepant information that run counter to themes or analyses developed in the research (Rose & Johnson, 2020). By presenting data and evidence that both support and contradict general perspectives of a theme, researchers increase the validity of the claims they make through their research (Rose & Johnson, 2020). Detailed documentation of research processes and procedures is a means of improving the confirmability of the findings (Korstjens & Moser, 2018). I documented all the research processes and procedures, including data

collection, analysis, and interpretation to maintain an audit trail as a means of ensuring confirmability.

Researchers also assert the validity of a qualitative study by attaining data saturation (Sechelski & Onwuegbuzie, 2019). Researchers collect data through structured interviews and validate the qualitative study by interviewing more people until reaching data saturation (Jin et al., 2018). I reached data saturation by continuing to interview agribusiness supply chain managers until no new themes or information emerged. The use of multiple sources for data collection provides the researcher with numerous data sources to collect and confirm data and provides for methodological triangulation, creating a convergence of evidence while establishing validity and reliability (Heesen et al., 2019). I reviewed supporting, publicly available company documents, such as company website data, company publications, and other information posted on the Internet to triangulate the interview data (Heesen et al., 2019). Reviewing company documents is a means for researchers to confirm or refute the information gathered from participants during interviews and enhance reliability and validity.

Transition and Summary

In Section 2, I described the research methodology, process, and procedures. I restated the purpose of the study, described my role as the researcher, and discussed the sampling method. I explained the participants' eligibility criteria, research method and design, population and sampling, and research ethics. I described the data collection instruments and techniques, data analysis procedures, and the means to ensure reliability and validity. I explained the proposed procedures to reach data saturation. In Section 3, I

discuss the findings and results of this research study in the application to business practices and implications for social change. I describe personal reflections and make recommendations for business practices and future research.

Section 3: Application to Professional Practice and Implications for Change

In Section 3, I provide an overview of the study, present the findings, and discuss the potential applications of my research to professional practice. In addition, I include the implications for social change and the recommendations for action and further study. Finally, the conclusion encompasses the closing statements for the study.

Introduction

The purpose of this qualitative multiple case study was to explore the strategies that agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability. I conducted semistructured individual online interviews with six agribusiness supply chain managers and directors from multiple organizations who had operated in Cameroon and had developed sustainable supply chain links with local producers for more than 5 years (see Table 1). The final source of data comprised pertinent company sustainability policy, supply chain procurement policy, and documents from five companies. From the analysis of the data collected from the interviews and the review of administrative documents, four themes emerged: (a) forecasting and planning deliveries from local producers, (b) stakeholder engagement and communication, (c) organizing and coordinating value chain operations, and (d) financial management.

Presentation of the Findings

The research question for this multiple case study was the following: What strategies do agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability?

Table 1

Participants' Demographic Data

Participant code	Organization code	Agribusiness experience (years)	Function in organization	Previously developed sustainable supply chain link strategies (yes/no)
L1	O1	12	Supply chain manager	Yes
L2	O2	12	Supply chain director	Yes
L3	O2	10	Supply chain manager	Yes
L4	O3	16	Supply chain director	Yes
L5	O4	12	Supply chain manager	Yes
L6	O5	17	Supply chain manager	Yes

Theme 1: Forecasting and Planning of Deliveries From Local Producers

The first theme that emerged from the data analysis was forecasting and planning for deliveries from local producers. The data from participants' interviews and document review revealed that two strategies were used by participants to ensure efficient forecasting and planning of deliveries from local producers. These were (a) adopting integrated planning and (b) delivery risk assessment and management. These strategies were implemented to ensure that local producers delivered the quality and quantity of production inputs required by buying organizations.

Adopting Integrated Planning

L1, L2, L3, L5, and L6 recognized the importance of adopting integrated planning of volume requirements with local producers. The integrated plan entails matching the

output production plan of local producers with the input consumption plan of the buying organization to take appropriate actions on delivery gaps identified. L5 stated,

> We did an integrated plan with our local supplier for a good understanding of our volume and quality requirements by the local producer and our understanding of the capacities of the local suppliers. We proceeded with alternative sourcing strategies to close the capacity gap identified during the planning process with the local suppliers. We imported additional volumes to address this concern.

L6 used an enterprise resource planning system (ERPS) to deduce production inputs and purchasing plan volumes from the sales forecast plan. This was consistent with the strategy adopted by L2, who stated that "I establish an annual purchasing plan with estimated delivery periods according to a sales forecast before sharing the plan with local producers." The demand planning functionalities in the ERPS enabled L6 to conveniently match the agreed local producer's delivery plan to the volume consumption plan and identify projected delivery gaps. L6 stated that frequently sharing this information with local producers provided visibility on the monthly consumption volumes over a 3- to 12-month period for various production inputs.

L3 was also able to forecast cost savings due to integrated corporate planning mechanisms with local producers. L3 stated that "the integrated plan made it easier for local suppliers to understand the reasons for changes in the volume requirements every time there was a sudden change in the production plan." Such a level of synergy facilitates renegotiations emanating from operational changes. L5 mitigated possible changes in the production plan by managing activities very closely with local producers

to ensure that local producers had enough warehousing facilities to build up the stock required by O4 during peak production. L1, L2, and L6 organized annual planning meetings with local producers to get assurance on the capacity of the local producers to meet volume requirements. In addition, L1 had annual workshops with other company subsidiaries to align on the most suitable global regional sourcing strategy. L1 was also able to forecast cost savings due to integrated corporate planning mechanisms with local producers based on mutually agreed prices on volume commitments.

L5 matched the monthly deliveries of production inputs from the local producer to the monthly consumption of O4. L5 stated that this led to optimized cash flow movements, minimum storage provision, and better control of the shelf life of the production inputs. A combination of the economic order quantities (EOQ) determination and efficient demand forecasting with local producers minimizes the bullwhip effect when local producers are engaged to stock the required commodities.

Delivery Risk Assessment and Management

All participants carried out some form of risk assessment, intending to respond to delivery constraints. L1, L2, L3, and L6 adopted a multiple local producers sourcing strategy in instances wherein a local producer could not deliver the demanded production input volume. Although this approach absorbed the volume limitation risk to a lesser extent, L6 highlighted that this strategy resulted in difficulties in standardizing the quality of the commodities and price variations across the multiple local producers. L6 stated, “I determined the volume commitment with an incumbent local producer based on historic

delivery trends; meanwhile, volume commitment with new local producers was done piece-meal."

L3 noted that multiple local producers' sourcing strategy was a solution in instances wherein multiple buying organizations had engaged the same local producer for the same commodity, resulting in disruptions in supply chain orientation. This approach also enabled the buying organization to benefit from the value of providing financial support such as advance payments to the local producers. L6 engaged multiple local producers for the same production input of O5 to maintain the same quality specification standards. Deliveries were done with technical specification sheets, which contained information on different quality specification parameters for each commodity. L2 also developed commercial relationships with more than one local producer for the same commodity to mitigate the risk of out-of-stock situations and non respect of delivery timelines. L6 stated, "The performances of the local producers are monitored every month following a supplier performance management scorecard." L6 noted that this scorecard contains key performance indicators on different aspects of delivery such as quality compliance rating, quantity fulfillment percentage, timeliness rating, and governance.

L1, L2, L3, L5, and L6 all indicated that long-term contractual agreements with volume commitments were put in place with local producers as part of the business strategy to build sustainable relationships with local producers. L3 noted that the first step in demonstrating the willingness of O2 to provide support to local producers is expressing the desire to go into a contractual agreement. L3 commented that a long-term

contractual agreement with local producers enabled O2 to implement an agreed action plan to enhance the quality and the volume of raw materials demanded from suppliers. Such action plans were geared at ensuring compliance to contract terms and a responsibility matrix.

L3 noted that local producers obtained financing to increase production capacity given that there was a long-term contractual agreement with a buying organization. L1 also highlighted that long-term agreements with volume commitments created the possibility for local producers to consider investing in irrigation systems during the dry season to ensure harvest twice a year instead of once a year. L6 stated, “The key to determining whether the strategy with local suppliers is good is by ensuring both parties are into a win-win partnership.” L4 stated, “A win-win relationship with local producers was the baseline to guarantee the sustainability of operations with the local producers.” L4 voiced that mutual expectations were considered in the long-term agreements with local producers to ensure a win-win relationship for both parties. L3 revealed that sustainable partnerships with some local producers resulted in the guarantee of supply of seasonality production inputs throughout the year.

All participants took local producers through a supplier prequalification process before committing volumes with the local producers. Local producers were assessed against predetermined criteria such as the capacity to meet volume requirements. L3 stated, “The flexibility with the local producers in addressing the demands was feasible due to the level of due diligence exercised in selecting the local producers.” L1, L2, and L3 commented that the prequalification process resulted in the categorization of local

producers based on their delivery capacity and operating model. L3 noted that this strategy enabled the local producers to focus on their core competence instead of managing the additional challenges that come with handling logistics services. L3 resorted to using the logistics network of O2 to pick up commodities from the site of local producers for better tracking and transportation conditions.

My examination of the supporting document, *Sustainable Agriculture Guidelines*, from O1 revealed that O1 expected suppliers to understand O1 standards and help drive the application of the standards through their supply chain to the farms where O1's raw materials were grown. This is consistent with standards achieved by adopting an integrated plan and defining quality specification standards in long-term contractual agreements. O1 was a member of the Sustainable Agriculture Initiative (SAI) platform. O1 had adopted SAI's Farm Sustainability Assessment (FSA) tool as O1's reference to assess sustainability within O1's agricultural supply chains and drive improvements.

My examination of the supporting document, *Responsible and Sustainable Sourcing of Palm Oil*, from O4 revealed that O4 strived to procure only palm oil and palm oil derivatives certified by a roundtable on sustainable palm oil (RSPO) or equivalent standard. This document revealed that the policy requirements of O4 were beyond the RSPO principles. This supporting document revealed that O4 gave preference to local producers whose palm oil and palm oil derivatives had been verified by an independent third party against a standard that met the expectation of the RSPO principles. This preferential approach was in line with the supplier prequalification process before committing volumes with the local producers.

Correlation to the Literature

The findings in Theme 1 aligned with findings in the existing literature. Kamble et al. (2020) highlighted that agribusiness supply chain visibility for any firm is achieved from the information being collected from the downstream and upstream activities of the supply chain and includes data related to the actual sales, forecasted demand, customer preferences, reactions, inventory, manufacturing, and delivery lead times. Supply chain managers engage in proactive planning and risk mitigation to ensure business continuity through proper resilience management activities (Pournader et al., 2020). The alignment of the goals of different actors throughout the supply chain operations increases the value of a good or service for a final customer (Vilalta-Perdomo & Hingley, 2018).

Supply chain risk management partially mediates the relationship between internal integration and operational performance and fully mediates the association between supplier and customer integration and operational performance (Munir et al., 2020). There is a positive relationship between supplier social sustainability practices and supply chain performance mediated by supplier performance management (Mani et al., 2018). Supply chain integration is useful in the sense that it enables an organization to cooperate with partners of the supply chain and supportively regulates internal and external organizational practices to accomplish proficient movements of products, services, data, finance, and decisions with the aspiration of rendering paramount value to its customer (Sutduean et al., 2019). The integration of agricultural production with the secondary and tertiary sectors will ensure a higher degree of marketability of agri-food products (Cvijanović et al., 2020).

Correlation to the Conceptual Framework

The findings in Theme 1 aligned with the VBSC model. VBSCs represent long-term relationships among firms with shared values committed to the long-term sustainability of all of the partners in the supply chain (Hooks, Macken-Walsh, et al., 2018). There was consensus among L1, L2, L3, L5, and L6 that long-term contractual agreements with volume commitments were put in place with local producers as part of the business strategy to build sustainable relationships with local producers. Each actor in the VBSC is considered a partner, rather than the usual vendor–buyer relationship that dominates in a conventional supply chain approach (Stevenson & Pirog, 2008). L4 voiced that mutual expectations were considered in the long-term agreements with local producers to ensure a win-win relationship for both parties. VBSC is characterized by partnerships throughout the supply chain from producers to buyers and shares a commitment to environmental, social, and economic values (Hooks, Macken-Walsh, et al., 2018).

Planning and synchronizing operations are fundamentally essential to ensure understanding of the sustainability in supply chains by all VBSC partners (Brekken et al., 2019). There was consensus among L1, L2, L3, L5, and L6 on the fact that integrated planning of volume requirements with local producers is essential in developing sustainable supply chain links with local producers. Managers use the VBSC to process, market, and distribute a significant volume of food products that are differentiated by locality, quality, environmental, social, or health claims; and distribute profits equitably among supply chain participants, including producers (Hooks, Macken-Walsh, et al.,

2018). L6 used an ERPS to deduce production inputs and purchasing plan volumes from the sales forecast plan. Managers consider technology as well as environmental and social sustainability perspectives in order to create VBSCs (Mangla et al., 2020).

Theme 2: Stakeholder Engagement and Communication Factors

The second theme that emerged from the analyzed data was stakeholder engagement and communication. The analysis of data from participant interviews and document review revealed five factors considered when engaging and communicating with stakeholders in the value chain: (a) promoting transparent communication, (b) implementing fair pricing, (c) soliciting government arbitration, (d) promoting recruitment of quality human resources, (e) ensuring food security.

Promoting Transparent Communication

L6 stated that promoting transparent communication amongst the different stakeholders in the value chain with local producers eliminated the adverse impact of decision making based on unreliable information. L6 stated, “We put in place a communication platform with the local producers and other relevant stakeholders to facilitate the real-time and accurate exchange of information between the stakeholders on the value chain.” L4 stated, “I preferably work with local producers who have good ethics and a transparent approach to doing business as they are the most reliable local producers.” Working with such local producers made decision making easier for L4. L6 noted that it was easier to agree on financing terms with local producers who practiced transparent communication. The communication platform put in place at O5 was useful in obtaining credible information required to make financing decisions.

