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Organic Food Supply Chain Efficiency Strategies to Reduce Costs for Local Food Businesses

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
2024

Abstract

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MBA, Gardner-Webb University, 2013

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The price of organic foods makes consumers unable to reduce risks of specific health issues, including pesticide-related diseases and allergies. Supply chain managers are concerned that the financial barrier to accessing organic foods can exacerbate nutritional inequalities, particularly affecting communities facing food insecurity. Grounded in the resource dependency theory, the purpose of this qualitative pragmatic inquiry was to explore the processes supply chain leaders at four organizations use to supply organic foods to local grocery stores in South Carolina. The data collected from four semistructured interviews were thematically analyzed, resulting in six primary themes: organic certification, food appearance, expensive freight costs, speed of food distribution, labor, and relationships with farmers. A primary recommendation for organic food suppliers is to develop relationships with transit organizations and be creative in the strategies used to transport produce. The implications for positive social change include the potential to reduce organic food production costs to make organic produce less expensive and more attainable to all consumers.

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Dedication

This study is dedicated to my two amazing sons, Metz and Creed. You two are my why! Even without knowing, you both gave me the motivation and strength I needed to push through and complete my study. I hope you always pursue your goals no matter what obstacles you face. I love you both so much!

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Section 1: Foundation of the Study

Organic foods offer momentous benefits to the food industry; however, the price of organic foods are significantly higher than conventional foods (Islam & Colonescu, 2019). Many businesses lack strategies to effectively reduce organic food prices, and this price differential makes organic foods inaccessible to many consumers.

Background of the Problem

The food supply chain consists of growing, producing, storing, packaging, distributing, and marketing foods (Champions, 2017). In the organic food supply chain, crops are free of harmful chemicals, including pesticides and fertilizers. Organic farmers face many inefficiencies in the supply chain process, which increases organic food costs (Orsini et al., 2019, p. 808). In September 2021, the average price of organic produce was 36% higher than conventional produce (U.S. Department of Agriculture [USDA], 2021). Determining successful strategies to reduce organic food production costs could increase the accessibility of organic foods. A significant problem in the organic food market is that organic food supply chain leaders often lack effective strategies to reduce organic food production costs.

Problem and Purpose

The specific business problem was that some organic food supply chain leaders lack strategies to reduce organic food production costs. Therefore, the purpose of this qualitative pragmatic inquiry was to explore the processes supply chain leaders at four organizations use to supply organic foods to local grocery stores in South Carolina.

Population and Sampling

The target population was four successful organic supply chain leaders that supply food to local grocery stores in South Carolina. This population was appropriate for this study because they could provide effective strategies used to supply food to local grocery stores in large and small sectors. I used purposive sampling to identify supply chain leaders at four organizations who had successfully provided organically grown food to local grocery stores for more than 5 years. The participants received information about the study by email before they took part in semistructured interviews over the phone. In addition to interviews, I reviewed organizational documents from the participants as secondary source data. The goal for this study was to identify supply chain strategies that can be used to help reduce organic food production costs.

Nature of the Study

The three major research methods are qualitative, quantitative, and mixed (Saunders et al., 2016). I used the qualitative method. Qualitative studies provide richer results and are used to explore the subject in a real-life situation and establish meanings through words (Saunders et al., 2016). In a quantitative study, researchers collect statistical data that are processed to be useful and measured objectively to identify the relationships between variables (Firestone, 1987; Saunders et al., 2016). Statistical data are unsuitable for gathering subjective information; therefore, the quantitative method was not appropriate for this study. Mixed methods research integrates at least one qualitative and one quantitative research component (Kansteiner & Konig, 2020), which was not necessary to address the focus of this study. The qualitative methodology was

most appropriate because it allowed me to delve into the efficacious supply chain strategies that successful organic food suppliers have implemented to reduce organic food production costs.

Four common qualitative research designs are pragmatic inquiry, case study research, ethnography, and narrative inquiry (Merriam & Tisdell, 2016). I conducted a pragmatic inquiry to determine the strategies the participants used to manage organic food supply efficiently. Ethnography is a process that focuses on society and culture (Merriam & Tisdell, 2016), which would not have contributed to purpose of this study. Researchers use the narrative design for personal storytelling in a chronologic or sequential format (Saunders et al., 2016). Narrative research was not appropriate to address the topic under study because its use would have resulted in a large amount of irrelevant information. With a case study design, a researcher uses a person, group, organization, association, change process, or event to understand the real-life business setting (Saunders et al., 2016). The case study design would not have been effective for this study because the focus was on supply chain strategies across multiple organizations. The pragmatic inquiry method allows researchers to identify specific strategies that industry leaders use (Waibel et al., 2015). Therefore, I expected that the pragmatic inquiry would enable me to understand the strategies and practices of various successful organic food suppliers that have reduced organic food production costs.

Research Question

What strategies do organic food supply chain leaders use to effectively reduce organic food production costs?

Interview Questions

1. What strategies do you use that contribute to an increase in the price of organic food production costs when compared to conventional food production costs?
2. What transportation strategies have you implemented to minimize the supply chain process?
3. What process of the supply chain have you eliminated to increase efficiency?
4. What were the key barriers you faced in creating a more efficient supply chain?
5. How did you overcome the key challenges that you faced in producing a more efficient supply chain?
6. How do you assess the effectiveness of the strategies you use to reduce organic food prices?
7. What additional information can you provide on the strategies you have employed to reduce organic food production costs?

Conceptual Framework

I used the resource dependency theory (RDT) as the conceptual framework of this study. Pfeffer and Salancik (1978) developed the RDT, proposing that a business' success relies on the environment and the members of the supply chain (Hofer et al., 2012). The RDT is used to study how retailers and suppliers interact in the environment, and since a company relies on the environment for success, the leader relies on the supply chain members as well (Hofer et al., 2012). The RDT is used to identify the relationship

between supply chain members to create more efficiency and lower costs. The theory was relevant to this study because it is used to analyze member relationships, which enabled me to identify the supply chain strategies that participants used to reduce organic food production costs.

Operational Definitions

Organic food: Foods that are produced with fewer, and oftentimes no, chemicals, contaminants, preservatives, antibiotics, or hormones and are more environmentally friendly than conventional food (Ashaolu & Ashaolu, 2020).

Phenomenon: A participant's lived experience and their interpretation of the experience (Saunders et al., 2016).

Resource dependence: When an organization requires specific financial, physical, and informational resources from the environment (Pfeffer & Salancik, 2003).

Retailer: A seller of products to the ultimate consumer that utilizes a business-to-customer model (Suh, 2021).

Wholesaler: An business that purchases goods in bulk and focuses on a business-to-business model (Suh, 2021).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are concepts that are treated as truths but are not proven and help create a creditable foundation for research (Almasri & McDonald, 2021). I conducted this study under the assumption that successful organic food suppliers would be willing to participate in this study and contribute with honest and thorough answers. Another

assumption was that the participants would possess knowledge of the strategies that can reduce organic food production costs.

Limitations

Limitations are possible weaknesses of a study. Identifying limitations allows researchers to better understand the research findings and apply them to the study (Shahriari & Rasuli, 2020). There were multiple limitations of this study. One limitation was that some participants may not have shared thorough supply chain strategies, limiting the accuracy of the data. Another limitation was that the strategies used for one participant may not be successful for other participants. The final limitation identified was that although some businesses may have sufficient supply chain strategies, the costs associated with organic food labeling may prevent a reduction in organic food costs.

Delimitations

Delimitations are used to establish the outlook of the study, share the study's scope, and provide reasoning behind why the researcher set the boundaries of the study as they did (Theofanidis & Fountouki, 2018). The focus of this study was to identify successful supply chain strategies used by organic food suppliers to reduce production costs. The study was delimited to supply chain leaders at four organizations who supply organic foods to local grocery stores in South Carolina. This study did not include organic food suppliers outside of the South Carolina area and did not address why the suppliers choose to sell organic foods. Additionally, this study did not address the supply chain strategies used for conventional foods.

Significance of the Study

This study may contribute to effective business practices because there is currently limited research on organic food supply chain efficiency. Determining the successful supply chain strategies that organic food business leaders have used to reduce production costs may help other food suppliers identify favorable strategies to implement into their practices. Vieira et al. (2013) indicated that although wholesalers manage small organic producers, the perceived value comes from retailers. However, creating efficiency throughout the supply chain can balance out the value perception of retailers, wholesalers, and other supply chain members.

The implications for positive social change include the potential to reduce prices and provide consumers with more access to organic foods, increasing health benefits to residents of local communities served by the food producers. Vigar et al. (2020) found that there was up to a 90% reduction in pesticide metabolites excreted when participants consumed an organic food diet. Human exposure to pesticides causes many health-related issues, including cancer and death (Hassaan & Nemr, 2020). The findings of this study may be used to help establish effective food supply strategies to reduce organic food production costs, allowing businesses to offer healthier options to society.

A Review of the Professional and Academic Literature

I conducted this qualitative study to identify the strategies that successful organic food suppliers use to reduce organic food production costs. In this literature review, I synthesize peer-reviewed articles related to the topic under study. The purpose of this literature review was to demonstrate how the professional and academic literature found

is relevant to the current study's conceptual framework and research topic. The literature review process assists in finding gaps in the current literature, allowing the researcher to fully understand and clarify the topic by interpreting and synthesizing data and reinforce the conceptual framework before interpreting their findings (Leite et al., 2019). Conducting this literature review provided me with a deeper understanding of the topic and conceptual framework to better interpret the data collected in the study.