A perusal of the company document, *Responsible and Sustainable Sourcing of Palm Oil*, from O4, revealed transparency in the sourcing of palm oil at O4 is key to understanding and addressing risks. This document revealed that O4 was committed to collaboration with palm oil suppliers to achieve 100% transparency and traceability in the palm oil, and palm oil derivatives supply chain. L6 highlighted the criticality of promoting transparent communication amongst the different stakeholders in the value chain with local producers to avoid decision-making based on unreliable information. This company document revealed that transparency was critical to support on the ground supplier transformation work, assess risk and evaluate the supplier's compliance to policy requirements.

Implementing Fair Pricing

L1, L3, and L4 noted that implementing fair prices with all stakeholders contributing to the value chain with local producers was essential for the sustainability of business operations. L1 carried out a periodical analysis of the price trend of production inputs as a result of seasonality changes to ascertain that applicable prices were fair to all parties in the value chain at every point in time. L4 stated:

> We promote a fair pricing structure with local producers in the coffee and cocoa sectors. Local producers of coffee and cocoa must not be paid less than the market fair price of their outputs if sustainability of supply must be maintained.

L4 stated: "Our primary goal is to purchase the right commodity at the right price at every point in time." L3 mentioned: "The practice of fair pricing facilitates the establishment of trust with local producers on the exchange of market information."

My examination of the supporting document, *Sustainable Sourcing Policy*, from O3 revealed that O3 expects all O3 business partners to conform with all applicable fair trade, competition, and anti-trust laws and regulations and not to have any anti-competitive discussions or enter into any anti-competitive agreements, including illegal price-fixing, market sharing, customer allocation or other illegal restrictive practices, at any level of the production or distribution supply chain. There was a consensus between L1, L3, and L4 that implementing fair prices with all stakeholders contributing to the value chain was essential for the sustainability of business operations. The implementation of fair trade was consistent with the declaration of L4 to purchase commodities from local producers at the right price.

My examination of the supporting document, *Partnering with Suppliers*, from O1 revealed that O1 was committed to doing fair trade. O1 recognized the importance of building strong partnerships with local producers to fulfill O1's ambition of becoming one of the best performing, most trusted, and respected consumer products. L1 carried out a periodical analysis of the price trend of production inputs to ascertain that applicable prices were fair to all parties in the value chain at every point in time.

Soliciting Government Arbitration

L1 and L6 mentioned that soliciting government arbitration played a positive role in facilitating business operations with local producers. L6 through O5's management had engaged the government to facilitate access to scientific research services with the government-accredited institution. This resulted in a partnership between O5 and the agriculture research institute for development (ARID). ARID is the government

institution responsible for research in the domain of agriculture. Local producers enhanced precision agriculture techniques from studies carried out by ARID within the context of existing partnerships. This resulted in an amelioration of the quality of grains purchased for industrial consumption. L6 stated: “We realized that working hand in glove with the research institute lead to the resolution of a lot of quality issues with grains. We now consume grain varieties that are more resistant to diseases.”

L6 stated: “We have also engaged the government to grant tax subsidies based on volume consumption of locally produced agricultural commodities.” The assumption in this context is that the request for tax subsidies resulted in tax savings, which could be reinvested in the resolution of supply chain issues with local producers. L6 voiced: “Tax subsidies will open the door for injection of more capital in locally sourced raw materials and consequently community economic growth.” L1 stated: “We got into a partnership with the government to address tax subsidies issues and elimination of contraband of goods.” Requesting government support to stop the proliferation of contraband goods of O1 mitigated the sudden change in volume requirements across the value chain.

L1 stated:

> We engaged the government competent authorities on the relevance of additional tax subsidies for local purchases of agricultural commodities given that we have to pay suppliers advance payments for the purchase of farm inputs. The cost of imported farm inputs such as fertilizers and pesticides represents a significant amount in the cost breakdown of local producers.

The tax subsidy in this context may represent the opportunity cost of the local producer borrowing equivalent amounts of advance payment at the bank interest rate.

L4 and L5 both indicated that buying organizations solicited the government land tenure institutions to arbitrate the process for the acquisition of farmland by local producers. L4 noted that the cultivation of agricultural commodities on deforested land attracts criticisms from nature conservation NGOs. The process for the acquisition of farmland adversely impacts the reputation of the buying organization if poorly managed.

My examination of the supporting document, *Sustainable Agriculture Guidelines*, from O1 revealed that O1 holds the same high standards for all suppliers, regardless of geography or size. O1 took a collaborative approach that emphasizes sustainability on farms and in communities as a long-term mutual goal. O1 worked together with local producers to establish a rigorous but achievable strategy to meet these goals, alongside other partners, such as aggregators, governments, and NGOs. L1 highlighted that there was an existing partnership agreement with the government to address tax subsidy and contraband issues.

My examination of the supporting document, *Sustainable Sourcing Policy*, from O3 revealed that O3 was committed to driving positive change in the supply chain with the local producers through the protection of land use rights of communities and traditional peoples. O3 expected its business partners to commit to respect the rights and title of individuals and local communities, including indigenous communities, to their land and natural resources and prohibit land acquisitions that were not based on a thorough assessment or are in disregard of social, economic, and environmental impacts,

including the way they were gendered. O3 expected its business partners to comply fully with all applicable local and national legislation for land use, respect and protect customary land tenure rights and prohibit any land grabbing approaches. L4 solicited with the government land tenure institutions to arbitrate the process for the acquisition of farmland by local producers.

A perusal of the company document, *Responsible Procurement Policy*, from O4 revealed that O4 was committed to respect the legal or customary land-tenure and use rights of indigenous and local communities, as well as their rights to give or withhold their free, prior, and informed consent for operations affecting their land or resources. Local growers in O4's supply chain were expected to demonstrate legal title for the property where production inputs originate, including official documents demonstrating the farm boundaries. L5 solicited the government land tenure institutions to arbitrate the process for the acquisition of farmland by local producers.

Promoting Recruitment of Quality Human Resources

L4 stated local producers had to provide information on the quality of human resources recruited for O3 business operations. The objective was to appreciate the capacity of local producers' resources to translate strategic directives into actionable plans base on O3 quality specifications and volume requirements. L4 noted that verifications were frequently done with local producers to ensure there was no use of child labor as part of human resources. L4 stated: "Our Field Supervisors do spot checks with local producers to make sure there is no use of child labor."

L4 commented that aligning stakeholders to a common vision led to optimization of resources and better synergy along the value chain with local producers. L4 stated:

> The training of supply chain stakeholders in value chain principles and knowledge is indispensable in raising the quality of services rendered across the value chain. Training workshops organized by our company enable us to align all stakeholders along the value chain to a common vision. Aligning stakeholders to a common vision leads to optimization of resources and better synergy.

L1 stated that quality assurance training and engagement programs were organized with different stakeholders in the value chain from the seed suppliers to the production input receptionists. L1 noted that the quality assurance training programs were designed to address quality issues to reinforce respect of planting techniques, good harvesting methods, acceptable storage conditions, and adapted types of logistics required to preserve the quality of the output of local producers. L1 indicated the specific training with farm cooperatives was to create awareness on the importance of matching complementary seed variants and farm inputs based on laboratory soil analysis with the support of ARID.

My examination of the supporting document, *Sustainable Sourcing Policy*, from O3 revealed that O3 is committed to driving positive change in the supplier value chain by ensuring no forced labor, no child labor, and enhanced livelihoods for smallholders and their communities wherever possible. L4 highlighted that spot checks were carried out to ensure there was no use of child labor. O3 highly values fair treatment of employees and supports fundamental human rights for all people. Young workers should

not be allowed to undertake duties that are exposed to undue physical risks that can harm physical, mental, or emotional development.

Ensuring Food Security

The data analysis of interviews from participants revealed that some production outputs from local producers such as different types of grains are staple food items. L3 stated that regulatory requirements stipulate that household consumptions should be prioritized over industrial consumption for some agricultural commodities to ensure food security. L3 noted: "We only procure the excess locally resourced raw materials allocated for industrial consumption." L3 stated that O2 developed the value chain for starch source commodities such as maize grits that were not frequently conflicting with the regulatory requirements on food security to guarantee the sustainability of supply from local producers. L3 however imported additional maize grits when local capacity could meet O2 volume requirements.

Correlation to the Literature

The findings noted in Theme 2 aligned with findings in the existing literature. Brönner et al. (2020) suggested that the selection of employees must aim at building long-term relationships and trust. Local producers had to provide information on the quality of human resources recruited for O3 business operations. Ma et al. (2019) noted that agri-business development requires new skills to accommodate the ongoing digital revolution within African agriculture and its rapidly expanding chains. L1 organized quality assurance training and engagement programs with different stakeholders in the value chain. Agribusiness plays a crucial function in economic transformation through

the development of agro-based industries and the provision of employment and income (Soetriono et al., 2020). Direct and indirect jobs were created across the value chain O5 as a result of sourcing from local producers.

Kamble et al. (2018) recommended that IoT has the potential to augment the sustainability of the agribusiness supply chain through improved communication, coordination, and cooperation between nodes of the supply chain. L6 put in place a communication platform with the local producers and other relevant stakeholders to facilitate real-time and accurate exchange of information. Agribusiness supply chain visibility is not only the availability of the information but is also determined by the accuracy of the shared data, timeliness, usefulness, and the structure of the data (Kamble et al., 2020). L6 noted that real-time availability of information and accuracy of shared data was crucial in making favorable decisions.

van Meijl et al. (2020) found that food security is not just the quantity of food available, but also the ability to access it physically and financially that matters, along with the ability to utilize food well through good processing and preparation practices. L3 only procured the excess locally resourced raw materials allocated for industrial consumption given that regulatory requirements stipulate that household consumptions should be prioritized over industrial consumption for some commodities produced by local producers to ensure food security. Chitchui (2019) argued that a provision of food for the local population will be competing with a provision of agribusiness production inputs resulting in tensions between commercial interests, local communities, and conservation priorities.

Correlation to the Conceptual Framework

The findings in Theme 2 aligned with the VBSC model. Agribusinesses use VBSC as a communication channel since their values are supported through the supply chain (Stevenson et al., 2011). VBSC depends on excellent cooperation and information flow between chain members during growth, aiming to provide transparency (Brekken et al., 2019). The implementation of transparent communication amongst the different stakeholders surfaced as a key strategy used by participants. VBSCs are useful to capture values and to further share values among the population of a certain region (Brekken et al., 2019).

VBSC promotes fair pricing. VBSCs embody values of sustainability, equity, and fair pricing (Burmeister, 2017). VBSCs are characterized by equitable power relations and are used by organizations to guarantee fair prices across the value chain (Stevenson & Pirog, 2008). There was a consensus between L1, L3, and L4 that fair prices must be implemented with all stakeholders contributing to the value chain for the sustainability of business operations. VBSCs provide market access for a local producer that better meets their size of production, as direct market options tend to move small amounts of product, and commodity markets often provide prices at or below the cost of production for local producers (Stevenson & Pirog, 2008).

Theme 3: Organizing and Coordinating Value Chain Operations

The third theme that emerged from the analyzed data was organizing and coordinating value chain operations. The analysis of data from participant interviews, and the documents review revealed four strategies used by participants to organize and

coordinate value chain operations: (a) aggregating local producers, (b) developing customized logistics solutions, (c) insuring against unforeseen events, and (d) reducing environmental pollution.

Aggregation of Local Producers

L1 proceeded with the aggregation of local producers into farm cooperative unions for better governance and coordination. The aggregation of local producers into farm cooperative unions made it easier to plan, communicate and coordinate operational activities with local producers. L1 developed farm cooperative unions with almost 4,500 registered farmers. L1 commented that this operating model enabled the farmers to focus on their core competence. L1 stated:

> The farm cooperative union seeks funding from cooperative financing institutions to finance the acquisition of equipment and farm inputs for the benefit of all farmers. The aggregation of local producers resulted in optimum utilization of grains cleaning plant purchased by the farm cooperative union. The aggregation of local farmers under a farm cooperative union makes the consolidation of farm outputs more efficient.

The optimum utilization of a cleaning plant is imperative to positively impact the return on the investment.

My examination of the supporting document, *Sustainable Agriculture Guidelines*, from O1 revealed that O1 has a partnership with Tier 1 suppliers, aggregators, processors, or cooperatives with whom O1 have a direct relationship for the supply of raw materials, and who in turn, have a direct or indirect relationship with farmers (they may source

directly or through other intermediaries). L1 proceeded with the aggregation of local farmers under a farm cooperative union.

My examination of the supporting document, *Partnering with Suppliers*, from O1 revealed that O1 expects local producers to allow employees the freedom of association and collective bargaining under applicable laws and regulations. L1 proceeded with the aggregation of local producers into farm cooperative unions to better plan, communicate and coordinate operational activities with local producers.

Developing Customized Logistics Solutions

L1 engaged specialized logistics service providers to pick up commodities from the site of the local producers. L1 noted that this approach however required stringent coordination and communication. L1 stated: "Specialized logistics service providers were best placed to transport farm outputs at desired conditions throughout the transit process." L5 was also of the opinion that specialized logistics service providers had trucks adapted to go through the poor transport network. L6 organized the value chain with local producers by assigning tasks to specialized service providers.

Insuring Against Unforeseen Events

L1 and L4 stated that civil liability insurance documentation was requested from local producers as part of the supplier prequalification process. L4 noted that civil liability insurance is a legal requirement to compensate another party for causing them some form of bodily injury or property damage. L1 in addition to the civil liability insurance also requested a warehouse goods insurance certificate. L1 stated:

> Farm cooperatives need to maintain acceptable health and safety standards to be eligible for affordable insurance. There is no available insurance coverage for agricultural activities to mitigate unforeseen natural disasters events such as floods, extensive dryness, and pests' infestations.

L4 stated: "We pay goods insurance for all raw materials transported by transporters." L4 highlighted that goods insurance for commodities being transported was only valid when the trucks were insured and had a road safety worthiness certificate. As such, vehicle road safety and truck insurance documentation was requested by L4 when contracting transporters. L1 stated: "The implementation of insurance policies was a mitigation action plan for uncontrollable risks identified in a risk matrix assessment process." L1 developed alternative supply chain links for the same commodity as part of a business continuity action plan to mitigate unforeseen events. L1 carried out a SWOT analysis and root-cause problem-solving strategies at O1 to identify weak supply chain links that needed to be fixed along the value chain with local producers.

My examination of the supporting document, *Partnering with Suppliers*, from O1 revealed that O1 expects suppliers to conduct routine and dynamic risk assessments to effectively mitigate existing and emerging risks. O1 local producers should have robust management of change processes and systems in place to ensure any emerging or anticipated health and safety-related changes in their sector are effectively managed, assessed, and suitable controls measures implemented to safeguard their organization and people. This document revealed that continuous improvement in O1 is fundamental to building resilient and sustainable agricultural systems for the long term.

Reducing Environmental Pollution

L6 stated that local producers are considered as part of O5's ecosystem to better manage risks of reputational damage from environmental malpractices. L6 indicated that local producers shared with O5 the list of all farm inputs and their technical specification sheets for verification for compliance with an authorized list of farm inputs based on local regulatory requirements and O5s qualitative standards. L3 stated: "We ensure that all local producers working with O2 are ISO 9001 certified." ISO 9001 is the international standard that specifies requirements for quality management. L3 stated: "The ISO 9001 certification process by local producers reinforced compliance to ecofriendly and socially responsible ways of working." L4 commented that local producers were engaged and educated on environmentally friendly ways of carrying out activities given that the actions of local producers had an impact on O3 CO2 emissions ratings. L1, L4, and L6 promulgated the importance of rolling out environmental policies with local producers. L1 noted: "The harmful effects of the activities of our local producers on the environment directly affects our company reputation."

My examination of the supporting document, *Partnering with Suppliers*, from O1 revealed that suppliers should manage environmental impact responsibly in line with applicable laws and regulations. This document revealed that suppliers were expected to have a clear and publicly available environmental policy statement that addressed the key impacts from their operations and committed to improvement. L1 highlighted that the harmful effects of the activities of their local producers on the environment adversely affected the reputation of O1. O1 expected suppliers to understand their water usage in

the context of local availability and quality and manage it appropriately to support sustainable water stewardship.

Correlation to the Literature

The findings noted in Theme 3 aligned with findings in the existing literature. Producer organizations can improve smallholder integration in high-value chains through several inter-related mechanisms; reduce transaction costs in contract arrangements, and facilitate aggregation and delivery to processors (Ma et al., 2019). L1 proceeded with the aggregation of local producers into farm cooperative unions for better governance and coordination. Cooperatives form strategic relationships with other supply chain participants of similar values and target markets to gain market access (Hooks, McCarthy et al., 2018).

Risk mitigation strategies in agribusiness supply chains can be divided into acceptance, inventory control, and sourcing (Behzadi et al., 2018a). There was a consensus between L1 and L4 to enforce civil liability insurance as a supplier prequalification requirement. Supply chain managers engage in proactive planning and risk mitigation to ensure business continuity through proper resilience management activities (Pournader et al., 2020). Agribusiness supply chains are vulnerable due to the propensity of risk sources and risk drivers to outweigh risk mitigation strategies, thus causing losses and adverse supply chain consequences (Behzadi et al., 2018a). L1 in addition to the civil liability insurance also requested a warehouse goods insurance certificate.

Consumers, policy-makers, and organizations are pressuring markets in particular for better management of environmental resources across all stages of the agribusiness supply chain (Krishnan et al., 2020). L1, L4, and L6 promulgated the importance of rolling out environmental policies with local producers. Song and Gao (2018) argued that a green supply chain is a potentially effective mechanism for improving the company's track record in corporate social responsibility, improving reputation, reducing waste, and focusing on environmental regulations. L6 carried out the verification of technical specification sheets of farm inputs of local producers. Green supply chain management aims at minimizing environmental impacts and increasing resource efficiency through all phases of the supply chain, starting with product acquisition until its final disposal after use (Song & Gao, 2018).

Correlation to the Conceptual Framework

Some of the findings in Theme 3 aligned with the VBSC model. VBSC enterprises must put in place systems required to facilitate the transmission of values to local producers given that meaningful standards and certification procedures will need to be developed to ensure the authentic transmission of values through VBSCs (Stevenson & Pirog, 2008). L1 proceeded with the aggregation of local producers into farm cooperative unions for better governance and coordination. VBSCs allow middle-scale producers to create economies of scale, through a cooperative, for instance, and create a differentiated value-added product destined for the premium markets (Hooks, McCarthy et al., 2018). Such cooperation includes horizontal collaboration among VBSC partners, working with producer cooperatives, and partnering with informal networks of producers

with the goal of aggregating products for downstream supply chain partners (Brekken et al., 2019). L1, L5, and L6 resorted to specialized logistics service providers for better supply chain efficiency.

Meaningful standards and certification procedures will need to be developed to ensure the authentic transmission of values through VBSCs (Stevenson & Pirog, 2008). Participants implemented insurance policies as a mitigation action plan for uncontrollable risks. Participants verified technical specification sheets of farm inputs for compliance with regulatory requirements and ensured that local producers were ISO 9001 certified. An overview of the nature of VBSCs provides greater visibility on the economic stability for local producers and other stakeholders along a supply chain and provides insight on ensuring the delivery of high-quality products to consumers (Hooks, Macken-Walsh et al., 2018). The participants however did not have full visibility on the economic stability of local producers and other stakeholders along the value chain.

Theme 4: Financial Management

The fourth theme that emerged from data analysis was financial management. The analyzed data from participants' interviews and document review revealed that three strategies are used by participants to promulgate favorable financial management practices. These include: (a) financing activities of local producers, (b) analyzing total cost of ownership, and (c) storage cost optimization.

Financing Activities of Local Producers

L1, L2, L3, L4, and L6 revealed that advance payments were made to finance the operating activities of local producers to mitigate disruption in the supply of production inputs due to the low liquidity level of local producers. Advance payment is a payment that is made before goods or services are provided. L4 noted that the low financial capacity of local producers to sustainably handle purchasing requests from buying organizations was a factor that resulted in disruptions in the supply of goods. L1 stated: "Commercial farming by local producers requires significant finances to facilitate the purchase of farm inputs, acquisition of farmlands, and other logistics requirements."

L1 engaged the local farmers who wanted to supply commodities to O1 to get registered in established and well-structured farm cooperative unions through which they could have access to funding from advance payments from O1 or affordable interest rate loans from cooperative financial institutions. L6 also noted that advance payment transactions to local producers also reinforced the level of engagement in business operations. L1, L2, and L3 commented that contractual agreements facilitated the ability of local producers to have access to bank loans

L6 stated that a budget allocation is done at O5 each year to ensure compliance with required production input specifications. L6 stated that an assessment of activities that impact the quality of commodities was done and preventive or corrective control measures put in place.

My examination of the supporting document, *Responsible Procurement Policy*, from O4 revealed that O4 recognized the importance of farmer incentives to implement

sustainability standards beyond legal requirements. This document also revealed that O4 engaged suppliers on different funding mechanisms in other to achieve business objectives. This is consistent with the strategy of advanced payments to ensure that the local producers have sufficient funds to purchase farm inputs.

Analyzing Total Cost of Ownership

L1 commented that an analysis of the total cost of ownership was important because it enabled O1 to determine the difference between the short-term purchase price and the long-term total cost of ownership costs of a commodity in other to make an informed purchasing decision when selecting the right vendor from multiple alternatives. The total cost of ownership of the supply delivery system is the sum of all the costs associated with every activity of the supply stream. L1 stated: "All local producers are contractually engaged to align to the production of a range of grains varieties with high starch extracts to positively impact the total cost of ownership." L1 commented that although the cost of sourcing production inputs from local producers was lower than the cost of importing, production input variety with low starch extract negatively impacted the total cost of ownership.

L6 stated: "Sourcing from local producers was considered as a sales strategy given that direct and indirect jobs were created across the value chain with suppliers and those employed became financially empowered to purchase finish goods of O5." Therefore, the consumption of finished goods of O5 by employees of local producers made it easier to educate the local producer on quality specification requirements. Within

this context, the sales numbers net off some of the cost elements generated in the value chain.

Storage Cost Optimization

L1, L3, and L5 negotiated for local producers to be responsible for the storage of commodities demanded and supply to O1, O2, and O4 respectively based on a predetermined consumption plan. L5 stated: "We are always looking at reducing warehousing cost and need certainty that production inputs will be moved from the local producer's warehouse to our production site without logistics disruptions." L5 voiced that reduction in warehouse rental cost due to decrease in safety stock levels increased working capital ratio because less cash was converted to stock. Requesting that local producers hold stock and only deliver on a needs basis could also be seen as a tradeoff for advance payments made to local producers. L5 noted that local producers had better competence in methods of preserving agricultural commodities.

L3 noted that the storage of production inputs by local producers resulted in a reduction in warehouse associated costs such as insurance, rental, and other overhead costs at O2. L1 negotiated a partnership with an aggregator by making long-term volume commitments. This enabled the aggregator to conveniently invest in the storage of facilities and a cleaning processing plant. The aggregator served as the interface through which O1 consolidated volumes of production inputs from local smallholder farmers. L1 noted that the aggregator was a screening and convergence point of collection.

L3 commented that contracting local producers to be responsible for the storage of commodities eliminates the risk of ending up with expired raw materials. L3 stated:

"Expired goods generated other related costs such as storage cost of expired goods, cost of destruction of expired goods following regulatory requirements and production downtime in some instances wherein the production inputs needed for production had expired." The participants took into consideration waste management strategies while developing sustainable supply chain links with local producers.

A perusal of the company document, *Responsible and Sustainable Sourcing of Palm Oil*, from O4, revealed O4 encourages the implementation of regenerative agriculture practices at the farm and plantation level. Good agricultural practices include responsible waste management. This document revealed that O4 gathers information about current agriculture practices and shared it with suppliers. There is a collaborative exchange of information on warehouse management and waste management between O4 and suppliers.

Correlation to the Literature

The findings noted in Theme 4 aligned with findings in the existing literature. The more precisely warehousing is managed by local producers, the higher the level of trust of users involved in the logistics business and supply chain of agricultural products to use additional services in the form of warehouse receipts to support the sustainability of agricultural businesses (Prananingtyas & Zulaekhah, 2021). L1, L3, and L5 negotiated for local producers to be responsible for the storage of commodities for better operational efficiency and cost optimization. For example, credit with stored production collateral is used to meet the needs of farmers in facing the next crop season (Armita et al., 2021).

Mashud et al., (2021) found that a hybrid payment scheme composed of multiple prepayments and a delay in payment should be applied with suppliers of agricultural commodities to facilitate post-Covid-19 recovery due to the economic downturn. L1, L2, L3, L4, and L6 made advance payments to local producers to mitigate disruption in the supply of production inputs due to the low liquidity level of local producers. Sunardi (2021) recommended that agribusiness managers should improve firm performance to be able to grow sustainably by implementing conservative working capital policy, investment policy, and financing policy as these have proven to have a positive effect on sustainable growth rate through profitability. L1, L3, and L5 negotiated for local producers to be responsible for the storage of commodities demanded as part of a working capital conservative strategy. Karmaker et al. (2021) argued that financial support from the government as well as from the supply chain partners was required to tackle the immediate shock on supply chain sustainability due to Covid-19.

Correlation to the Conceptual Framework

Some of the findings in Theme 4 on financial management relate to VBSC. Customers in a VBSC must be willing to pay a higher price for values-based products (Hooks, Macken-Walsh et al., 2018). L1 carried out a total cost of ownership analysis to determine the difference between the short-term purchase price and the long-term total cost of ownership costs of a commodity. Although the short-term price of grains may be higher, the long-term total cost of ownership may be lower when the starch extract was determined to be high. VBSCs provide higher benefits to participating producers due to the chain's strategic partnerships and the fact that buyers are willing to compensate

producers for particular values. Such cooperation includes horizontal collaboration among VBSC partners, working with producer cooperatives, and partnering with informal networks of producers with the goal of aggregating products for downstream supply chain partners (Brekken et al., 2019). L1 noted that the aggregator was a screening and convergence point of volume collection and consolidation for O1.

Value chains differ from supply chains in that actors receive a benefit above the cost of production (Holweg & Helo, 2014). The benefit above the cost of production was revealed by L6 who considered sourcing from local producers as a sales strategy. Revenue was generated by O5 in the course of empowering local producers through direct and indirect job creation. Value creation captures the maximum value-added in financial and non financial terms. Consumers need to relate with the added value obtained as a result of an incremental payment for a differentiated product (Hooks, Macken-Walsh et al., 2018). Each local producer must evaluate the price–cost and other marketing channels' tradeoffs for their situation (Bauman et al., 2018). Such tradeoffs included the request from a buying organization for a local producer to be responsible for the storage of the farm outputs and deliver base on a consumption plan of the buying organization. VBSC is characterized by partnerships throughout the supply chain from producers to buyers and shares a commitment to environmental, social, and economic values (Hooks, Macken-Walsh et al., 2018).

Applications to Professional Practice

I conducted this qualitative multiple case study to explore the strategies agribusiness managers use to develop sustainable supply chain links with local producers

to maintain profitability. The data gathered from my interviews with the agribusiness supply chain managers as well as reviews of company documents provide information about the successful strategies that some agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability. Through analyses of data collected, I found the following four major strategies that played an essential role in developing sustainable supply chain links with local producers to maintain profitability: (a) forecasting and planning deliveries from local producers, (b) stakeholder engagement and communication, (c) organizing and coordinating value chain operations, and (d) financial management.

Agribusiness managers need to forecast and plan deliveries from local producers in other to develop sustainable supply chain links with local producers. This helps to better anticipate and manage delivery disruptions. Supply chain managers engage in proactive planning and risk mitigation to ensure business continuity through proper resilience management activities (Pournader et al., 2020). Agribusiness managers should carry out risk assessments to respond to delivery constraints. Mitigation actions such as multiple local producers sourcing strategies, long-term contractual agreements, and supplier prequalification serve as preventive control measures to guarantee delivery of required volumes.