This literature review includes an exhaustive evaluation of articles relating to the RDT and alternative conceptual theories, supply chain management, food supply chain, organic food supply chain, and organic food pricing. I utilized the RDT to examine the relationships between supply chain members and identify strategies used to create a more efficient and effective supply chain. The criteria used to select appropriate data for this study included sources that are peer reviewed; published in 2018 or later; and related to RDT, supply chain management, organic food, and the organic food supply chain.

I searched for the literature in the following databases and search engines accessible through the Walden University Library: ScienceDirect, Emerald Insight, Gale Academic OneFile Select, Business Search Complete, and Google Scholar. I expanded my search further by utilizing data from the USDA. The most common keywords and phrases used in my searches were *resource dependency theory, supply chain management, organic food supply chain, organic food benefits,* and *organic food prices.* I expanded my research on the RDT by also searching for alternative conceptual framework theories, including the *transaction cost economics theory* and *social exchange theory.* This literature review includes 81 peer-reviewed journal articles from the 167

articles that I read. Of the articles that are included in this review, 89% of them were published within the past 5 years.

Table 1

Literature Review Sources

Literature type	Older than 5 years	2018	2019	2020	2021	2022	2023	Total #	Total %
Peer-reviewed articles	12	9	9	22	8	19	2	81	87%
Non-peer-reviewed articles	0	0	0	0	0	0	0	0	0%
Books	4	0	0	0	1	0	0	5	5%
Other	5	0	1	1	0	0	0	7	8%
Total	21	9	10	23	9	19	2	93	100%
Total sources published within 5 years								72	89%

The outcome of this search process resulted in seven main categories and four subcategories that I use to present and discuss the literature in this section. The subject categories are RDT, supply chain management, food supply chain, organic foods, organic food supply chain, organic food benefits, and organic food pricing. The subcategories include RDT constructs, alternative conceptual framework theories, green supply chain management, short food supply chain, and direct food supply chain. This research process allowed me to further understand my topic and identify any gaps in the current literature, supporting the need for conducting this study.

RDT

The purpose of this qualitative pragmatic inquiry was to explore the strategies organic food supply chain leaders, selling to grocery stores and farmers' markets, use to

reduce organic food production costs. It is helpful to understand member relationships to identify and interpret the supply chain strategies used. Using the RDT, I analyzed supply chain member relationships to determine successful supply chain strategies. Pfeffer and Salancik (1978) established the RDT, positing that organizations must rely on their environment to survive. In constructing and managing a firm's strategy, organizational leaders must identify how their firm is affected by external constraints, including outside resources (Pfeffer & Salancik, 1978). In this section, I establish the effectiveness of the RDT as it pertained to this study.

Established in 1973, the RDT is a commonly used theory for strategic management and is one of the most dominant organizational theories (Hillman et al., 2009). According to the RDT, an organization needs resources and must interact with the external environment to obtain resources and be successful (Celik, 2020). Using the RDT, organizational leaders can analyze the effect that external resources have on the firm and adjust, if necessary, the amount of dependence (Hillman et al., 2009). Identifying the impact that dependency has on a firm can allow organizational leaders to establish an equitable relationship and create a healthy balance among organizational dependencies, which is critical for success.

Researchers have found the RDT helpful in studying the relationships between supply chain members to identify a strategy to increase efficiency. The premise of the RDT is that to understand an organization, its surroundings must also be understood (Pfeffer & Salancik, 2003). The RDT provides a foundation to help comprehend the relationship between an organization, its members, and the environment (Drees &

Heugens, 2013). Using the RDT, organizational leaders can manage the internal and external environment, including the interdependence of resources (Hillman et al., 2009). Typically, the amount of dependence dictates the significance of the relationship (Sutton et al., 2021). Industry members must manage this relationship properly to create an efficient environment and gain a competitive advantage.

Most organizations are not entirely self-sufficient on their own because they typically lack all the resources needed to be successful; instead, organizations usually thrive when entrenched in a multiorganizational environment (Pfeffer & Salancik, 2003). For example, Mwai et al. (2014) interviewed 38 library staff workers from four major public universities and found that resources are an indicator of strength and power, resulting in a network of mutually dependent organizations. Pfeffer and Salancik (2003) asserted that organizations must acquire and maintain resources to survive and succeed. When the need for a resource escalates, and the availability of substitutes declines, an organization's resource dependence will increase (Sutton et al., 2021). The RDT can provide firms with a framework to strategically govern these organizational resources to ensure balance and stability (Sowe, 2019). Although resources are necessary and beneficial, business leaders should strive for balance to refrain from being wholly dependent on other organizations.

To remain competitive, business leaders must integrate both the internal and external environment. The RDT is an influential organizational behavior theory that assists in identifying limitations both in and outside the organization (Murphree & Anderson, 2018). When organizational leaders can focus on their core competencies and

outsource the areas where they are less efficient, there is an opportunity to reduce risks and increase production (Mwai et al., 2014). When deciding on outsourcing, it is imperative to focus on the organization's long-term needs to help fill in the gaps in its abilities (Bass & Chakrabarty, 2014; Mwai et al., 2014). As with any business operation, the supply chain process will be more effective when organizational leaders execute functions they do well and rely on partners for those they perform inadequately.

Some researchers and organizational leaders view the RDT as an ineffective operational theory. One critique is that using RDT creates an organization with inefficient internal resources, leading to an unbalanced dependency on partners (Teryokhin & Hannas, 2018). In contrast, Chamchong (2019) analyzed surveys from 881 local government bodies in northeast Thailand and contended that possessing vital resources within organizations enables competitive advantage and develops partnerships with other dependent organizations. Additionally, most RDT members often cultivate a mutually dependent relationship, which is present when there is interdependency in resources between an organization and its suppliers (Drees & Heugens, 2013). A significant benefit to this reciprocal supply chain relationship is that members can pool together their strengths to serve the consumers better.

A common hesitation in utilizing the RDT is the uncertainty that may come with depending on outside sources. Researchers often assume that organizations face more uncertainty as they become more dependent on resources (Sutton et al., 2021). Pfeffer and Salancik (2003) countered that potential complications of RDT did not derive from being dependent on the environment but instead from an environment that is not

dependable. To combat an unreliable environment, members must establish various strategies to reduce dependency while also developing an environment with highly accessible resources (Pu et al., 2020). Supply chain managers must control their environment by balancing the help they receive from outside resources with their internal resources (Sowe, 2019). Furthermore, leaders can use the RDT to curtail organizational uncertainty by adequately managing the member relationships to reduce dependencies (Basar et al., 2020). By focusing on an organization's strengths while not being fully reliant on partnerships, organizational leaders may use the RDT to create a business environment that operates efficiently and effectively.

RDT Constructs

A theoretical construct is a conclusion drawn from a theory; however, it usually cannot be observed (Dixon & Johnston, 2019). At a minimum, a construct is identified by conducting high-quality observations (Witte et al., 2022). Because measuring constructs is inferential, researchers commonly assess constructs using questionnaire-based methods (Dixon & Johnston, 2019). Power relations, interdependence, and diversification are three concepts generally inferred when gathering research through the lens of the RDT (Pfeffer & Salancik, 1978; Chen, 2019). Identifying these three constructs can allow the researcher to analyze the relationships within the supply chain relationship.

Measuring the amount of dependence and power that one organization has on the other is frequently discussed in the RDT. Some researchers have argued that organizations depend too heavily on other companies, creating a power imbalance (Yeh et al., 2020). Because organizations depend on resources to survive and some are

controlled by external companies, leaders must manage the amount of organizational power to acquire these pertinent resources (Kholmuminov et al., 2019; Yeh et al., 2020). Organizational leaders should obtain resources from multiple organizations to combat an imbalanced power relationship and alleviate dependency concerns (Jones et al., 2020). Additionally, organizational leaders should focus on decreasing their dependence on other companies while also increasing the amount of dependence from external organizations (Chu et al., 2019). Providing resources to other organizations can establish a foundation of power, and effectively managing the power relationship is crucial in maintaining a proper balance of power throughout the supply chain.

Interdependency is also a frequently mentioned construct in the RDT. Interdependency exists when firms have mutual dependence (Hossain et al., 2020). A mutual dependency is present when each organization maintains critical resources that the other needs (Tripathi, 2021). Organizations must create interdependence to obtain power and be successful (Chen, 2019). Greater interdependence reduces the risk of opportunistic behavior among partners and increases the level of trust (Xiao et al., 2019). Interdependency is an integral component of the RDT because it promotes a balanced relationship between supply chain members.

Diversification is a third construct regularly discussed in the RDT. To achieve diversification, organizational leaders enlarge their operations by adding additional external resources to decrease the dependence on current suppliers (Khurana & Farhat, 2021; Pfeffer & Salancik, 1978). Diversification is a great tactic when there is an imbalance of power and organizational leaders want to reduce their dependencies (Celik,

2020). In addition to bettering an organization's balance of power position, diversifying the supply chain can also decrease the organization's vulnerability (Nagy & Nguyen, 2021). Diversification stands to have a major impact on the firm's survival, requiring a highly strategic plan of action (Khurana & Farhat, 2021). Creating a strategy to diversify the supply chain demands extensive preparation but can be significantly beneficial to the organization and the supply chain as a whole.

Chen (2019) suggested that diversification is typically an outcome of managing interdependence within the organization. Organizational leaders can manage their interdependence by providing demanding and limited resources and identifying those resources in external suppliers (Celik, 2020). The RDT provides a foundation to manage power relations, interdependence, and diversification adequately (Hillman et al., 2009). The RDT has been shown to be an effective lens for enabling organizational leaders to properly manage their external relationships (Sherer et al., 2019). In the current study, I applied the RDT as a lens through which to view supply chain relationships to identify strategies that organic food supply chain leaders use to reduce organic food production costs.