Agribusiness managers ought to enhance engagement and communication with stakeholders in the value chain of local producers by promoting transparent communication. Participants noted that transparent communication eliminated the adverse impact of decision-making based on unreliable information. Agribusiness

managers should implement fair prices with all stakeholders contributing to the value chain to maintain sustainability. Supply chain visibility is not only the availability of the information but is also determined by the accuracy of the shared data, timeliness, usefulness, and the structure of the data (Kamble et al., 2020). Agribusiness managers should engage the government to arbitrate community impacting business operations with local producers. Participants noted an amelioration in the quality of goods due to partnership initiatives with government institutions.

Agribusiness managers can organize and coordinate value chain operations with local producers. The aggregation of local producers into farm cooperative unions made it easier for participants to plan, communicate and coordinate operational activities with local producers. Producer organizations can improve smallholder integration in high-value chains by facilitating aggregation and delivery to processors (Ma et al., 2019). Participants used specialized logistics service providers to enhance logistics efficiency and conserve the quality of goods in transit. Some participants highlighted the need to put in place civil liability and goods insurance to mitigate uncontrollable risks. Agribusiness managers' actions to verify technical specification sheets of farm inputs for compliance with regulatory requirements can lead to food safety.

Sustainable supply chain links with local producers are more likely when agribusiness managers apply financial management strategies. Agribusiness managers should explore offering advance payments to finance local producers' operating activities when those producers do not have sufficient financial capacity to commence production. An analysis of the total cost of ownership when sourcing from local producers provides a

substantial assessment of the financial impact of the buying decision. Agribusiness managers may engage local producers to be responsible for commodity storage known to have a favorable impact on working capital and cash flow. Agribusiness managers can improve firm performance to be able to grow sustainably by implementing conservative working capital policy, investment policy, and financing policy (Sunardi, 2021). Agribusiness managers can use these strategies to heighten awareness of effective financial management measures of operational activities with local producers.

Implications for Social Change

The strategies identified in the current study have been successful for agribusiness leaders to build the capacity of human resources in the value chain and ensure food security. Tangible improvements for individuals, communities, or organizations are possible as referenced from the identified themes. The capacity-building strategies deployed by participants could guide agribusiness managers on how to make high-value social impact decisions. Participants revealed that the training of supply chain stakeholders in value chain principles and knowledge is indispensable in raising the quality of services rendered across the value chain. Most notably training workshops organized by participants served as a medium through with participants aligned all stakeholders along the value chain to a common vision. A participant also commented that direct and indirect jobs were created across the value chain with suppliers and those employed experienced an increase in purchasing power.

Organizations must revisit the structure and optimization of supply chains in response to the risk of global food security (Cohen, & Kouvelis, 2021). L3 stated that

regulatory requirements stipulate that household consumptions should be prioritized over industrial consumption for some agricultural commodities to ensure food security. Food security is not just the quantity of food available, but also the ability to access it physically (van Meijl et al., 2020). Agribusiness managers need to assess the effectiveness and efficiency of existing supply chain structures and devise customized models to address concerns on food security.

Recommendations for Action

Research on agribusiness supply chain management is essential to better manage the relationships between farmers and consumers to meet consumers' food needs. Challenges impacting sustainable agribusiness supply chains can be addressed by keeping in mind the small producers, stringent norms to control product safety and quality, industrialization, management, and information (Luthra et al., 2018). Current and future business leaders can benefit from strategies such as forecasting and planning deliveries from local producers, stakeholder engagement and communication, organizing and coordinating value chain operations, and financial management.

A first recommendation is that agribusiness managers adopt an integrated plan that entails matching the output production plan of local producers with the input consumption plan of the buying organization to take appropriate actions on identified delivery gaps. The agribusiness managers who used integrated plans reduced the risk of running out of stock of production inputs and improved cash management. A second recommendation is that agribusiness managers engage and communicate with stakeholders in the value chain with local producers to promote transparency, fair pricing,

and recruitment of quality human resources. A third recommendation is that agribusiness managers organize and coordinate value chain operations to leverage the core competencies of the value chain stakeholders. I will share a summary of the current study's results with the participating leaders, and I intend to publish my research findings in the *International Journal of Applied Management and Technology* and the *Small Business Economics Journal*.

Recommendations for Further Research

Agribusiness managers should use strategies to develop sustainable supply chain links with local producers. One limitation of this qualitative multiple case study was the use of a small sample size. Small sample size may not represent the larger agribusiness supply chain managers' population in Cameroon. Future researchers should conduct a quantitative methodology study to obtain data from a much larger sample. Another recommendation is for future researchers to study strategies used by local producers to develop sustainable supply chain links with buying organizations. Strategies used by agribusiness managers in buying organizations are likely to be different from strategies used by local producers or supplying organizations.

Reflections

I have learned from my experience in this study that there were different strategies used by agribusiness managers to develop sustainable supply chain links with local producers. I became more enlightened about value creation by synthesizing empirical literature on the VBSC model. Deducing facets of correlation between the VBSC model and findings from my study gave me further insight into the application of

the model for professional practice. During the semistructured interviews, the agribusiness supply chain manager and directors admitted that more studies in sustainable supply chain management are needed taking into consideration unpredictable disruptions such as the Covid-19 pandemic. The development of themes, coding, and interpretation of data was more challenging than I initially thought. It is worth noting that the guidelines and directives from my chair ignited the level of understanding I needed at this phase in other to be on track. The essence of keeping my write-up simple and coherent is a vital lesson to retain.

Following up and obtaining approvals throughout my study have been key moments of excitement. I obtained approval of my prospectus, proposal, oral proposal defense, and IRB approval respectively. In each of these experiences, I first had to submit a compliant document to my chair for alignment before I could proceed with the request for approvals. I found feedbacks value-adding as the quality of work kept improving at each phase of the respective approval processes. Obtaining consent from participants who met my selection criteria was also remarkable. I am grateful for the opportunity I received to share with the exceptional research participants. Approval of term plans was also a very engaging activity given that I had to commit to the volume of work I could reasonably deliver within the term time frame.

This DBA journey has been a good test of resilience to me from an academic, professional, financial, and social perspective. I have enhanced my competence in qualitative research techniques, analytical skills, identification of value creation opportunities, communication skills, and strategic decision making. I now feel more

empowered and better equipped to find practical solutions to business problems and bring about eminent social change.

Conclusion

Agribusiness supply chain strategies are essential to developing sustainable supply chain links with local producers to maintain profitability. Agribusinesses relying on their supply chain to remain competitive in a rapidly changing environment must be more agile in perceiving and developing opportunities, more responsive to disruptions, and more resilient against external threats. Agribusiness managers seek to adopt competitive strategies that achieve sustainability standards, not only in achieving economic success but also in serving society and preserving the environment. Through data analyses, I found that agribusiness managers use successful strategies such as forecasting and planning deliveries from local producers, stakeholder engagement and communication, organizing and coordinating value chain operations, and financial management. These strategies would be helpful not just to agribusiness buying organizations but to policymakers and NGOs.

The findings of this study may be essential to supply chain experts in charge of implementing strategies in companies that consume agricultural commodities as raw materials and to government officials empowered to enact laws that could favorably impact agribusinesses. On average, firms that experienced a supply management disruption faced an operating income decrease of 27%, a drop in return on sales of 13%, and a drop in return on assets of 16% (Baghersad & Zobel, 2020). Therefore, using the VBSC model as a potential lens to support the exploration of how agribusiness managers

develop and deploy strategies to build sustainable supply chain links with local producers to maintain profitability is vital.

References

Abdalla, M. M., Oliveira, L. L., Azevedo, C. F., & Gonzalez, R. K. (2018). Quality in qualitative organizational research: Types of triangulation as a methodological alternative. *Administraçao: Ensino E Pesquisa, 19*(1), 66–98. https://doi.org/10.13058/raep.2018.v19n1.578

Adams, K., Nayak, B. S., & Koukpaki, S. (2018). Critical perspectives on "manufactured" risks arising from Eurocentric business practices in Africa. *Critical Perspectives on International Business*, *14*(3), 210–229. https://doi.org/10.1108/cpoib-11-2016-0058

Adegboye, F. (2020). Digitalization in the agribusiness value chain and payment systems: Evidence from Sub-Saharan Africa. *Journal of African Development*, *21*( ), 96–115. https://doi.org/10.5325/jafrideve.21.1.0096

Adenso-Díaz, B., Mar-Ortiz, J., & Lozano, S. (2018). Assessing supply chain robustness to links failure. *International Journal of Production Research*, *56*(15), 5104–5117. https://doi.org/10.1080/00207543.2017.1419582

Aguboshim, F. C. (2021). Adequacy of sample size in a qualitative case study and the dilemma of data saturation: A narrative review.*Wo rld Journal of Advanced Research and Reviews*, *10*(3), 180–187. https://doi.org/10.30574/wjarr.2021.10.3.0277

Ahmad, M., Jabeen, G., Shah, S. A. A., Rehman, A., Ahmad, F., & Işik, C. (2021). Assessing long-and short-run dynamic interplay among balance of trade, aggregate economic output, real exchange rate, and CO2 emissions in Pakistan.

Environment, Development and Sustainability, 1–41. https://doi.org/10.1007/s10668-021-01747-9

Aji, J. M. M. (2020, January 21). *Linking supply chain management and food security: A concept of building sustainable competitive advantage of agribusiness in developing economies* [Conference session]. The 3rd International Conference on Agricultural and Life Sciences, Jember, Indonesia. https://doi.org/10.1051/e3sconf/202014206005

Allan, G. (2020). Qualitative research. In G. Allan & C. Skinner (Eds.), *Handbook for research students in the social sciences* (pp. 177–189). Routledge. https://doi.org/10.4324/9781003070993

Al-Mansour, J. F., & Al-Ajmi, S. A. (2020). Coronavirus "Covid-19"—Supply chain disruption and implications for strategy, economy, and management. *The Journal of Asian Finance, Economics, and Business*, *7*(9), 659–672. https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.659

Alzoubi, H., Ahmed, G., Al-Gasaymeh, A., & Kurdi, B. (2020). Empirical study on sustainable supply chain strategies and its impact on competitive priorities: The mediating role of supply chain collaboration. *Management Science Letters*, *10*(3), 703–708. https://doi.org/10.5267/j.msl.2019.9.008

Amare, M., Mariara, J., Oostendorp, R., & Pradhan, M. (2019). The impact of smallholder farmers' participation in avocado export markets on the labor market, farm yields, sales prices, and incomes in Kenya. *Land Use Policy*, *88*, 1–13. https://doi.org/10.1016/j.landusepol.2019.104168

Amato-Lourenço, L. F., Buralli, R. J., Ranieri, G. R., Hearn, A. H., Williams, C., & Mauad, T. (2020). Building knowledge in urban agriculture: The challenges of local food production in São Paulo and Melbourne. *Environment, Development and Sustainability*, *23*(2), 2785–2796. https://doi.org/10.1007/s10668-020-00636-x

Aramyan, L., Grainger, M., Logatcheva, K., Piras, S., Setti, M., Stewart, G., & Vittuari, M. (2020). Food waste reduction in supply chains through innovations: A review. *Measuring Business Excellence*, *23*(4), 472–483. https://doi.org/10.1108/MBE-11-2019-0105

Archibald, M. M., & Gerber, N. (2018). Arts and mixed methods research: An innovative methodological merger. *American Behavioral Scientist, 62*(7), 956–977. https://doi.org/10.1177/0002764218772672

Armanda, D. T., Guinée, J. B., & Tukker, A. (2019). The second green revolution: Innovative urban agriculture's contribution to food security and sustainability—A review. *Global Food Security*, *22*, 13–24. https://doi.org/10.1016/j.gfs.2019.08.002

Armita, N., Darma, R., Fahmid, M., Sulili, A., & Syah, I. T. (2021). Warehouse receipt system and food security: Factors that influenced farmers' decisions. *IOP Conference Series: Earth and Environmental Science*, *681*(1), 1–5. https://doi.org/10.1088/1755-1315/681/1/012093

Aspers, P., & Corte, U. (2019). What is qualitative in qualitative research? *Qualitative Sociology*, *42*(2), 139–160. https://doi.org/10.1007/s11133-019-9413-7

Aung, K. T., Razak, R. A., & Nazry, N. N. M. (2021). Establishing validity and reliability of semistructured interview questionnaire in developing risk communication module: A pilot study. *Edunesia: Jurnal Ilmiah Pendidikan*, *2*(3), 600–606. https://doi.org/10.51276/edu.v2i3.177

Azunre, G. A., Amponsah, O., Peprah, C., Takyi, S. A., & Braimah, I. (2019). A review of the role of urban agriculture in the sustainable city discourse. *Cities*, *93*, 104–119. https://doi.org/10.1016/j.cities.2019.04.006

Badraoui, I., Van der Vorst, J. G., & Boulaksil, Y. (2020). Horizontal logistics collaboration: An exploratory study in Morocco's agri-food supply chains. *International Journal of Logistics research and applications*, *23*(1), 85–102. https://doi.org/10.1080/13675567.2019.1604646

Baghersad, M., & Zobel, C. W. (2020). Assessing the extended impacts of supply chain disruptions on firms: An empirical study. *International Journal of Production Economics*, *231*, 1–11. https://doi.org/10.1016/j.ijpe.2020.107862

Bakalis, S., Valdramidis, V. P., Argyropoulos, D., Ahrne, L., Chen, J., Cullen, P. J., Cummins, E., Datta, A., Emmanouilidis, C., Foster, T., Fryer, P. J., Gouseti, O., Hospido, A., Knoerzer, K., LeBail, A., Marangoni, A. G., Rao, P., Schlüter, O. K., Taoukis, P., . . . Van Impe, J. F. (2020). Perspectives from CO+ RE: How Covid-19 changed our food systems and food security paradigms. *Current Research in Food Science*, *3*, 166–172. https://doi.org/ 10.1016/j.crfs.2020.05.003

Bakkalbasioglu, E. (2020). How to access elites when textbook methods fail: Challenges of purposive sampling and advantages of using interviewees as" fixers". *The*

Qualitative Report, *25*(3), 688–699. https://doi.org/10.46743/2160-3715/2020.3976

Bannier, E., Barker, G., Borghesani, V., Broeckx, N., Clement, P., Emblem, K. E., Ghosh, S., Glerean, E., Gorgolewski, K. J., Havu, M., Halchenko, Y. O., Herholz, P., Hespel, A., Heunis, S., Hu, Y., Hu, C., Huijser, D., Vayá, M. I., Jancalek, R., . . . Zhu, H. (2021). The open brain consent: Informing research participants and obtaining consent to share brain imaging data. *The Journal of Mental Health Science 42*(7), 1945–1951. https://doi.org/10.1002/hbm.25351

Barrow, J. M., Brannan, G. D., & Khandhar, P. B. (2020). Research ethics. *StatPearls Publishing LLC [Internet]*.