Alternative Theories

The transaction cost economics (TCE) theory and social exchange theory (SET) are two alternative theories that may be constructive in supply chain research. The TCE theory combines economics and organization theory, identifying the costs associated with organizational exchanges (Williamson, 1979). TCE theory is one of the most common organization theories that supply chain researchers utilize (Ketokivi & Mahoney, 2020).

Researchers use the TCE theory to determine whether the cost of producing a product is higher or lower than the cost of purchasing from external firms (Sgroi & Sciancalepore, 2022). The TCE theory also helps researchers determine the best governance structure for their organization regarding transaction costs (Marjosola, 2021). Identifying the costs associated with all decisions is crucial when designing an organization's strategic plan.

Two primary sources of costs associated with the TCE include the firms' invested asset specificity and invested partner opportunity (Lee, 2022). The view of asset specificity as it pertains to the TCE theory assumes that it is costly and challenging to reorganize assets outside of their original purpose (Liu et al., 2018). The potential costs associated with invested partners arise when an organization's partners behave opportunistically due to a high level of asset specificity (Lee, 2022; Williamson, 1979). Business leaders can analyze these costs to create a proper balance of exchanges within the organization.

Using the TCE theory allows an organization to examine its transactions and the associated costs. It is important to note that exchanges occur both internally and externally when analyzing economic transactions (Ketokivi & Mahoney, 2020). One primary goal of the TCE theory is to reduce organizational production costs (Yeh et al., 2020). Reducing production costs is typically an effective strategy; however, the RDT contrarily emphasizes appropriating resources to maximize organizational value (Yeh et al., 2020). Although the TCE theory can be beneficial in identifying costs that arise from conducting transactions, the RDT was more appropriate for the current study because it focuses on necessary relationships between firms to create supply chain efficiency.

Another theory used to research the supply chain is the SET. In the SET, Blau (1964) postulated that an individual's effort is influenced by what they expect in return from another individual. The initial purpose of the SET was to understand human behavior during the exchange of resources, and it now provides researchers with greater insight into why supply chain members collaborate and how their relationship changes over time (Saglam et al., 2022). The foundation of the SET focuses on the reciprocal relationship between an individual and their organization (Kemp et al., 2021). Researchers have anticipated that individuals feel compelled to repay their organization and its members in an equal exchange (Garba et al., 2018). When researching the supply chain, applying the SET to understand the give-and-take relationship between its members can be beneficial.

The SET helps researchers identify the relationship between supply chain members and the amount of effort they are willing to exert. Researchers who use SET as a lens find that individuals' behavior centers around the cost versus the reward of the outcome (Kemp et al., 2021). Saglam et al. (2022) surveyed 156 managers from manufacturing firms in Turkey and found that when applied to the supply chain specifically, the SET demonstrates a collaborative and committed relationship between supply chain members when there is reciprocity. The reciprocation and fulfillment of expectations within the supply chain relationship help establish trust between members (Liu et al., 2018). While the SET may be complementary and work well with the RDT, this study requires more understanding of the exchange of resources rather than focusing

on the relationships between supply chain members, rendering RDT a more effective framework.

Supply Chain Management

Effective supply chain management produces the availability of high-quality products in a timely manner. The supply chain process includes all related activities in moving and transforming raw materials from manufacturers and processors to the hands of the end user (Huang, 2022; Nagy-Bota & Moldovan, 2022). In addition to moving products from producer to customer, supply chain management allows organizational members to frequently contact transport, warehousing, and distribution departments (Nagy-Bota, 2022). Increasing interorganizational communication can strengthen the organization as a whole.

Along with creating a stable organization, the relationships in the supply chain network should be strong. One supply chain member can affect other members, both directly and indirectly (Aljabhan & Abeyie, 2022). Supply chain management allows organizational members to improve their relationships with suppliers and customers, which enhances performance, competitiveness, and customer satisfaction (Saad et a., 2022). The partnerships within a supply chain allow organization members to add value to customers and be more responsive to their needs (Muangmee et al., 2022). Value creation is a major component of a successful supply chain.

When creating a supply chain strategy, it is imperative to incorporate sufficient coordination throughout the entire process. Coordinating the flow of materials, services, and information creates efficiency and can add value to the supply chain (Collier &

Evans, 2021; Xie et al., 2022). Implementing effective coordination is critical in the operation of a supply chain (Teryokhin & Hannas, 2018). It takes specialized skills to manage this process and move materials and products efficiently.

Supply chain management is a significant contributor to an organization's performance. Managers should regulate the supply chain strictly, as any component can potentially influence the health of the entire supply chain as well as the organization (Gautam et al., 2017; Wong et al., 2020). An inaccuracy or blunder within the supply chain stands to affect all members, both positively and negatively. Additionally, the supply chain process can impact an organization's revenue, assets, and costs (Madhani, 2022). A decrease in revenue combined with an increase in costs can be detrimental to a firm and the health of the supply chain. Properly managing an organization, its resources, and its suppliers can lead to an increase in performance and is pivotal for success.

Business leaders should understand how impactful supply chain management is to an organization. Supply chain management is an immeasurable business framework and is essential for every organization (Nagy-Bota, 2022). Typically, there is some flexibility of the supply chain in terms of lead time and production time, rate, and process (Sarkar & Chung, 2020). Supply chain management practices influence the flexibility and productivity of an organization and can assist leaders in obtaining a competitive advantage (Saad et al., 2022). Most organizational leaders strive to maintain a competitive advantage and increase performance.

Supply chain management enables organizational leaders to create and monitor relationships with suppliers to obtain external resources. Organizations that utilize a

multi-tier supply chain are in some way dependent on their suppliers (Kim et al., 2022). Further, organizations that do not have sufficient resources also develop a dependency on the organizations that maintain them (Teryokhin & Hannas, 2018). Researchers can view supply chain management from the RDT lens to help facilitate and manage these dependencies and create a mutually beneficial relationship between supply chain members.

The green movement has become increasingly popular over the last several years. Some consumers feel organizations are responsible for adopting green practices to restore the health of the environment (Singh & Misra, 2022). With the constant expansion of industrial activities and economic development throughout the world, environmental pollution and deteriorating conditions are increasing problems (Huang, 2022; Singh & Misra, 2022). In the supply chain alone, many factors are the cause of concern; toxic wastes, water pollution, water scarcity, and air quality are a few significant matters (Muangmee et al., 2022). Many organizations are moving to more green options in terms of supply chain management to combat these concerns and improve environmental conditions.

Green supply chain management incorporates techniques to sustain economic development. A green supply chain embodies environmentally friendly tactics in areas such as design, manufacturing, and transportation (Singh & Misra, 2022). Applying green practices to manufacturing and reverse logistics improves greenhouse gas emissions by 37.7% (Tsui, 2019). Research also shows that organizations implementing a green supply chain are often more efficient and transcend economically (Singh & Misra, 2022;

Latukha et al., 2019). Implementing green supply chain practices stand to benefit both the organization and the environment.

Organizational leaders must obtain and maintain relationships with suppliers who use green supply chain management practices to facilitate a green supply chain properly. All suppliers in a green supply chain must apply green techniques to every aspect of the supply chain, such as designing, purchasing, transporting, and managing waste (Maaz et al., 2022). Building relationships with green suppliers can sometimes be challenging due to the increased cost associated with the green supply chain, leaving some suppliers to focus more on profit rather than green practices (Kim et al., 2022). Contrarily, Maaz et al. (2022) surveyed 139 plant-level managers of food processing firms in India and found that adopting green supply chain practices and using green suppliers is associated with increased economic and operational performance. Researchers can apply the RDT to green supply chain management to manage the relationships between suppliers throughout the supply chain to ensure green conduct (Kim et al., 2022). Green behavior throughout the entire supply chain process will ensure that all green supply chain management practices are present.

Food Supply Chain

The food supply chain can be an extremely complex system due to the many steps that must occur to get food from the producer to the consumer. The food industry is one of the most crucial and complicated aspects of the global economy as it is essential for survival and is in high demand (Solarz et al., 2023). The food supply chain consists of farming, processing, transporting, and distributing foods (Bhat et al., 2022). Because of

the intricacy of the supply chain, the cost of sales can increase by 50% to 80%, with further impact from political, financial, and environmental matters (Myerson, 2012). To create efficiency and reduce costs, the food supply chain requires competent function and management.

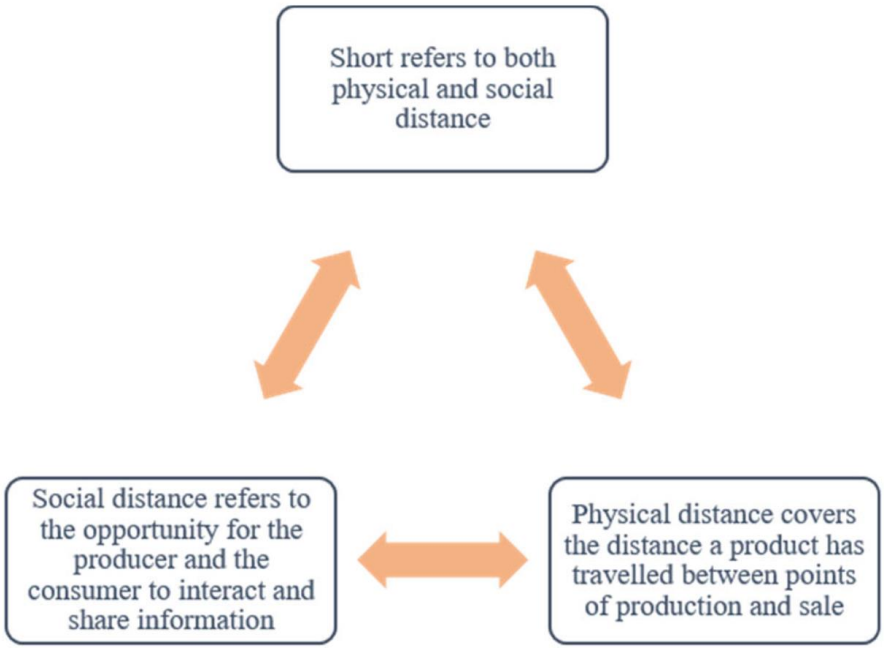
Effective supply chain management is essential for most businesses to succeed and is just as crucial for the food industry. In the food supply chain, perishable items move from the farm to the consumer (Patidar et al., 2022). This dynamic supply chain is typically time- and temperature-sensitive and requires reliable storage, handling, and distribution to maintain food quality (Chen et al., 2018; Patidar et al., 2022). Food supply chain management involves coordinating activities between farmers, suppliers, warehouses, and retailers (Harsasi & Minrohayati, 2017). In addition to coordinating these processes, a sufficient temperature is necessary to protect food quality and reduce food waste (Bremer, 2018; Patidar et al., 2022). Due to the nature of food and the ever-changing environment, food supply chain managers must continuously monitor the supply chain and implement different strategies to create efficiency.

Although food consumption is indispensable to meeting human need requirements, the food supply chain can be a convoluted process. The food supply chain is vulnerable to failure due to the long network of processes and the sensitivity to speed (Zhong et al., 2017; Garnett et al., 2020). Further, due to the COVID-19 pandemic, there is more stress on the entire food supply chain process, causing sustainability issues (Erokhin & Gao, 2020; Michel-Villarreal, 2023). It is imperative that supply chain members identify a solution to create efficiency in the movement of food products.

One strategy that has been successful in increasing sustainability in the food industry is implementing a short food supply chain. In a short food supply chain, the distance between the farmer and the consumer is shorter, and there are fewer intermediaries throughout the process (Lucia, 2020). Lucia (2020) illustrated the definition of an short food supply chain as adapted from Galli and Brunori (2012; see Figure 1). The short food supply chain allows the consumer to connect more directly with the producer (Bosotto et al., 2023). The short food supply chain creates value throughout the supply chain network by allowing the farmers, distributors, and sellers to customize the structure at different stages (Mahroof et al., 2022). Creating value, reducing supply chain length, and increasing the speed of food transportation are all beneficial to stakeholders and can be outcomes of a shorter food supply chain.

Figure 1

Short Food Supply Chain



Note. The meaning of "short."

Implementing a short food supply chain can be very advantageous not only for the food industry but for consumers as well. Utilizing a short food supply chain commonly results in an increased profit for the producer and a decreased consumer purchasing price (Al-Masri Aoudi et al., 2022). Since shortening the food supply chain can result in reduced costs, the lower pricing allows organic food products to be accessible to customers, leading to the consumption of a healthier diet (Jarzebowski et al., 2020). In addition to the health benefits, a growing number of consumers prefer to purchase locally grown foods (Solarz et al., 2023). By removing intermediaries, the short food supply chain allows consumers to go directly to the farmer and purchase fresh, local produce (Al-Masri Aoudi et al., 2022). Utilizing a short food supply chain provides outstanding

benefits to the organization, supply chain, and consumers and is a great strategy to implement when appropriate.

Organic Food

Food is one of the fundamental needs for human survival. As economic conditions and living standards improve, consumers seek higher-quality, healthier foods (Liu et al., 2020). The increased demand for healthier foods led to the rise of the organic food movement. The initial purpose of organic farming was to cultivate and conserve the soil while also offsetting the effects of the industrialization of agriculture; however, reducing synthetic pesticide and fertilizer exposure quickly became a contributing force in the organic movement (Brantsaeter et al., 2017). Organic foods are an excellent option for providing health benefits, feeding humans, and conserving the environment.

There are extensive criteria that are necessary to meet to produce certified organic food. To maintain organic farming requirements, farmers cannot treat the land with synthetic pesticides, chemical fertilizers, or herbicides for three years prior to growing crops (Das et al., 2020). Crops must be grown without synthetic pesticides, fertilizers, or sewage sludge (Ashaolu & Ashaolu, 2020). In addition to crops, organic farm animals must consume a certified organic food diet free of animal by-products, synthetic hormones, and antibiotics (Ashaolu & Ashaolu, 2020). Organic food and farming requirements ensure that the food goes through all the proper steps throughout the entire process to maintain high quality, toxin-free food.

To enhance and maintain the organic farming process, the International Federation of Organic Agriculture Movements (IFOAM) has identified four principles of

organic food production. The four basic principles; care, health, ecology, and fairness; should be practiced in organic agriculture's farming, processing, and distribution (IFOAM, 1998). The principle of care is a precautionary standard designed to protect the health and well-being of the environment and the people in it (IFOAM, 1998). The principle of health states that organic farming should sustain and enhance the health of the soil, crops, livestock, and humans (IFOAM, 1998). Regarding ecology, organic farming should emulate and support cyclical living systems (IFOAM, 1998). Finally, IFOAM (1998) asserts that organic farming builds on fairness within relationships between farmers, workers, processors, distributors, and consumers. Although these guidelines might appear excessive and time-consuming, they ensure proper standards in organic foods.

Foods that meet all USDA certified organic standards receive the USDA organic seal on their label. The USDA organic seal guarantees that at least 95% of the product ingredients are organic (USDA, n.d.b). The USDA National Organic Program conducts more than 45,000 onsite inspections annually to ensure that all organic crops, livestock, and agricultural products are within USDA organic regulations (USDA, n.d.b). These are all additional steps that may increase the cost of organic foods; however, they offer peace of mind in knowing that you are consuming safer products.

Organic Food Supply Chain

The conventional food supply chain moves foods that contain chemical fertilizers, pesticides, and herbicides, as well as products from animals that are given antibiotics and growth hormones, from producer to consumer. Conventional farming is prevalent

worldwide because of the lower costs associated with farming and throughout the supply chain (Sazvar et al., 2018). However, conventional food supply chains are decreasing in demand due to the fertilizers and pesticides used, which effect the food safety and quality (Jayalath et al., 2022). There are many agricultural and social benefits to organic production. Organic farming can reduce soil pollution, preserve soil nutrients, lessen pest and disease resistance in the soil, provide better employment, and improve public health (Sazvar et al., 2018). Because of these benefits, the organic food supply chain is growing in popularity.

The organic food supply chain works similarly to the conventional food supply chain; however, the entire process must meet specific standards identified by the USDA. The steps to meet the USDA requirements include using organic processes in the farming and handling system, conducting exhaustive inspections and audits of the production and handling operations, and implementing traceback systems that ensure organic products are being used from both farm to market and market to farm (McEvoy, 2017). In addition to maintaining strict requirements, seasonal and highly perishable organic foods move through the supply chain in climate-sensitive conditions (Dovleac, 2016). A successful organic food supply chain requires attention to detailed guidelines, precise planning and operations, and quick response to members, suppliers, and customers.

The organic food supply chain operates both domestically and globally. Most organic foods originate in developing countries, with Asia and Africa being the largest organic producers in the world (Ali et al., 2021; Das et al., 2020). However, these developing countries only account for approximately 10% of organic food consumption

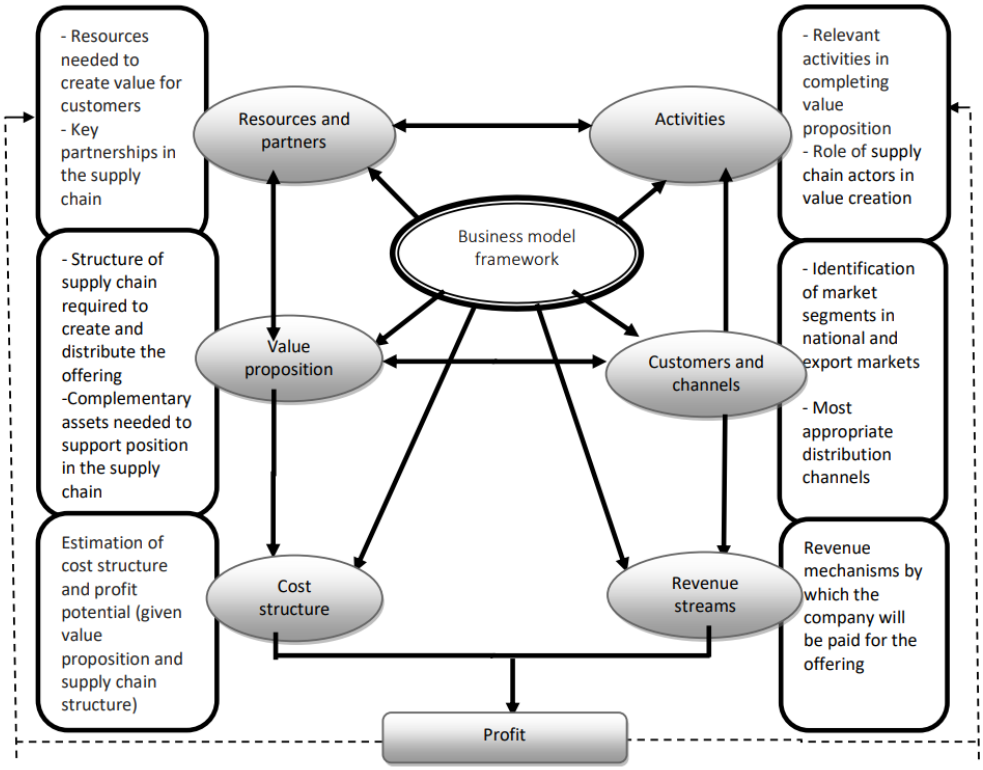
(Ali et al., 2021). Many developing countries, specifically in Africa, produce organic foods solely for the export market (Brantsaeter et al., 2017). Although this is advantageous for both the importing and exporting countries, the distance that the food travels and the required human resources can be a significant challenge in the organic food supply chain (Dovleac, 2016). To offset these challenges, it is crucial to have structure, coordination, and collaboration throughout the global supply chain process.