Baryannis, G., Validi, S., Dani, S., & Antoniou, G. (2019). Supply chain risk management and artificial intelligence: state of the art and future research directions. *International Journal of Production Research*, *57*(7), 2179–2202. https://doi.org/10.1080/00207543.2018.1530476

Bauer-Savage, J., Pittet, D., EunMi, K., & Allegranzi, B. (2020). Local production of WHO-recommended alcohol-based handrubs: Feasibility, advantages, barriers and costs. *Bull World Health Organ*, *91*, 963–969. https://doi.org/10.2471/blt.12.117085

Bauman, A., McFadden, D. T., & Jablonski, B. B. (2018). The financial performance implications of differential marketing strategies: Exploring farms that pursue local markets as a core competitive advantage. *Agricultural and Resource Economics Review 47*(3), 477–504. https://doi.org/10.1017/age.2017.34

Beckett, G. H., & Kobayashi, M. (2020). A meta-study of an ethnographic research in a multicultural and multilingual community: Negotiations, resources, and dilemmas. *American Journal of Qualitative Research*, *4*(1), 85–106. https://doi.org/10.29333/ajqr/8267

Behzadi, G., O'Sullivan, M. J., Olsen, T. L., Scrimgeour, F., & Zhang, A. (2017). Robust and resilient strategies for managing supply disruptions in an agribusiness supply chain. *International Journal of Production Economics*, *191*, 207–220. https://doi.org/10.1016/j.ijpe.2017.06.018

Behzadi, G., O'Sullivan, M. J., Olsen, T. L., & Zhang, A. (2018a). Agribusiness supply chain risk management: A review of quantitative decision models. *Omega*, *79*, 21–42. https://doi.org/10.1016/j.omega.2017.07.005

Behzadi, G., O'Sullivan, M. J., Olsen, T. L., & Zhang, A. (2018b). Allocation flexibility for agribusiness supply chains under market demand disruption. *International Journal of Production Research*, *56*(10), 3524–3546. https://doi.org/10.1080/00207543.2017.1349955

Bello, L. O., Baiyegunhi, L. J., & Danso-Abbeam, G. (2021). Productivity impact of improved rice varieties' adoption: case of smallholder rice farmers in Nigeria. *Economics of Innovation and New Technology*, *30*(7), 750-766. https://doi.org/10.1080/10438599.2020.1776488

Ben-Daya, M., Hassini, E., & Bahroun, Z. (2019). Internet of things and supply chain management: a literature review. *International Journal of Production Research*, *57*(15-16), 4719–4742.

https://doi.org/10.1080/00207543.2017.1402140

Bendinelli, W. E., Su, C. T., Péra, T. G., & Caixeta Filho, J. V. (2020). What are the main factors that determine post-harvest losses of grains? *Sustainable Production and Consumption*, *21*, 228–238. https://doi.org/10.1016/j.spc.2019.09.002

Bhandari, D., Singh, R. K., & Garg, S. K. (2019). Prioritisation and evaluation of barriers intensity for implementation of cleaner technologies: Framework for sustainable production. *Resources, Conservation and Recycling*, *146*, 156–167. https://doi.org/10.1016/j.resconrec.2019.02.038

Bhattarai, K. (2019). Consumers' willingness to pay for organic vegetables: Empirical evidence from Nepal. *Economics & Sociology*, *12*(3), 132–146. https://doi.org/10.14254/2071-789X.2019/12-3/9

Block, D., Thompson, M., Euken, J., Liquori, T., Fear, F., & Baldwin, S. (2008). Engagement for transformation: Value webs for local food system development. *Agriculture and Human Values, 25*(3), 379–388. https://doi.org/10.1007/s10460-008-9113-5

Bloom, J. D., & Hinrichs, C. C. (2011). Informal and formal mechanisms of coordination in hybrid food value chains. *Journal of Agriculture, Food Systems, and Community Development*, *1*(4), 143–156. https://doi.org/10.5304/jafscd.2011.014.016

Boardman, R., & McCormick, H. (2018). Shopping channel preference and usage motivations. *Journal of Fashion Marketing & Management, 22*, 270–284. https://doi.org/10.1108/JFMM-04-2017-0036

Bouchakour, R., Belghait, B., & Bersali, M. N. (2018). Sustainable food security in low-income and developing countries. *International Journal of Technology Management & Sustainable Development*, *17*(2), 151–167. https://doi.org/10.1386/tmsd.17.2.151_1

Brekken, C. A., Dickson, C., Peterson, H. H., Feenstra, G., Ostrom, M., Tanaka, K., & Engelskirchen, G. (2019). Economic impact of values-based supply chain participation on small and midsize produce farms. *Journal of Food Distribution Research*, *50*(2), 1–26. https://doi.org/10.22004/ag.econ.300074

Brönner, M., Salah, S., & Lienkamp, M. (2020). Production challenges in least developed countries. *Challenges*, *11*(1), 1. https://doi.org/10.3390/challe11010001

Burić, I., Slišković, A., & Macuka, I. (2018). A mixed-method approach to the assessment of teachers' emotions: Development and validation of the teacher emotion questionnaire. *Educational Psychology*, *38*(3), 325–349. https://doi.org/10.1080/01443410.2017.1382682

Burmeister, L. L. (2017). Fair labor practices in values-based agrifood supply chains. *Journal of Agirculture, Food Systems, and Community Development, 7*(3), 17–22. https://doi.org/10.5304/jafscd.2017.073.019

Cabañas, M. A., & Herrera Lemus, K. C. (2018). Info-knowledge for supply chains: its links with management, human capital, supply chain operations and innovation. *Pensamiento & Gestión*, (45), 6–25. https://doi.org/10.14482/pege.45.9701

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters,

D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing, 25*(8), 652–661. https://doi.org/10.1177/1744987120927206

Carpio-Aguilar, J. C., Rincón-Moreno, J., & Franco-García, M. L. (2019). Potential of carbon footprint reduction within retailers: Food waste at Walmart in Mexico. *In Sustainable Development Goals and Sustainable Supply Chains in the Post-global Economy*, *7*, 225–240. https://doi.org/10.1007/978-3-030-15066-2_12

Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: is it as easy as it sounds? *Currents in pharmacy teaching and learning*, *10*(6), 807–815. https://doi.org/10.1016/j.cptl.2018.03.019

Celestina, M. (2018). Between trust and distrust in research with participants in conflict context. *International Journal of Social Research Methodology, 21*, 373–383. https://doi.org/10.1080/13645579.2018.1427603

Chapman, N., McWhirter, R., Armstrong, M. K., Fonseca, R., Campbell, J. A., Nelson, M., Schultz, M. N., & Sharman, J. E. (2020). Self-directed multimedia process for delivering participant informed consent. *BMJ open*, *10*(7), 1–7. https://doi.org/10.1136/bmjopen-2020-036977

Chen, C. C., Sujanto, R. Y., Tseng, M. L., Fujii, M., & Lim, M. K. (2021). Sustainable consumption transition model: Social concerns and waste minimization under willingness-to-pay in Indonesian food industry. *Resources, Conservation and Recycling*, *170*, 1–15. https://doi.org/10.1016/j.resconrec.2021.105590

Chen, C. J. (2019). Developing a model for supply chain agility and innovativeness to

enhance firms' competitive advantage. *Management Decision*, *57*(7), 1511–1534. https://doi.org/10.1108/MD-12-2017-1236

Chia, E. L., Kankeu, S. R., & Hubert, D. (2019). Climate change commitments and agriculture sectoral strategies in Cameroon: Interplay and perspectives. *Cogent Environmental Science*, *5*(1), 1–14. https://doi.org/10.1080/23311843.2019.1625740

Chitchui, A. (2019). Modern trends in agricultural development in Cameroon and ways to ensure its sustainability. *Economics and Management, 21*, 21–29. https://doi.org/10.33245/2310-9262-2019-148-1-21-29

City of Melbourne. (2008). Future Melbourne Plan. Retrieved June 25, 2019, available in https://www.melbourne.vic.gov.au/about-melbourne/future-melbourne/creating-the-plan/Pages/creating-the-plan.aspx

Clay, P., & Feeney, R. (2019). Analyzing agribusiness value chains: A literature review. *The International Food and Agribusiness Management Review*, *22*(1), 31–46. https://doi.org/10.22434/IFAMR2018.0089

Cohen, M. A., & Kouvelis, P. (2021). Revisit of AAA excellence of global value chains: Robustness, resilience, and realignment. *Production and Operations Management*, *30*(3), 633–643. https://doi.org/10.1111/poms.13305

Conner, D. S., Nowak, A., Berkenkamp, J., Feenstra, G. W., Solen-Kim, J. V., Liquori, T., & Hamm, M. W. (2011). Value chains for sustainable procurement in large school districts: Fostering partnerships. *Journal of Agriculture, Food Systems, and Community Development, 1*(4), 55–68.

https://doi.org/10.5304/jafscd.2011.014.005

Crick, J. M. (2021). Qualitative research in marketing: what can academics do better? *Journal of Strategic Marketing*, *29*(5), 390–429. https://doi.org./10.1080/0965254X.2020.1743738

Cvijanović, D., Ignjatijević, S., Vapa Tankosić, J., & Cvijanović, V. (2020). Do local food products contribute to sustainable economic development? *Sustainability*, *12*(7), 2847. https://doi.org/10.3390/su12072847

de Carvalho, L. S., Stefanelli, N. O., Viana, L. C., Vasconcelos, D. D. S. C., & Oliveira, B. G. (2020). Green supply chain management and innovation: a modern review. *Management of Environmental Quality: An International Journal*, *31*(2), 470–482. https://doi.org/10.1108/MEQ-12-2019-0283

Deribe, Y., & Kassa, E. (2020). Value creation and sorghum-based products: what synergetic actions are needed? *Cogent Food & Agriculture*, *6*(1), 1–14. https://doi.org/10.1080/23311932.2020.1722352

Dev, N. K., Shankar, R., & Qaiser, F. H. (2020). Industry 4.0 and circular economy: Operational excellence for sustainable reverse supply chain performance. *Resources, Conservation and Recycling*, *153*, 1–15. https://doi.org/10.1016/j.resconrec.2019.104583

Devereux, S., Béné, C., & Hoddinott, J. (2020). Conceptualising Covid-19's impacts on household food security. *Food Security*, *12*(4), 769–772. https://doi.org/10.1007/s12571-020-01085-0

Dey, P. K., Malesios, C., De, D., Chowdhury, S., & Abdelaziz, F. B. (2019). Could lean

practices and process innovation enhance supply chain sustainability of small and medium□sized enterprises? *Business Strategy and the Environment*, *28*(4), 582–598. https://doi.org/10.1002/bse.2266

Di Talia, E., Simeone, M., & Scarpato, D. (2019). Consumer behaviour types in household food waste. *Journal of Cleaner Production*, *214*, 166–172. https://doi.org/10.1016/j.jclepro.2018.12.216

Ditlevsen, K., Denver, S., Christensen, T., & Lassen, J. (2020). A taste for locally produced food-Values, opinions and sociodemographic differences among 'organic'and 'conventional'consumers. *Appetite*, *147*, 104544. https://doi.org/10.1016/j.appet.2019.104544

do Paço, A., Shiel, C., & Alves, H. (2019). A new model for testing green consumer behaviour. *Journal of cleaner production*, *207*, 998–1006. https://doi.org/10.1016/j.jclepro.2018.10.105

Drejerska, N., Bareja-Wawryszuk, O., & Golebiewski, J. (2019). Marginal, localized and restricted activity business models for creation a value of local food products: A case from Poland. *Bristish Food Journal*, *121*(6), 1368–1381. https://doi.org/10.1108/BFJ-05-2018-0337

Dubey, R., Gunasekaran, A., Bryde, D. J., Dwivedi, Y. K., & Papadopoulos, T. (2020). Blockchain technology for enhancing swift-trust, collaboration and resilience within a humanitarian supply chain setting. *International Journal of Production Research*, *58*(11), 3381–3398. https://doi.org/10.1080/00207543.2020.1722860

Ernawati, D., Pudji, E., Rahmawati, N., & Alfin, M. (2021). Bullwhip effect reduction

using vendor managed inventory (VMI) method in supply chain of manufacturing company. *Journal of Physics: Conference Series*, *1899*(1), 1–6. https://doi.org/10.1088/1742-6596/1899/1/012082

Farooq, M. U., Hussain, A., Masood, T., & Habib, M. S. (2021). Supply chain operations management in pandemics: A state-of-the-art review inspired by Covid-19. *Sustainability*, *13*(5), 2504. https://doi.org/10.3390/su13052504

Farrugia, B. (2019). WASP (write a scientific paper): Sampling in qualitative research. *Early human development*, *133*, 69–71. https://doi.org/10.1016/j.earlhumdev.2019.03.016