As stated above, organic food supply chain members often encounter many obstacles. One major barrier is that organic farming can be considered inefficient in producing food globally (Reganold & Wachter, 2016). The cost of organic foods may increase due to these inefficiencies. Ali et al. (2021) surveyed 335 Chinese university students who consume organic foods and found that although customers want to consume organic foods for health benefits, the high price can decrease the frequency and quantity of organic food purchases. It is imperative to implement appropriate value creation processes to develop an organic food supply chain that is successful, sustainable, and responsive to consumer needs (Mili & Arfa, 2020). However, Dovleac (2016) found that creating a value chain in the organic food market can be quite challenging. Figure 2 illustrates a business model framework consisting of resources, partners, activities, customers, and channels, that has been successful in value creation processes that promote long-lasting economic, social, and cultural impacts (Mili & Arfa, 2020). Adopting this framework may help strengthen the global organic food supply chain, increasing food production, distribution, and purchasing. Additionally, utilizing the

resource dependency theory can further strengthen the organic food supply chain by creating a balance in organic food resources.

Figure 2

Business Model Framework for Value Creation



Note. Adapted from "Uncovering value creation factors in organic food supply chains," by S. Mili and I. Arfa, 2020, *International Journal on Food Systems Dynamics, 11*(5), 503–521. (https://doi.org/10.18461/ijfsd.v11i5.70). Creative Commons License 2020. Reprinted with permission.

One strategy to combat some of the issues associated with the organic food supply chain is to utilize a direct distribution channel for organic food. The direct food supply chain bypasses the traditional supply chain and goes directly from the farm to the

consumer (Jayalath et al., 2022). Direct food supply chain sales may occur at a farmers' market, farm shop, or home delivery (Jayalath et al., 2022). Managing the supply chain for perishable products can be highly challenging. Because organic foods have a shorter shelf life, the direct food supply chain allows for perishable foods to get to the consumer more timely, decreasing the amount of food waste (Chen & Chen, 2021). The direct food supply chain is an excellent option for distributing organic foods on a smaller scale.

Organic Food Benefits

There are a multitude of benefits to growing and consuming organic foods. Studies have shown that conventional foods are grown using pesticides, nitrates, heavy metals, hormones, antibiotics, and genetically modified organisms, resulting in adverse health effects (Das et al., 2020). Since organic foods are grown more naturally, they contain fewer toxins and contaminants and are typically fresher because they do not contain as many preservatives (Ashaolu & Ashaolu, 2020). In addition to the compositional differences, organic foods reduce the likelihood of antibiotic resistance and lessen pesticide exposure from 38% to only 7% (Fung, 2015). One major benefit of pesticides is that they keep bugs and animals away from the crops. Aside from finding an alternate method to keep insects away, there do not appear to be any adverse effects of removing these contaminants from the farming process.

Organic foods are grown in a manner that bypasses many chemicals and toxins and provides humans with healthier food options that help reduce detrimental health effects. In a study by Baudry et al. (2018), results showed a positive correlation between participants who consumed high amounts of organic foods and a decreased risk of cancer,

with a substantially lower risk of developing non-Hodgkin lymphoma and postmenopausal breast cancer. Studies have also found that organic foods reduce the risk of infertility, congenital disabilities, pre-eclampsia, allergic reactions, and ear infections (Vigar et al., 2020). These health issues can be devastating to an individual and their family. It is incredible to see the difference and positive impact of organic food consumption on human health.

Organic products provide many health benefits, but organic farming also contributes to environmental sustainability. Growing crops organically can reduce pollution, preserve water, enhance soil fertility, and reduce energy use (Ashaolu & Ashaolu, 2020). Preserving our water, soil, and the air is necessary for our planet to thrive. Organic farming also has been shown to have fewer greenhouse gas emissions (Brantsaeter et al., 2017). Any reduction in the release of gasses into the atmosphere is beneficial to the environment and our health.

Organic Food Pricing

There is a significant difference in the price of organic versus conventional foods. While most consumers purchase organic foods for health reasons, the price is often a barrier to consumer buying behavior (Ismael & Ploeger, 2020). Mather et al. (2005) found that although most consumers do not want to ingest genetically modified organisms, the price differential will result in a competitive advantage for conventional foods, reducing organic food consumption. The lower price and competitive edge of conventional foods make marketing organic products a major hurdle (Srinieng & Thapa,

2018). Failure to market organic foods properly may lead to an even lower share of the total food market.

As with most products, a high price premium can reduce the affordability and accessibility of the items. Research has shown that the price of the global organic food market is five times as high as the conventional food market (Dangi et al., 2020; Schlatter et al., 2020). Kittredge (n.d.) found a significant price differential of conventional versus organic eggs. While there is a $.57 increase in organic eggs purchased from a farmers' market, there is a $2.34 increase in organic eggs purchased from a grocery store (Kittredge, n.d.). This 93.6% increase in the cost of organic eggs can be detrimental to the organic egg industry and push consumers to purchase conventionally processed eggs.

Producing and supplying organic food can require an articulate, skilled, and speedy workforce. Pawlewicz (2020) found that the manufacturing process of organic products is expensive, lengthy, and labor intensive, resulting in elevated prices. While organic farming is more labor-intensive than conventional farming and requires faster supply chain movement due to the absence of preservatives, the 20%–100% price differential seems excessive (Ashaolu & Ashaolu, 2020). These extreme price differences will make it arduous for the organic food market to succeed. However, appropriate supply chain management and strategic planning can create solutions to reduce costs (Sazvar et al., 2018). The goal of writing this doctoral study is to identify the driving contributors to the substantial price premium of organic foods and analyze the strategies that successful organic food supply chain leaders use to allow the organic food market to compete with conventional foods.

Transition

I conducted this study to identify and analyze strategies used by successful organic food suppliers to decrease organic food production costs. In Section I, I introduced the background, problem, purpose, nature, and significance of the study. The population was determined, the research and interview questions (see Appendix A) were provided, and the conceptual framework was established. The operational definitions were specified, and the assumptions, limitations, and delimitations were assessed. Section I concluded with a review of the literature.

In Section 2, I begin by restating the purpose statement. I also include information on the role of the researcher, participants, population and sampling, research method and design, data collection, and reliability and validity. I conclude Section 2 with a transition and summary. In Section 3, I present my findings, apply the findings to professional practice, identify implications for social change, offer recommendations for action and further research, and reflect on the research process.

Section 2: The Project

The participants in this study were successful supply chain leaders at four organizations that supply organic foods to local grocery stores in South Carolina. Findings from this study may be valuable to organic food suppliers who have difficulty reducing organic food production costs. In Section 2, I describe how this study was conducted, including a reiteration of the purpose statement; a thorough analysis of my role as the researcher; and a discussion of the participants, research method and design, population and sampling, ethical research requirements, data collection instruments and processes, data organization technique, data analysis, and study reliability and validity before concluding the section with a transition and summary.

Purpose Statement

The specific business problem was that some organic food supply chain leaders lack strategies to reduce organic food production costs. Therefore, the purpose of this qualitative pragmatic inquiry was to explore the processes supply chain leaders at four organizations use to supply organic foods to local grocery stores in South Carolina.

Role of the Researcher

I was the primary instrument to collect data for this doctoral study. The role of the qualitative researcher is to act as the research instrument to interact with the study's participants, collect data, and interpret the findings (Karagiozis, 2018). It is also important that the researcher be sensitive to and respectful of the participants' rights (Karagiozis, 2018). My role as the researcher included analyzing and interpreting the data

I collected from virtual, semistructured interviews with food suppliers that supply organic foods to grocery stores in South Carolina.

Although I am a customer of several participants, I did not have a personal relationship with them. As a researcher, I had to maintain ethical standards while gathering the data for this study. Qualitative researchers should view ethics as a component of the relationship between themselves and the research (Roth & von Unger, 2018). To guarantee ethical standards were upheld throughout the study, I adhered to the *Belmont Report* protocol because it provides a guideline for producing ethical research when using human subjects. I followed the three fundamental principles of the *Belmont Report* protocol: respect for persons, beneficence, and justice (see Adashi et al., 2018). This separation of knowledge and experience of the participants, combined with the *Belmont Report* principles, ensured that the current study was conducted ethically.