Fatorachian, H., & Kazemi, H. (2020). Impact of industry 4.0 on supply chain performance. *Production Planning & Control*, *32*(1), 63–81. https://doi.org/10.1080/09537287.2020.1712487

Feenstra, G., & Hardesty, S. (2016). Values-based supply chains as a strategy for supporting small and mid-scale producers in the United States. *Agriculture, 6*(3), 39–56. https://doi.org/10.3390/agriculture6030039

Feldon, D. F., & Tofel-Grehl, C. (2018). Phenomenography as a foundation for mixed models research. *American Behavioral Scientist, 62*, 887–899. https://doi.org/10.1177/0002764218772640

Feng, X., & Behar-Horenstein, L. (2019). Maximizing NVivo utilities to analyze open-ended responses. *The Qualitative Report*, *24*(3), 563–571. https://doi.org/10.46743/2160-3715/2019.3692

Feyaerts, H., Van den Broeck, G., & Maertens, M. (2020). Global and local food value

chains in Africa: A review. *Agricultural Economics*, *51*(1), 143–157. https://doi.org/10.1111/agec.12546

Fleury, P., Lev, L., Brives, H., Chazoule, C., & Désolé, M. (2016). Developing mid-tier supply chains (France) and values-based food supply chains (USA): A comparison of motivations, achievements, barriers and limitations. *Agriculture, 6*(3), 36. https://doi.org/10.3390/agriculture6030036

Flores, L., Sanchez, Y., Ramos, E., Sotelo, F., & Hamoud, N. (2020). Blockchain in agribusiness supply chain management: A traceability perspective. *International Conference on Applied Human Factors and Ergonomics, 12*(13), 465–472. https://doi.org/10.1007/978-3-030-51328-3_64

Food and Agriculture Organization (FAO) of the United Nations. (2017). *The future of food and agriculture: Trends and challenges.* http://www.fao.org/3/a-i6583e.pdf

Gani, A., Imtiaz, N., Rathakrishnan, M., & Krishnasamy, H. N. (2020). A pilot test for establishing validity and reliability of qualitative interview in the blended learning English proficiency course. *Journal of Critical Reviews*, *7*(05), 140–143. http://doi.org/10.31838/jcr.07.05.23

Ghanbari, S., & Bashiri, M. (2019, January 23-24). *A resilient agribusiness supply chain network design in a two-stage stochastic programming framework*. In 2019 15th Iran International Industrial Engineering Conference (IIIEC)*,* Yazd, Iran. https://doi.org/10.1109/IIIEC.2019.8720637

Glock, C. H., Rekik, Y., & Ries, J. M. (2020). A coordination mechanism for supply chains with capacity expansions and order-dependent lead times. *European*

Journal of Operational Research, *285*(1), 247–262. https://doi.org/10.1016/j.ejor.2020.01.048

Goh, S. H., & Eldridge, S. (2019). Sales and Operations Planning: The effect of coordination mechanisms on supply chain performance. *International Journal of Production Economics*, *214*, 80–94. https://doi.org/10.1016/j.ijpe.2019.03.027

Goodarzi, M., & Saen, R. F. (2020). How to measure bullwhip effect by network data envelopment analysis? *Computers & Industrial Engineering*, *139*, 1–9. https://doi.org/10.1016/j.cie.2018.09.046

Goodwin, D., Mays, N., & Pope, C. (2020). Ethical issues in qualitative research. *Qualitative Research in Health Care*, *3*, 27–41. https://doi.org/10.1002/9781119410867.ch3

Graham, S. (2020). The influence of external and internal stakeholder pressures on the implementation of upstream environmental supply chain practices. *Business & Society*, *59*(2), 351–383. https://doi.org/10.1177/0007650317745636

Green, K. W., Inman, R. A., Sower, V. E., & Zelbst, P. J. (2019). Comprehensive supply chain management model. *Supply Chain Management*, *24*(5), 590–603. https://doi.org/10.1108/SCM-12-2018-0441

Gugiu, C., Randall, J., Gibbons, E., Hunter, T., Naegeli, A., & Symonds, T. (2020). PNS217 Bootstrap Saturation: A quantitative approach for supporting data saturation in sample sizes in qualitative research. *Value in Health*, *23*, S677. https://doi.org/10.1016/j.jval.2020.08.1661

Guo, X., Cheng, L., & Liu, J. (2020). Green supply chain contracts with eco-labels issued

by the sales platform: Profitability and environmental implications. *International Journal of Production Research*, *58*(5), 1485–1504. https://doi.org/10.1080/00207543.2019.1658911

Hatsey, N. H. (2019). After effect of pump supply disruption. *Ethiopian Journal of Sciences and Sustainable Development*, *6*(2), 15–21.

Hayashi J, P., Abib, G., & Hoppen, N. (2019). Validity in qualitative research: A processual approach. *The Qualitative Report*, *24*(1), 98–112. https://doi.org/10.46743/2160-3715/2019.3443

Heesen, R., Bright, L. K., & Zucker, A. (2019). Vindicating methodological triangulation. *Synthese*, *196*(8), 3067–3081. https://doi.org/10.1007/s11229-016-1294-7.

Helo, P., & Hao, Y. (2019). Blockchains in operations and supply chains: A model and reference implementation. *Computers & Industrial Engineering*, *136*, 242–251. https://doi.org/10.1016/j.cie.2019.07.023

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods*. SAGE Publications Limited.

Herden, T. T. (2020). Explaining the competitive advantage generated from Analytics with the knowledge-based view: the example of Logistics and Supply Chain Management. *Business Research*, *13*(1), 163–214. https://doi.org/10.1007/s40685-019-00104-x

Hill, A., Morse, P., & Dyment, J. (2019). A critical examination of the place of interviews in outdoor studies research. In *Research Methods in Outdoor*

Studies (pp. 57–67). Routledge.

Holmström, J., Holweg, M., Lawson, B., Pil, F. K., & Wagner, S. M. (2019). The digitalization of operations and supply chain management: Theoretical and methodological implications. *Journal of Operations Management, 65*(8), 728–734. https://doi.org/10.1002/joom.1073

Holweg, M., & Helo, P. (2014). Defining value chain architectures: Linking strategic value creation to operational supply chain design. *International Journal of Production Economics*, *147*, 230–238. https://doi.org/10.1016/j.ijpe.2013.06.015

Hooks, T., Macken-Walsh, Á., McCarthy, O., & Power, C. (2018). The impact of a values-based supply chain (VBSC) on farm-level viability, sustainability, and resilience: Case study evidence. *Sustainability*, *9*(2), 267. https://doi.org/10.3390/su9020267

Hooks, T., McCarthy, O., Power, C., & Macken-Walsh, A. (2018). A co-operative business approach in a values-based supply chain: A case study of a beef co-operative. *Journal of Co-operative Organization and Management, 5*, 65–72. https://doi.org/10.1016/j.jcom.2017.10.001

Hoover, S. M., Strapp, C. M., Ito, A., Foster, K., & Roth, K. (2018). Teaching qualitative research interviewer skills: A developmental framework for social justice psychological research teams. *Qualitative Psychology*, *5*(2), 300–318. https://doi.org/10.1037/qup0000101

Hosseini, S., Ivanov, D., & Dolgui, A. (2019). Review of quantitative methods for supply chain resilience analysis. *Transportation Research Part E: Logistics and*

Transportation Review, *125*, 285–307. https://doi.org/10.1016/j.tre.2019.03.001

Hussain, M., Khan, M., Ajmal, M., Sheikh, K.S. and Ahamat, A. (2019). A multi-stakeholders view of the barriers of social sustainability in healthcare supply chains: Analytic hierarchy process approach. *Sustainability Accounting, Management and Policy Journal, 10*(2), 290–313. https://doi.org/10.1108/SAMPJ-05-2018-0140

Husserl, E. (2012). *Ideas: General introduction to pure phenomenology*. Routledge.

Irani, E. (2019). The use of videoconferencing for qualitative interviewing: opportunities, challenges, and considerations. *Clinical Nursing Research, 28*(1), 3–8. https://doi.org/10.1177/1054773818803170

Ishangulyyev, R., Kim, S., & Lee, S. H. (2019). Understanding food loss and waste-Why are we losing and wasting food? *Foods*, *8*(8), 297. https://doi.org/10.3390/foods8080297

Jerath, K., & Long, F. (2020). Multiperiod contracting and salesperson effort profiles: The optimality of "Hockey Stick,""Giving Up," and "Resting on Laurels". *Journal of Marketing Research*, *57*(2), 211–235. https://doi.org/10.1177/0022243719887378

Jin, Y., Pang, A., & Smith, J. (2018). Crisis communication and ethics: The role of public relations. *Journal of Business Strategy, 39*(1), 43–52. https://doi.org/10.1108/JBS-09-2016-0095

Johnson, C., & Parry, D. (2015). Common features of qualitative inquiry. Johnson & D. Parry (Eds.). *Fostering social justice through qualitative inquiry: A*

methodological guide (pp. 43–70). Left Coast Press.

Johnson, J. L., Adkins, D., & Chauvin, S. (2020). A review of the quality indicators of rigor in qualitative research. *American Journal of Pharmaceutical Education*, *84*(1), 138–146. https://doi.org/10.5688/ajpe7120

Kaliber, A. (2019). Reflecting on the reflectivist approach to qualitative interviewing. *Journal of Foreign Policy and Peace*, *8*(2), 339–357. https://doi.org/10.20991/allazimuth.477335

Kamble, S. S., Gunasekaran, A., & Gawankar, S. A. (2018). Sustainable Industry 4.0 framework: A systematic literature review identifying the current trends and future perspectives. *Process Safety and Environmental Protection*, *117*, 408–425. https://doi.org/10.1016/j.psep.2018.05.009

Kamble, S. S., Gunasekaran, A., & Gawankar, S. A. (2020). Achieving sustainable performance in a data-driven agriculture supply chain: A review for research and applications. *International Journal of Production Economics*, *219*, 179–194. https://doi.org/10.1016/j.ijpe.2019.05.022

Karmaker, C. L., Ahmed, T., Ahmed, S., Ali, S. M., Moktadir, M. A., & Kabir, G. (2021). Improving supply chain sustainability in the context of Covid-19 pandemic in an emerging economy: Exploring drivers using an integrated model. *Sustainable production and consumption*, *26*, 411–427. https://doi.org/10.1016/j.spc.2020.09.019

Kereth, G. A. (2020). Cultural factors and the purchase of locally produced clothes in Tanzania: An empirical study. *Nairobi Journal of Humanities and Social*

Sciences, *4*(2), 60–77. Retrieved from https://royalliteglobal.com/njhs/article/view/231

Khan, H., & Wisner, J. D. (2019). Supply chain integration, learning, and agility: Effects on performance. *Journal of Operations and Supply Chain Management*, *12*(1), 14–23. https://doi.org/10.31387/oscm0360218

Khouryieh, M., Khouryieh, H., Daday, J. K., & Shen, C. (2019). Consumers' perceptions of the safety of fresh produce sold at farmers' markets. *Food Control*, *105*, 242–247. https://doi.org/10.1016/j.foodcont.2019.06.003

King, R. P., Hand, M. S., DiGiacomo, G., Clancy, K., Gomez, M. I., Hardesty, S. D., Lev, L., & McLaughlin, E. W. (2010). Comparing the Structure, Size, and Performance of Local and Mainstream Food Supply Chains (pp. 1–81). Washington, D.C.: USDA ERS.

Kinnunen, P., Guillaume, J. H., Taka, M., D'odorico, P., Siebert, S., Puma, M. J., Jalava, M., & Kummu, M. (2020). Local food crop production can fulfill demand for less than one-third of the population. *Nature Food*, *1*(4), 229–237. https://doi.org/10.1038/s43016-020-0060-7

Koberg, E., & Longoni, A. (2019). A systematic review of sustainable supply chain management in global supply chains. *Journal of cleaner production*, *207*, 1084–1098. https://doi.org/10.1016/j.jclepro.2018.10.033

Korstjens, I., & Moser, A. (2018) Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice, 24*, 120–124. https://doi.org/10.1080/13814788.2017.1375092

Kusraeva, O. A., & Rebiazina, V. A. (2021). Agribusiness changes caused by the Russian food embargo: An interfirm relationships perspective. *Market-Tržište*, *33*(1), 7–24. https://doi.org/10.22598/mt/2021.33.1.7

Krishnan, R., Agarwal, R., Bajada, C., & Arshinder, K. (2020). Redesigning a food supply chain for environmental sustainability–An analysis of resource use and recovery. *Journal of Cleaner Production*, *242*, 118374. https://doi.org/10.1016/j.jclepro.2019.118374

Leese, J., Li, L. C., Nimmon, L., Townsend, A. F., & Backman, C. L. (2021). Moving beyond "until saturation was reached": Critically examining how saturation is used and reported in qualitative research. *Arthritis Care & Research*, *73*(9), 1225–1227. https://doi.org/10.1002/acr.24600

Lester, J. N., Cho, Y., & Lochmiller, C. R. (2020). Learning to do qualitative data analysis: A starting point. *Human Resource Development Review*, *19*(1), 94–106. https://doi.org/10.1177/1534484320903890

Li, X., Wang, L., & Ding, X. (2021). Textile supply chain waste management in China. *Journal of Cleaner Production*, *289*, 125147. https://doi.org/10.1016/j.jclepro.2020.125147

Li, Q., Xue, Q., Truong, Y., & Xiong, J. (2018). MNCs' industrial linkages and environmental spillovers in emerging economies: The case of China. *International Journal of Production Economics*, *196*, 346–355. https://doi.org/10.1016/j.ijpe.2017.12.008

Liang, T. P., Lin, Y. L., & Hou, H. C. (2021). What drives consumers to adopt a sharing

platform: An integrated model of value-based and transaction cost theories. *Information & Management*, *58*(4), 103471. https://doi.org/10.1016/j.im.2021.103471

Liao, H., & Hitchcock, J. (2018). Reported credibility techniques in higher education evaluation studies that use qualitative methods: A research synthesis. *Evaluation and program planning*, *68*, 157–165. https://doi.org/10.1016/j.evalprogplan.2018.03.005

Lin, C., Choy, K. L., Ho, G. T., Chung, S. H., & Lam, H. Y. (2014). Survey of green vehicle routing problem: past and future trends. *Expert systems with applications*, *41*(4), 1118–1138. https://doi.org/10.1016/j.eswa.2013.07.107

Lincoln, Y., Lynham, S., & Guba, E. (2013). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. Denzin & Y. Lincoln (Eds.), *The landscape of qualitative research* (4th ed., pp. 199–266). SAGE.

Luthra, S., Mangla, S. K., Chan, F. T., & Venkatesh, V. G. (2018). Evaluating the drivers to information and communication technology for effective sustainability initiatives in supply chains. *International Journal of Information Technology & Decision Making*, *17*(01), 311–338. https://doi.org/10.1142/S0219622017500419

Lyons, S., Karkou, V., Roe, B., Meekums, B., & Richards, M. (2018). Research article: What research evidence is there that dance movement therapy improves the health and wellbeing of older adults with dementia? A systematic review and descriptive narrative summary. *The Arts in Psychotherapy, 60*, 32–40. https://doi.org/10.1016/j.aip.2018.03.006

Ma, S., Liang, Y., & Zhang, H. (2019). The employment effects of global value chains. *Emerging Markets Finance and Trade, 55*(10), 2230–2253. https://doi.org/10.1080/1540496X.2018.1520698

Madhani, P. M. (2019). Strategic supply chain management for enhancing competitive advantages: Developing business value added framework. *International Journal of Value Chain Management*, *10*(4), 316–338. https://doi.org/10.1504/IJVCM.2019.103270

Manavalan, E., & Jayakrishna, K. (2019). A review of Internet of Things (IoT) embedded sustainable supply chain for industry 4.0 requirements. *Computers & Industrial Engineering*, *127*, 925–953. https://doi.org/10.1016/j.cie.2018.11.030

Mangla, S. K., Kusi-Sarpong, S., Luthra, S., Bai, C., Jakhar, S. K., & Khan, S. A. (2020). Operational excellence for improving sustainable supply chain performance. *Resources, Conservation, and Recycling*, *162*, 105025. https://doi.org/10.1016/j.resconrec.2020.105025

Mani, V., Gunasekaran, A., & Delgado, C. (2018). Enhancing supply chain performance through supplier social sustainability: An emerging economy perspective. *International Journal of Production Economics*, *195*, 259–272. https://doi.org/10.1016/j.ijpe.2017.10.025

Manyise, T., & Dentoni, D. (2021). Value chain partnerships and farmer entrepreneurship as balancing ecosystem services: Implications for agri-food systems resilience. *Ecosystem Services*, *49*, 101279. https://doi.org/10.1016/j.ecoser.2021.101279

Markou, M.., Stylianou, A., Giannakopoulou, M. & Adamides, G. (2020). Identifying business-to-business unfair trading practices in the food supply chain: The case of Cyprus. *New Medit*, *1*, 19–34. https://doi.org/10.30682/nm2001b

Masamha, B., Thebe, V., & Uzokwe, V. N. (2018). Mapping cassava food value chains in Tanzania's smallholder farming sector: The implications of intra-household gender dynamics. *Journal of Rural Studies*, *58*, 82–92. https://doi.org/10.1016/j.jrurstud.2017.12.011

Mashud, A. H. M., Hasan, M. R., Daryanto, Y., & Wee, H. M. (2021). A resilient hybrid payment supply chain inventory model for post Covid-19 recovery. *Computers & Industrial Engineering*, *157*, 107249. https://doi.org/10.1016/j.cie.2021.107249

McLaren, A. (2015). Asymmetry in price transmission in agricultural markets. *Review of Development Economics*, *19*(2), 415–433. https://doi.org/10.1111/rode.12151

McNarry, G., Allen-Collinson, J., & Evans, A. B. (2019). Reflexivity and bracketing in sociological phenomenological research: Researching the competitive swimming lifeworld. *Qualitative Research in Sport, Exercise and Health*, *11*(1), 138–151. https://doi.org/10.1080/2159676X.2018.1506498

Mirick, R. G., & Wladkowski, S. P. (2019). Skype in qualitative interviews: Participant and researcher perspectives. *The Qualitative Report*, *24*(12), 3061–3072. https://doi.org/10.46743/2160-3715/2019.3632

Moin, C. J., Iqbal, M., Malek, A. A., & Haque, R. (2020). Time-based process mapping for lead time compression in the apparel supply chain: A Case Study. *International Journal of Mathematical, Engineering and Management*

Sciences, *5*(1), 96–107. https://doi.org/10.33889/IJMEMS.2020.5.1.009

Monday T. U. (2020). Complexity of the teaching-learning process of youth French-language literature. *Journal of Digital Art & Humanities, 1*(1), 15–24. https://doi.org/10.33847/2712-8148.1.1_2

Mortelmans, D. (2019). Analyzing qualitative data using NVivo. In *The Palgrave Handbook of Methods for Media Policy Research* (pp. 435–450). Palgrave Macmillan, Cham.

Mthuli, S. A., Ruffin, F., & Singh, N. (2021). 'Define, Explain, Justify, Apply' (DEJA): An analytic tool for guiding qualitative research sample size. *International Journal of Social Research Methodology*, 1–13. https://doi.org/10.1080/13645579.2021.1941646

Munksgaard, K. B., Stentoft, J., & Paulraj, A. (2014). Value-based supply chain innovation. *Operations Management Research*, *7*, 50–62. https://doi.org/10.1007/s12063-014-0092-y

Munir, M., Jajja, M. S. S., Chatha, K. A., & Farooq, S. (2020). Supply chain risk management and operational performance: The enabling role of supply chain integration. *International Journal of Production Economics*, *227*, 107667. https://doi.org/10.1016/j.ijpe.2020.107667

Murali, K., Lim, M. K., & Petruzzi, N. C. (2019). The effects of ecolabels and environmental regulation on green product development. *Manufacturing & Service Operations Management*, *21*(3), 519–535. https://doi.org/10.1287/msom.2017.0703

Nicholas, C., Raufdeen, R., & Reza, H. (2016). Drivers for adopting reverse logistics in the construction industry: A qualitative study. *Engineering, Construction and Architectural Management*, *23*, 134–157. https://doi.org/10.1108/ECAM-06-2014-0087

Nitsche, B., & Straube, F. (2020). Efficiently managing supply chain volatility–a management framework for the manufacturing industry. *Procedia Manufacturing*, *43*, 320–327. https://doi.org/10.1016/j.promfg.2020.02.166

Nguyen, N., & Pervan, S. (2020). Retailer corporate social responsibility and consumer citizenship behavior: The mediating roles of perceived consumer effectiveness and consumer trust. *Journal of Retailing and Consumer Services*, *55*, 102082. https://doi.org/10.1016/j.jretconser.2020.102082

Nneka, N. (2021). Enhanced Quality Service Assurance System: A Better Approach to Service Delivery. *Journal of Scientific Reports*, *3*(1), 51–68. https://doi.org/10.5281/zenodo.5256090

Ocampo, P. C., Prada, R., & Rueda, M. J. (2020). Sustainability supply chain orientation bibliometric agenda. *In Handbook of Research on Project Management Strategies and Tools for Organizational Success*, 393–410. https://doi.org/10.4018/978-1-7998-1934-9.ch017

O'Hara, J., & Benson, M. (2019). Where have all the direct-marketing farms gone? *Journal of Agriculture, Food Systems, and Community Development, 9*(1), 31–37. https://doi.org/10.5304/jafscd.2019.091.046

Parashar, S. (2019). Research brokers, researcher identities and affective performances:

the insider/outsider conundrum. *Civil Wars*, *21*(2), 249–270. https://doi.org/10.1080/13698249.2019.1634304

Pervez Bharucha, Z., Attwood, S., Badiger, S., Balamatti, A., Bawden, R., Bentley, J. W., Chander, M., Davies, L., Dixon, H., Dixon, J., D'Souza, M., Flora, C. B., Green, M., Joshi, D., Komarek, A. M., McDermid, L. R., Mathijs, E., Rola, A. C., Patnaik, S., . . . & Pretty, J. (2021). The Top 100 questions for the sustainable intensification of agriculture in India's rainfed drylands. *International Journal of Agricultural Sustainability*, *19*(2), 106–127. https://doi.org/10.1080/14735903.2020.1830530

Pinto, J. T., & Diemer, A. (2020). Supply chain integration strategies and circularity in the European steel industry. *Resources, Conservation and Recycling*, *153*, 104517. https://doi.org/10.1016/j.resconrec.2019.104517

Pournader, M., Kach, A., & Talluri, S. (2020). A review of the existing and emerging topics in the supply chain risk management literature. *Decision Sciences*, *51*(4), 867–919. https://doi.org/10.1111/deci.12470

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance.* New York, NY: Free Press.

Prananingtyas, P & Zulaekhah, S. (2021). The effect of logistics management, supply chain facilities and competitive storage costs on the use of warehouse financing of agricultural products. *Uncertain Supply Chain Management*, *9*(2), 457–464. https://doi.org/10.5267/j.uscm.2021.1.005

Prasetyo, P., & Dzaki, F. (2020). Institutional performance and new product development

value chain for entrepreneurial competitive advantage. *Uncertain Supply Chain Management*, *8*(4), 753–760. https://doi.org/10.5267/j.uscm.2020.7.004

Qu, Z., & Raff, H. (2021). Vertical contracts in a supply chain and the bullwhip effect. *Management Science*, *67*(6), 3744–3756. https://doi.org/10.1287/mnsc.2020.3630

Quansah, C., Frimpong, A., & Mensah, R. O. (2020). Factors influencing the effects of large-scale land acquisition on the livelihood of smallholder farmers in the Pru District of Ghana. *European Scientific Journal, 16*(11), 159. https://doi.org/10.19044/esj.2020.v16n11p159

Ramesh, K., Saha, R., Goswami, S., & Dahiya, R. (2019). Consumer's response to CSR activities: Mediating role of brand image and brand attitude. *Corporate Social Responsibility and Environmental Management*, *26*(2), 377–387. https://doi.org/10.7819/rbgn.v21i3.4003

Raza, S.A. (2020). A systematic literature review of closed-loop supply chains, *Benchmarking: An International Journal*, *27*(6), 1765–1798. https://doi.org/10.1108/BIJ-10-2019-0464

Rutakumwa, R., Mugisha, J. O., Bernays, S., Kabunga, E., Tumwekwase, G., Mbonye, M., & Seeley, J. (2020). Conducting in-depth interviews with and without voice recorders: A comparative analysis. *Qualitative Research*, *20*(5), 565–581. https://doi.org/10.1177/1468794119884806

Roberts, R. E. (2020). Qualitative interview questions: Guidance for novice researchers. *Qualitative Report*, *25*(9), 3185–3203. https://doi.org/10.46743/2160-

3715/2020.4640

Rondoni, A., Asioli, D., & Millan, E. (2020). Consumer behaviour, perceptions, and preferences towards eggs: A review of the literature and discussion of industry implications. *Trends in Food Science & Technology*, *106*, 391–401. https://doi.org/10.1016/j.tifs.2020.10.038

Roos, D., & Hahn, R. (2019). Understanding collaborative consumption: An extension of the theory of planned behavior with value-based personal norms. *Journal of Business Ethics*, *158*(3), 679–697. https://doi.org/10.1007/s10551-017-3675-3

Rose, J., & Johnson, C. W. (2020). Contextualizing reliability and validity in qualitative research: *Research*, *51*(4), 432–451. https://doi.org/10.1080/00222216.2020.1722042

Rosol, M., & Barbosa, R. (2021). Moving beyond direct marketing with new mediated models: Evolution of or departure from alternative food networks? *Agriculture and Human Values*, *38*, 1–19. https://doi.org/10.1007/s10460-021-10210-4

Sablan, J. R. (2019). Can you really measure that? Combining critical race theory and quantitative methods. *American Educational Research Journal*, *56*(1), 178–203. https://doi.org/10.3102/0002831218798325

Santpoort, R. (2020). The drivers of maize area expansion in sub-Saharan Africa: How policies to boost maize production overlook the interests of smallholder farmers. *Land*, *9*(3), 68. https://doi.org/10.3390/land9030068

Sarkis, J. (2021). Supply chain sustainability: Learning from the Covid-19 pandemic. *International Journal of Operations & Production Management*, *41(*1),

63–73. https://doi.org/10.1108/IJOPM-08-2020-0568

Schleifer, P., & Sun, Y. (2020). Reviewing the impact of sustainability certification on food security in developing countries. *Global Food Security*, *24*, 100337. https://doi.org/10.1016/j.gfs.2019.100337

Sechelski, A. N., & Onwuegbuzie, A. J. (2019). A call for enhancing saturation at the qualitative data analysis stage via the use of multiple qualitative data analysis approaches. *The Qualitative Report*, *24*(4), 795–821. https://doi.org/10.46743/2160-3715/2019.3554

Semmler, W., Braga, J. P., Lichtenberger, A., Toure, M., & Hayde, E. (2021). Fiscal Policies for a Low-Carbon Economy. World Bank, Washington, DC. © World Bank.