Bias is possible throughout the research process, including during the recruiting, data collecting, and results reporting stages (Marshall et al., 2021). To ensure reliability and mitigate bias, I used triangulation, member checking, and open-ended interview questions and interviewed participants until data saturation was reached. Triangulation allows researchers to measure data from different sources and is an established and trustworthy means of reaching validity (Farquhar et al., 2020; Yin, 2008). Researchers use triangulation to reduce bias, enabling them to view data from multiple sources. Researchers use member checking to ask for participants' feedback on the interpretation of data, which can improve the quality and reliability of the study (Motulsky, 2021). In

this study, participants were able to review my data interpretation and offer feedback, which enabled me to mitigate any bias.

I followed the interview protocol (see Appendix A) for each interview. Once the participant consented to take part in the study, I began asking interview questions in a recorded setting. The interview questions were structured in an open-ended format to promote sufficient answers and discussion. Open-ended interview questions encourage the participant to provide lists, short answers, or detailed narratives instead of "yes" or "no" answers (Weller et al., 2018). Open-ended interview questions allowed participants to give thorough and specific answers, mitigating for the chance for bias.

Qualitative researchers should continue with interviews until data saturation, which is accomplished when no new themes or patterns arise from additional interviews, is attained (Fusch & Ness, 2015). I reached data saturation through triangulation, member checking, and open-ended interview questions. These techniques allowed for the collection of reliable, valid, and bias-free data.

Participants

To be included in this study, participants had to meet the following eligibility requirements: have successfully offered organic foods for a minimum of 5 years and must supply organic foods to grocery stores in South Carolina. The participants were recruited using the purposive sampling strategy. Purposive sampling produces rich data that focuses on a particular topic (Ames et al., 2019). To gain access to participants, I identified potential organizations that aligned with the eligibility requirements, contacted them by phone, email, or in person, and obtained their willingness to participate in the

study. To identify potential organizations, I utilized Chamber of Commerce directories, internet searches, and personal recommendations.

I obtained approval from Walden University's Institutional Review Board (IRB) before contacting prospective participants. Once the IRB granted permission to conduct the study, I spoke to a supply chain manager from each organic food supplier to determine their willingness to participate. Those that agreed to take part in the study then scheduled a time for their interview. Establishing a working relationship and building rapport with each participant is crucial, even before the interview (McGrath et al., 2019). I ensured each participant that all of their answers would remain confidential and that they could withdraw from the study at any time. Additionally, I built rapport by researching the participant to show my interest in their organization and ensure a bias-free interpretation of the data.

Research Method and Design

Research Method

The research methodology can have a big impact on the design and results of a study. There are three major research methods: qualitative, quantitative, and mixed (Saunders et al., 2016). Researchers use qualitative studies to provide richer results, explore the subject in a real-life situation, and establish meanings through words (Saunders et al., 2016). Qualitative research results in data that are not quantified but observed from the participants' account of a phenomenon (Serra-Aracil et al., 2022). Researchers can help outsiders understand unfamiliar experiences by providing qualitative data (Ehrmin & Pierce, 2021). The qualitative methodology was most

appropriate for this study because it allowed me to delve into the efficacious supply chain strategies that successful organic food suppliers have implemented to reduce organic food production costs.

Quantitative research is another methodology that can be used to gather data. Quantitative researchers gather numeric data and identify the relationship between variables (Serra-Aracil et al., 2022). Quantitative researchers can generalize data using a large-scale sample (Lanka et al., 2021). Researchers select the quantitative method to collect statistical data that are processed to be useful, are measured objectively, and identify the relationships between variables (Firestone, 1987; Saunders et al., 2016). Statistical data are unsuitable for gathering subjective information; therefore, the quantitative method was not appropriate for this study.

A third research methodology is the mixed-methods approach. Researchers use the mixed-methods approach to integrate at least one qualitative and one quantitative research component (Kansteiner & Konig, 2020). Some researchers have found it beneficial to use both quantitative and qualitative methods instead of viewing one as better than the other (Serra-Aracil et al., 2022). Researchers using mixed methods can study the relationship using both quantified variables and situational contexts (Pita Fernandez & Pertegas Diaz, 2002; Serra-Aracil et al., 2022). Although there are benefits to using mixed-methods research, the quantitative aspect was not necessary to address the focus of the current study.

Research Design

Four common qualitative research designs are narrative inquiry, ethnography, case study research, and pragmatic inquiry (Merriam & Tisdell, 2016). Researchers use a narrative design for personal storytelling in a chronologic or sequential format (Saunders et al., 2016). In narrative inquiry, stories are used to offer the researcher the ability to understand the world and its people (Andrews, 2020). Narrative research was not appropriate for the current study because it would have resulted in a large amount of irrelevant information.

Ethnography is a research design that focuses on society and culture (Merriam & Tisdell, 2016). Ethnography requires researchers to immerse themselves in a situation to experience a phenomenon firsthand, allowing them to obtain a profound understanding of the study (Bartholomew & Brown, 2019). Researchers utilize the ethnographic approach to identify the interaction between and distinctly interpret a group or culture (Saunders et al., 2016; Yin, 2018). The current study was focused on a variety of organic food suppliers; therefore, an ethnography would not have contributed to answering the study's research question.

A case study can include a person, group, organization, association, change process, or event, and the design is used to understand a real-life business setting (Saunders et al., 2016). Researchers employ case studies to attain an in-depth comprehension of the nature and intricacy of the phenomenon (Moghadam et al., 2021). When variable data does not produce meaningful results, a case study can provide an understanding and knowledge of a complex narrative (Gallagher, 2019). Although

researchers use case studies to obtain in-depth data on a particular phenomenon, the design would not yield the introspective research that this study required.

The pragmatic inquiry approach is an effective method for gathering qualitative data, and it is used to isolate a particular topic and gain intensive knowledge about it (Waibel et al., 2015). The pragmatic inquiry design enables researchers to gain insight from the participants' perspective, which results in rich and specific data (Taguchi, 2018). A pragmatic inquiry was an appropriate choice for the current study because it enabled me to understand the strategies and practices of various successful organic food suppliers that have reduced organic food production costs.

I interviewed successful supply chain leaders at four organizations that supply organic foods to local grocery stores in South Carolina until I reached the point of data saturation. Data saturation is reached once researchers are no longer able to collect new information in a study (Mwita, 2022). It is crucial for qualitative researchers to reach data saturation because it ensures the validity and credibility of the study (Mwita, 2022). I conducted semistructured interviews with open-ended questions until no new themes or patterns arose from the participants' responses.

Population and Sampling

The population for this qualitative pragmatic inquiry was successful organic food suppliers. The sample included supply chain leaders at four organizations that supply organic foods to local grocery stores in South Carolina and had successfully offered organic foods at lower prices than their competition for a minimum of 5 years. Many factors are involved in determining a sample size; however, it is crucial to keep in mind

that fewer participants are needed if the participants provide thorough and robust information (Mthuli et al., 2022). Stake (2006) suggested that researchers include a minimum sample size of four participants to reach data saturation. Researchers must reach data saturation to produce dependable and credible research (Antes, 2014).

I used purposive sampling to select participants that produced appropriate information regarding the current study. In purposive sampling, the researcher chooses specific cases to obtain relevant information on the topic (Campbell et al., 2020). The intention of using purposive sampling is to match the sample with the study to provide rigorous and trustworthy data (Campbell et al., 2020). Because purposive sampling is employed to select participants likely to generate useful information, this method allowed me to gain more in-depth knowledge on the topic under study.

Ethical Research

Ethical research plays a significant role in qualitative studies and is critical to maintaining the integrity of the study (Furtak, 2022). To maintain ethical standards, researchers should obtain informed consent, preserve confidentiality, and educate participants on the purpose of the study and their right to continue or withdraw from the study (Brinkmann & Kvale, 2005; Furtak, 2022). I followed all the applicable rules and regulations, including adhering to the *Belmont Report*, to meet ethical standards and protect participants. I emailed all participants with an informed consent form (see Appendix B) before their scheduled interview. An informed consent form acts as a contract and develops a sense of trust between the researcher and the participant (Mandal & Parija, 2014). The informed consent form included detailed information about the

study and interview processes; provided participants with the option to participate or withdraw from the study; and listed contact information for myself, my doctoral committee, and the Walden University IRB (see Mandal & Parija, 2014). Participants had the option to withdraw from the study at any time by scheduling a call with me or sending me an email.

I complied with all guidelines for ethical research as required by the *Belmont Report* and Walden University IRB. Before I contacted participants or conducted this study, I applied for and received approval from Walden University IRB (Approval # 10-19-24-1038874). The *Belmont Report* outlines ethical practices for conducting research using human subjects and provides three basic principles required when conducting research: respecting the participant, beneficence, and justice (U.S. Office for Human Research Protection [OHRP], 1979). Regarding respecting the person, researchers must treat the participant as an independent and protected agent (U.S. OHRP, 1979). To maintain respect of my study's participants, I administered informed consent forms as detailed in the interview protocol (see Appendix A). The principle of beneficence requires the researcher to not only do no harm but also to increase any potential benefit to the participant (U.S. OHRP, 1979). I maintained strict confidentiality throughout the interview and did not use any identifying verbiage in the study to remove any harm to participants. The principle of justice refers to all participants receiving equal treatment (U.S. OHRP, 1979). I used purposive sampling to select participants based on their knowledge of a topic (see Bernard, 2013). Each participant had essential information to provide and was treated equally as a valuable component of the study.

To further protect the information provided and the identity of the participants, I assigned them code names. Once the interview was concluded, I stored the hard copy of the interview recording in a locked, fireproof safe. The interview transcript was password protected to prohibit others from viewing the information. All participant and interview information will be kept safe for 5 years. At the end of this time, I will delete electronic files and shred physical documents related to the study.