Shaheen, M., & Pradhan, S. (2019). Sampling in qualitative research. *Qualitative Techniques for Workplace Data Analysis,* 25–51. https://doi.org/10.4018/978-1-5225-5366-3.ch002

Shaikh, F. A., Shahbaz, M. S., & Odhano, N. (2020). A short review on green supply chain management practices: The impact on operational and environmental performance. *Engineering, Technology & Applied Science Research*, *10*(2), 5367–5370. https://doi.org/10.48084/etasr.3382

Sharma, R., Kamble, S. S., & Gunasekaran, A. (2018). Big GIS analytics framework for agriculture supply chains: A literature review identifying the current trends and future perspectives. *Computers and Electronics in Agriculture*, *155*, 103–120. https://doi.org/10.1016/j.compag.2018.10.001

Shekarian, M., & Parast, M. M. (2020). An Integrative approach to supply chain disruption risk and resilience management: A literature review. *International Journal of Logistics Research and Applications*, *24*(5), 1–29. https://doi.org/10.1080/13675567.2020.1763935

Shekarian, M., Nooraie, S. V. R., & Parast, M. M. (2020). An examination of the impact of flexibility and agility on mitigating supply chain disruptions. *International Journal of Production Economics*, *220*, 107438. https://doi.org/10.1016/j.ijpe.2019.07.011

Smith, J. A. (2019). Participants and researchers searching for meaning: Conceptual developments for interpretative phenomenological analysis. *Qualitative Research in Psychology*, *16*(2), 166–181. https://doi.org/10.1080/14780887.2018.1540648

Soetriono, S., Soejono, D., Hani, E. S., Suwandari, A., & Narmadityan, B. S. (2020). Challenges and opportunities for agribusiness development: Lesson from Indonesia. *The Journal of Asian Finance, Economics and Business, 7(*9), 791–800. https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.791

Song, H., & Gao, X. (2018). Green supply chain game model and analysis under revenue-sharing contract. *Journal of Cleaner Production*, *170*, 183–192. https://doi.org/10.1016/j.jclepro.2017.09.138

Stevenson, G. W., Clancy, K., King, R., Lev, L., Ostrom, M., & Smith, S. (2011). Midscale food value chains: An introduction. *Journal of Agriculture, Food Systems, and Community Development*, *1*, 27–34. https://doi.org/10.5304/jafscd.2011.014.007

Stevenson, G. W., & Pirog, R. (2008). Values-based supply chains: Strategies for agrifood enterprises of the middle. *Food and the mid-level farm: Renewing an agriculture of the middle*, London, UK: The MIT Press 2008.

Stockemer, D. (2019). *Quantitative methods for the social sciences* (Vol. 50, p. 185). Springer International Publishing.

Sunardi, S. (2021). Conservative working capital policy: Can it increase profitability and sustainable growth rate? *Turkish Journal of Computer and Mathematics Education*, *12*(3), 5630-5637. https://doi.org/10.17762/turcomat.v12i3.2237

Suresh, N. C., Sanders, G. L., & Braunscheidel, M. J. (2020). Business continuity management for supply chains facing catastrophic events. *IEEE Engineering Management Review*, *48*(3), 129–138. https://doi.org/ 10.1109/EMR.2020.3005506

Sutduean, J., Singsa, A., Sriyakul, T., & Jermsittiparsert, K. (2019). Supply chain integration, enterprise resource planning, and organizational performance: The enterprise resource planning implementation approach. *Journal of Computational and Theoretical Nanoscience*, *16*(7), 2975–2981. https://doi.org/10.1166/jctn.2019.8204

Szalavetz, A. (2019). Industry 4.0 and capability development in manufacturing subsidiaries. *Technological Forecasting and Social Change*, *145*, 384–395. https://doi.org/10.1016/j.techfore.2018.06.027

Tang, L., Yang, T., Tu, Y., & Ma, Y. (2021). Supply chain information sharing under consideration of bullwhip effect and system robustness. *Flexible Services and*

Manufacturing Journal, *33*, 337–380. https://doi.org/10.1007/s10696-020-09384-6

Tarigan, Z., Mochtar, J., Basana, S & Siagian, H. (2021). The effect of competency management on organizational performance through supply chain integration and quality. *Uncertain Supply Chain Management*, *9*(2), 283-294. https://doi.org/10.5267/j.uscm.2021.3.004

Tate, W. L., Bals, L. and Marshall, D. (2019), Supply chain management at the base of the pyramid. *International Journal of Physical Distribution & Logistics Management*, *49*(5), 438–450. https://doi.org/10.1108/IJPDLM-06-2019-390

Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing*, *7*(3), 155–163. https://doi.org/10.5281/zenodo.2552022

Thompson, R. (2018). A qualitative phenomenological study of the emotional and cultural intelligence of international students in the United States of America. *Journal of International Students*, *8*, 1220–1255. https://doi.org/10.5281/zenodo.1250423

Thurairajah, K. (2019). Uncloaking the researcher: Boundaries in qualitative research. *Qualitative Sociology Review*, (1), 132–147. http://dx.doi.org/10.18778/1733-8077.15.1.06

Tsai, Y., & Lasminar, R. (2021). Proactive and reactive flexibility: How does flexibility mediate the link between supply chain information integration and performance? *International Journal of Engineering Business Management, 13*, 1–12.

https://doi.org/10.1177/18479790211007624

Tsan, M. F., & Tsan, G. L. (2020). How should organizations respond to repeated non compliance by prominent researchers? *AMA Journal of Ethics*, *22*(3), 201–208. https://doi.org/10.1001/amajethics.2020.201

Ulusoy, E., & Schembri, S. (2018). Subculture as learning context: Subcultural music consumption as language, channel and journey. *Consumption, Markets & Culture, 21*, 239–254. https://doi.org/10.1080/10253866.2018.1447463

National Commission for the Protection of Human Subjects and Biomedical and Behavioral Research. (1979). *The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research*. U.S. Department of Health and Human Services. https://doi.org/10.1017/cbo9780511550089.028

Vaismoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2019). Theme in qualitative content analysis and thematic analysis. *In Forum Qualitative Sozialforschung/Forum: Qualitative Social Research, 20*(3). https://doi.org/10.17169/fqs-20.3.3376

van Meijl, H., Shutes, L., Valin, H., Stehfest, E., van Dijk, M., Kuiper, M., Tabeau, A., van Zeist, W., Hasegawa, T., & Havlik, P. (2020). Modelling alternative futures of global food security: Insights from FOODSECURE. *Global Food Security*, *25*, 100358. https://doi.org/10.1016/j.gfs.2020.100358

Vilalta-Perdomo, E., & Hingley, M. (2018). Beyond links and chains in food supply: A Community OR perspective. *Journal of the operational research society*, *69*(4), 580–588. https://doi.org/10.1057/s41274-017-0252-1

Vitale, S., Biondo, F., Giosuè, C., Bono, G., Okpala, C. O. R., Piazza, I., Sprovieri, M., & Pipitone, V. (2020). Consumers' perception and willingness to pay for eco-labeled seafood in Italian hypermarkets. *Sustainability*, *12*(4), 1434. https://doi.org/10.3390/su12041434

Witter, A., Murray, G., & Sumaila, U. R. (2021). Consumer seafood preferences related to alternative food networks and their value chains. *Marine Policy*, *131*, 104694. https://doi.org/10.1016/j.marpol.2021.104694

Xiao, Q., Chen, L., Xie, M., & Wang, C. (2021). Optimal contract design in sustainable supply chain: Interactive impacts of fairness concern and overconfidence. *Journal of the Operational Research Society*, *72*(7), 1505-1524. https://doi.org/10.1080/01605682.2020.1727784

Yang, Y., Pham, M.H., Yang, B., Sun, J.W. & Tran, P.N.T. (2021). Improving vegetable supply chain collaboration: A case study in Vietnam, *Supply Chain Management, 27*(1), 54-65. https://doi.org/10.1108/SCM-05-2020-0194.

Ye, F., Lin, Q., & Li, Y. (2020). Coordination for contract farming supply chain with stochastic yield and demand under CVaR criterion. *Operational Research*, *20*(1), 369–397. https://doi.org/10.1007/s12351-017-0328-3

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

Yoon, J., Talluri, S., & Rosales, C. (2020). Procurement decisions and information sharing under multi-tier disruption risk in a supply chain. *International Journal of*

Production Research, *58*(5), 1362–1383. https://doi.org/10.1080/00207543.2019.1634296

Youn, S. Y., & Lee, K. H. (2019). Proposing value-based technology acceptance model: Testing on paid mobile media service. *Fashion and Textiles*, *6*(1), 1–16. https://doi.org/10.1186/s40691-018-0163-z

Yun, G., Yalcin, M. G., Hales, D. N., & Kwon, H. Y. (2019). Interactions in sustainable supply chain management: a framework review. *The International Journal of Logistics Management, 30*(1), 140–173. https://doi.org/10.1108/IJLM-05-2017-0112

Zahra, M. B., Aftab, Z. E. H., & Haider, M. S. (2021). Water productivity, yield and agronomic attributes of maize crop in response to varied irrigation levels and biochar–compost application. *Journal of the Science of Food and Agriculture, 101*(11), 4591-4604. https://doi.org/10.1002/jsfa.11102

Zhang, Y., Xiao, C., & Zhou, G. (2020). Willingness to pay a price premium for energy-saving appliances: Role of perceived value and energy efficiency labelling. *Journal of Cleaner Production*, *242*, 118555. https://doi.org/10.1016/j.jclepro.2019.118555

Zilberman, D., Lu, L., & Reardon, T. (2019). Innovation-induced food supply chain design. *Food Policy*, *83*, 289–297. https://doi.org/10.1016/j.foodpol.2017.03.010

Zimon, D., Madzik, P. & Sroufe, R. (2020), Management systems and improving supply chain processes: Perspectives of focal companies and logistics service providers, *International Journal of Retail & Distribution Management*, *48*(9),

939–961. https://doi.org/10.1108/IJRDM-04-2019-0107

Appendix A: Interview Protocol

Interview preparation.

- I will search for potential participants through LinkedIn and the "Groupement Inter-patronal du Cameroun (GICAM)" website.
- I will contact the potential participants by email with an invitation to participate (Appendix C).
- I will attach in the invitation email a copy of the informed consent with my contact information in case they decide to withdraw from the study.
- I will obtain informed consent through the participants replying, "I consent" the Invitation to Participate email with the informed consent form attached.
- I will propose the interview settings subject the participants' conveniences and approval, such as a zoom conference call.

Interview Protocol

What will you do?	What will you say? —script
Introduce the interview and set the stage • Ensure participant is comfortable • Inform participant that I will be recording the interview	I am Edwin Ngwa, a student with Walden University completing my doctorate in Business Administration. I am grateful for your consent to do this interview and for returning the signed consent form to me. The purpose of my research is to explore the strategies agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability. I am confident that your contribution to this interview will provide insight that could assist other agribusiness supply chain leaders in their agribusiness sustainable supply chain strategies. This interview will take approximately one hour. I will transcribe your responses from this interview as well as use a tape recorder. Do you have any questions about the interview process?
Assign participant a pseudonym	From here on, I will refer to you as _____.
Eligibility confirmation	How many years of experience in agribusiness supply chain management do you have in Cameroon? Are you a supply chain manager or a supply chain director? Have you previously developed sustainable supply chain link strategies with local producers?

Commence the interview	Now that you are comfortable, I will begin the recordings as I ask you six predetermined questions. 1. What strategies did you use to develop sustainable supply chain links with local producers to maintain profitability? 2. How did you determine the best strategies for developing sustainable supply chain links with local producers? 3. What were the key challenges your organization faced when developing sustainable supply chain links with local producers? 4. How did your organization overcome the key challenges encountered while implementing strategies to develop sustainable supply chain links with local producers? 5. Based on your organization's experience, how did your supply chain strategies contribute to the profitability of your organization? 6. What additional information regarding strategies for developing sustainable supply chain links with local producers to maintain profitability would you like to add that we have not already discussed?
Wrap up interview thanking participant	I appreciate you taking the time to accommodate me in your hectic schedule. Your voluntary contribution is invaluable. I will need to meet with you again to verify my understanding of your answers to the questions. We are at the end of the interview.
Schedule follow-up member checking interview	When would be a good time next week to do the member checking interview? Date_____ Time_____ Place_____ Feel free to contact me if you have any questions.
	Interview Protocol Ends

Appendix B: Follow-Up Member Checking Process Protocol

What will you do?	What will you say? —script
Introduce the member checking procedure and set the stage • Ensure that the participant is comfortable • Inform participant that I will be recording the member checking procedure	As I informed you before, I am Edwin Ngwa, a student with Walden University completing my doctorate in Business Administration. Please accept my gratitude for your participation in this study as I seek to explore the strategies agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability. I am confident that your contribution to this member checking procedure will provide further insight and aid indepth analysis. I want to ensure that I captured all the detail from our previous meeting, so this procedure should take approximately 30 minutes. I will use a tape recorder to record your responses. Do you have any questions about the member checking process?
Commence the member checking procedure **1.** Question followed by concise interpretation **2.** Question followed by concise interpretation **3.** Question followed by concise interpretation **4.** Question followed by concise interpretation **5.** Question followed by concise interpretation **6.** Question followed by concise interpretation End the recording	Now that you are comfortable, here is a synthesized copy of my interpretation of your responses in the interview. Please read through this copy and indicate when you are ready to respond so I can begin recording. 1. Does the information correctly reflect your responses from this interview question? 2. Does this cover the essence of your responses? 3. Would you care to add any detail to this interpretation?
Wrap up focus group thanking the participant	Here ends the member checking session. Again, thank you for the time you spend with me in providing information. You have provided valuable detail that will add value and depth to my doctoral study. We have come to the end of the interview, and I wish you all the best in your continued endeavors.
Member Checking Protocol Ends	

Appendix C: Invitation to Participant E-Mail Script

Hello,

INVITATION TO PARTICIPATE ON THE RESEARCH PROJECT TITLED: STRATEGIES FOR DEVELOPING SUSTAINABLE SUPPLY CHAIN LINKS WITH LOCAL PRODUCERS

You are invited to take part in a research study about the strategies agribusiness managers use to develop sustainable supply chain links with local producers to maintain profitability.

Please find attached an "**informed consent**" to allow you to understand this study before deciding whether to take part. When you read the attached consent form and feel you understand the study and wish to volunteer, please indicate your consent by **replying to this email with the words, "I consent"**.

This study is being conducted by a researcher named Edwin Ngwa, who is a Doctor of Business Administration student at Walden University.

If you are willing to participate please suggest a day and time that suits you and I'll do my best to be available for an online interview. If you have any questions please do not hesitate to ask.

Kind Regards
Edwin Ngwa