Data Collection Instruments

I was the primary instrument for this study. In a qualitative study, the researcher is the primary research instrument because they conduct interviews, analyze the data, and interpret the findings (Shufutinsky, 2020). As a researcher, I had to create a trusting and collaborative relationship with the participants (see Soh et al., 2020). I collected data by conducting semistructured interviews with supply chain leaders from four organizations that supply organic foods to local grocery stores in South Carolina. In a semistructured interview, the interviewer asks all participants the same questions in the same order, then compares the data (McIntosh & Morse, 2015). To ensure that I asked each participant the same questions in the same order, I printed out the list of interview questions and marked off each question as they were asked to the participant.

Before beginning each interview, I read the opening statement of the Interview Protocol (see Appendix A). I gave the participants a hard copy of the Informed Consent Form (see Appendix B). After addressing any questions or concerns, I had the participants email me the consent form with a note saying “I consent.” To begin the interview, I turned on the recording device and asked Interview Questions (see Appendix

C). In addition to the recording device, I took notes as the participants answered questions. At the end of the interview, I explained how member checking was utilized and then scheduled a follow-up interview with the participant. I closed the interview by verifying the participant's contact information and expressing gratitude for their participation in my study.

Reliability and validity are essential to qualitative research. Researchers strive for validity because it demonstrates the study's usefulness (Leung, 2015). I used member checking to ensure a valid study. With member checking, the researcher confirms the accuracy of their data interpretation with the participant (Gray, 2018). I employed member checking by paraphrasing the participants' answers and asking clarifying questions when needed (Coleman, 2021). Researchers aim for reliability to ensure consistent and replicable research (Leung, 2015). I used methodological triangulation to establish reliable research. Researchers use methodological triangulation to compare data from multiple participants to determine if similarities exist (Guion et al., 2011). I triangulated the data from each organization by comparing the interview answers to identify the information that coincides with the others. Compiling data from multiple participants and identifying similarities can increase reliability and validity.

After the completion of the questions, I transcribed the interviews. I interpreted the findings and highlighted themes that were present. I presented my interpretation to the participant in the follow-up member checking session to ensure accuracy and agreement. The interview protocol is in Appendix A, and the interview questions are in Appendix C.

Data Collection Technique

Data collection is an essential component of a qualitative study. I utilized the interview protocol (see Appendix A) to conduct semistructured interviews for this study. The interview protocol is a fundamental tool in data collection and creates quality and consistency in the data collection process (Braaten et al., 2020). Once the Walden University IRB approved my study, I contacted the prospective participants and emailed them the informed consent form (see Appendix B). Upon participant consent, I gave the interviewee a choice between meeting face-to-face at a predetermined location or virtually using Skype. At the beginning of the meeting, I introduced myself, explained the purpose of my study, and provided the interview protocol and a hard copy of the informed consent form. Once the consent form was signed, I turned on my recording device and began the interview. I took notes and observed the participant during the interview, then thanked the participant and scheduled a follow-up interview once it ended.

I conducted semistructured interviews to gather data for this study. Semistructured interviews are one of the most used data collection methods (Bradford & Cullen, 2013). Although it is widely used and boasts many advantages, there are also disadvantages to using semistructured interviews. One disadvantage of conducting semistructured interviews is that the researcher's perspective may dictate the interview questions and influence the interpretation of the data (Diefenbach, 2009). To combat this potential misinterpretation, researchers should adequately identify the study's purpose and devise a plan to obtain relevant information to restore the quality of the study

(Mahat-Shamir et al., 2021). Another disadvantage of employing semistructured interviews is that the researchers cannot always test the findings because of the uniqueness of participants' experiences and answers (Diefenbach, 2009). Although, being able to test and verify the findings is not always a disadvantage. Semistructured interviews allow researchers the opportunity to see an extraordinary phenomenon through the participant's view (Price & Smith, 2021). A semistructured interview, using open-ended questions, is advantageous and beneficial in research as it allows the researcher to obtain a deeper understanding of the phenomenon and view an experience through the lens of the participant.

I used member checking to ensure accuracy in my interpretation of the interview data. Member checking allows researchers to demonstrate validity in their study by confirming their interpretation with the participant (Brear, 2018). Following the interview, I transcribed the data and interpret the participant's responses. I emailed a copy of my notes to the participant and scheduled a time to review the accuracy of my interpretation. I finalized the data once the participant approved my interpretation.

Data Organization Technique

Practical organization is an essential aspect of properly analyzing collected data. Collecting and organizing data can be a lengthy process (Yin, 2018). However, data collection is more convenient now, thanks to technological advancement (Janssen et al., 2020). My primary data consists of typed notes in Microsoft Word and a recording of the interview. I utilized Microsoft Excel to organize the interview and participant data further. I saved a hard copy of my notes and recordings locked in a fireproof safe. I saved

all remaining information on a password-protected external hard drive. I will save all data and documents for 5 years, at which point I will delete all electronic data and shred all physical data.

Data Analysis

Analyzing data allows the researcher to effectively interpret the research findings. The primary goal of data analysis is to establish valid and correct data interpretation (Aldahwan & Ramzan, 2022). I will use thematic analysis to analyze this qualitative pragmatic inquiry. Researchers use thematic analysis to identify common themes or patterns amongst the participants (Coghill et al., 2022). Identifying common themes can allow the researcher to properly interpret qualitative data.

Researchers use triangulation to increase the validity and reliability of the research findings. I used methodological triangulation for this study. Researchers use methodological triangulation when collecting data from multiple research methods that explore the same phenomena (Maria Mercedes, 2022). I triangulated data from each interview to ensure similarities existed within the research. Triangulating data and identifying similarities help create more credible and trustworthy data.

I used semistructured interviews to collect data from at least four participants. I recorded and used Microsoft Word to transcribe the interviews word-for-word and then paraphrased the transcript for member checking. I sent my interpretation to the participant and scheduled a time to discuss its accuracy. Once the data interpretation was approved, I used Microsoft Excel and NVivo software to organize my data and recognize themes. Researchers use NVivo because it provides flexible data categorization and takes

less time than analyzing data manually (Alam, 2021). I spotlighted key themes from the interviews and direct observation during the analysis. I used coding to help demonstrate meaning from the collected data (Clark & Veale, 2018). The NVivo software will assist me in the coding process.

I used thematic analysis to recognize common themes within the data and themes that are related to my conceptual framework. Researchers use thematic analysis to interpret and understand data by identifying patterns in qualitative research (Maguire & Delahunt, 2017). Braun and Clarke (2006) outline a six-step approach to thematic analysis: (a) become familiar with the data, (b) generate codes, (c) identify themes, (d) review themes, (e) define and name themes, and (f) write up the report (Mihas, 2023). This six-step framework allowed me to recognize common themes in my research to interpret the data correctly.

I utilized Braun and Clarke's six steps to identify repeating patterns within my data. I read the transcripts multiple times to familiarize myself with the data. Once I was familiar with the data, I used Microsoft Excel and NVivo software to code portions of the data that were relevant to my research question. Then, I analyzed the codes and identified the related themes. In the fourth step, I color coded and analyzed each theme to ensure they were useful in my research. I then described each theme and showed if and how they related to each other. Finally, will wrote up the report, which is in Section 3. Following this six-step framework allowed me to identify recurring supply chain themes that correlate to strategies that can reduce organic food production costs and are related to the RDT.

Reliability and Validity

Reliability

Creating reliable and dependable data significantly contributes to establishing rigor and trustworthiness in qualitative research (Janis, 2022). Verifying reliability can sometimes be difficult as there are no statistical tests as there are with quantitative data (Sutton & Austin, 2015). I utilized member checking to create reliability in my study. To encourage member checking, I paraphrased interview data, asked for clarification when needed, and obtained participant verification of my interpretation (Coleman, 2021). I also followed the interview protocol (see Appendix A) to provide consistency throughout the various interviews.

Validity

Establishing validity in qualitative research can be challenging. However, creating credible, transferable, and confirmable research can assist in reaching validity (FitzPatrick, 2019). Researchers can ensure credibility by utilizing member checking (Yin, 2018). After the interviews, I sent the transcripts to the participants to determine the accuracy of the data interpretation. Qualitative researchers can also use triangulation to achieve validity (Caretta & Perez, 2019). I compared data from multiple interview transcripts to ensure that each participant provided adequate answers pertaining to the research question. Another method to build validity is transcribing interviews using audio recordings instead of the researcher's notes (Coleman, 2021). Using recordings guarantee that transcribed data are accurate, restoring credibility.

With transferability, the researcher should understand that although research cannot be completely replicated, patterns and themes should exist within the data (Stahl & King, 2020). It is also important to understand that one participant's thoughts and stories are not always the same as others' (Connelly, 2016). I documented all aspects of the research process and utilized data coding to establish transferability (Saunders et al., 2016; Yin, 2018). Researchers implement confirmability to draw conclusions and interpret the findings of the data (Yazan, 2015). To create confirmability, I retained detailed notes of the decisions and analyses throughout the research process and apply member checking (Connelly, 2016).

Qualitative researchers should collect data until they reach the point of data saturation, which is when no new themes are present. When a researcher utilizes multiple data collection tools, more data will be collected, giving the researcher a higher chance of reaching the data saturation point (Mwita, 2022). Consistency and dependability are key factors in obtaining data saturation (Janis, 2022). To promote validity, I used triangulation, member checking, and open-ended interview questions. To reach data saturation, I continued interviews and gathered data until no new information emerged.

Transition and Summary

I started Section 2 of this study by restating the purpose statement and introducing the role of the researcher and the participants. For this study, I interviewed supply chain leaders at four organizations that supply organic foods to local grocery stores in South Carolina. I utilized the interview protocol (see Appendix A) and interview questions (see Appendix C) to conduct the interviews. Section 2 also contained a discussion of the

research method and design, population and sampling, ethical research, data collection instruments and technique, and data analysis. Section 2 concluded with an analysis of the reliability and validity of my study.

Section 3 will start with an introduction followed by the presentation of the findings, applications to professional practice, and implications for social change. I will conclude Section 3 with recommendations for actions, recommendations for further research, and reflections.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative pragmatic inquiry was to explore the processes supply chain leaders use to supply organic foods to local grocery stores. The data were collected using semistructured interviews, consisting of seven open-ended questions, with four organic food suppliers that sell organic foods to grocery stores in South Carolina. I used member checking to ensure that my interpretation of the data was correct. The findings indicated the struggles within the organic food supply chain and suppliers' successful strategies aimed at reducing organic food costs.

Presentation of the Findings

This qualitative pragmatic inquiry aimed to answer the overarching research question: What strategies do organic food supply chain leaders use to effectively reduce organic food production costs? To answer this question, I conducted semistructured interviews with four supply chain managers who sold organic food to grocery stores in South Carolina. I invited supply chain managers to participate in this study through an approved interview request template sent by email. Before taking part in the study potential participants had to reply to an email with the phrase, "I Consent," if they consented to the study's process and expectations. I then scheduled phone interviews with them by email. The interviews were audio recorded using a digital recorder.

I transcribed and coded the interviews using NVivo software, Microsoft Word, and Microsoft Excel. Member checking was then performed by emailing the participants an interpretation of the interview data for their feedback. To protect the identities of the

participants, I replaced their personal names with the codes: P1, P2, P3, and P4. Participants' names, identifying information, and answers to interview questions will remain confidential.

Data saturation occurred after the fourth interview when no new data were found. Data analysis resulted in six emergent themes: organic certification, food appearance, expensive freight costs, speed of food distribution, labor, and relationships with farmers. The emergent themes were validated when compared to the literature review and the conceptual framework of Pfeffer and Salancik's RDT. The interviews confirmed the importance of supply chain member relationships, as identified through the RDT.

Theme 1: Organic Certification

The participants discussed different factors that increase the price of organic foods compared to conventional foods. One major cause of the heightened organic food price, and the first theme to emerge from the data analysis, was the cost of certification to be USDA-certified organic. The actual cost of receiving USDA organic certification ranges from $250 to $13,680 (California Certified Organic Farmers [CCOF], n.d.). Several factors, such as the organization's size, type, and complexity, determine the actual fees charged to each company (USDA, n.d.a). To recuperate some of the costs incurred from receiving USDA organic certification, P1 stated that many organic food producers add the certification fees to the price of the produce. This accession is one of the initial fees that increases organic production costs.

Participants noted that in addition to the costs, there are other factors associated with obtaining USDA organic certification that also contribute to the increased price of

organic foods. P3 stated that the process and time it takes to be certified organic increases the price of organic foods. P3 then added that scheduling an inspection of the farm escalates the wait time, which is another expense that is included in the price of organic foods. With organic farming being such a labor-intensive process, these additional fees and costs can significantly escalate production costs.

As stated in the RDT, organizations depend on other organizations, and organic farms depend on the USDA certification to ensure that all farming processes are being performed accurately. Although this is an additional fee that, in turn, increases the organic food price, the certification process ensures food that is high in quality and free of toxins. Having this reassurance in the USDA organic label justifies the price for some consumers. However, although many people want to have healthier food options, the increased price of organic foods oftentimes makes it unattainable for all of society.

Theme 2: Food Appearance

The second theme identified was the assessment of consumers and grocery store buyers of the quality of the produce based on its appearance. P1 stated "the biggest barrier to a more efficient supply chain is our specifications on the appearance of food." Similarly, Jaros et al. (2000) found that food's color and physical form are linked to the perception of the food quality. Additionally, P1 said that "many of the specifications that grocery stores have are not consistent with the taste or the nutrition of the produce and, instead, are purely cosmetic."

P3 stated that the demand for cosmetically perfect food results in increased food waste. Food waste is a significant concern because approximately one third of produce is

wasted in the supply chain process from producer to consumer (Gustavsson et al., 2011; Sutinen & Narvanen, 2022). When consumers and grocery store purchasers choose produce based solely on its appearance, it slows down the transport of food and increases the amount of food waste. Reducing the need and desire for food free of imperfections is a significant step toward eliminating some of the high amount of wasted food.

Theme 3: Expensive Freight Costs

The third theme to emerge was the need to reduce expensive freight costs. P1 stated that freight costs are a significant portion of organic food prices. The necessity of speedy and precise shipping for fresh produce has always been an added expense in the cost of organic foods; however, the costs have been even higher since the COVID-19 pandemic. Since the second half of 2020, freight costs have risen over 500% compared to the prepandemic rates (Carriere-Swallow et al., 2023). These increased transit costs constitute a significant hurdle in reducing organic food costs.

The RDT was helpful in looking at this situation because to the theory helps understand the relationships between members of the organic food supply chain. According to the RDT, there is often a reciprocal dependency between organizations in the supply chain (Drees & Heugens, 2013). Organic food producers rely on freight companies to transport their produce, just as the freight companies rely on organic farms to supply food for them to transport. The key for organic producers to reduce freight costs is to develop involved relationships with the transit organizations and be creative in the strategies used to transport produce.

The participants all shared strategies that they use to reduce expensive freight costs. P1 mentioned finding the cheapest transit organizations for each shipment because the prices vary depending on several factors. P4 stated that they have implemented coriding. In coriding, the organic producers share space in the same vehicle with other producers. P4 shared that the benefits of coriding are that the organizations split the fare cost, which reduces freight charges and gets the produce to consumers faster. P2 stated that they "decrease delivery dates for produce sold to restaurants and try to consolidate as much as they can in each order." P4 reported that they piggyback multiple deliveries on one truck to save on fuel costs. P3 has implemented backhauling as well as using their own trucks when making deliveries. P3 explained backhauling by saying that after they make deliveries, they try to pick up produce from other locations so that their trucks do not come back empty, which also eliminates an additional trip. P3 also shared that they "use their own box trucks to make deliveries whenever it is appropriate." When using their own trucks, P3 said that they "fill them up as much as possible, which saves money reduces the environmental footprint." These strategies all seem to be successful in reducing some of the freight costs.

Theme 4: Speed of Food Distribution

The fourth emergent theme was the criticalness of distributing organic food as quickly as possible. All produce has a window of the length of time it will stay fresh; organic food has an even smaller timespan. Effective inventory management, transportation, and distribution are critical elements to delivering organic foods expeditiously and reducing food waste (Leithner & Fikar, 2022). Several of the

participants shared their strategies in trying to get their produce out expeditiously. P4 stated that one of their techniques for reducing costs and waste is quickly getting their produce to the market. P2 shared that since they cannot get their produce to customers as promptly as they need to, they often use a distribution hub, saying they "deliver their produce to a regional hub that can distribute it to a much larger area." This strategy enables the produce to be distributed considerably faster and allows P2 to get their produce out to markets they would otherwise not be able to reach.

Like other participants, P1 said they send some of their produce to a distribution hub; however, when possible, P1 shared that they sometimes bypass the usual distribution chain and send the produce directly to the grocery store from the producer. Directly shipping the produce allows the farm to transport the food as soon as it is ready. P1 also said they "schedule distribution as close to the pack date as possible." Distributing produce immediately after being packed lengthens the shelf life and reduces product waste.

Theme 5: Labor

The fifth theme that emerged from the data was the amount of labor that goes into organic farming. Organic farming requires a significant amount of time and maintenance, which results in additional costs for production. To maintain USDA organic certification, farmers cannot use any synthetic pesticides, herbicides, or fertilizers (Dat et al., 2020). P3 stated that "the lack of viable herbicides requires more labor, which is one of the most expensive inputs in organic farming." Furthermore, Lanini (2010) found that organic

herbicides work best when used in high volumes and concentrations; however, these herbicides are costly, limiting their affordability for commercial crop production.

P1 shared that since organic farmers cannot use the chemicals that conventional farmers use, they cannot produce the same amount of organic crops as conventional crops. So, in addition to the increased labor costs, organic farmers are producing fewer fruits and vegetables. P4 added that educating consumers on the labor and process that goes into organic farming is imperative. Organic farming is lengthy, expensive, and labor intensive, which leads to higher prices when compared to conventional foods (Pawlewicz, 2020). The extensive labor required to grow organic crops is another expense that results in the increased cost of organic food production. However, consumers might be more willing to pay a premium price for organic foods if they understand the breakdown of costs associated with production and the supply chain process.

Theme 6: Relationships With Farmers

The sixth and final theme identified in the current study was the dire need to develop a relationship with organic food producers. The food supply chain comprises farmers, distributors, wholesalers, and retailers (Bhat et al., 2022). To create efficiency in the organic food supply chain, distributors must establish relationships not only with the wholesalers and retailers but with the farmers as well. P1 stated that they constantly communicate with their farmers and do in-depth product planning. P1 shared that "frequent communication and planning allows them to determine the amount of produce they will take from each farmer per month." Knowing the amount of produce that P1 will

receive from each farm enables them to develop a plan for distribution to their wholesalers and retailers.

In addition to the relationship between farmer and distributor, it is also essential that organic food producers develop relationships with each other. P2 shared that "organic farmers should view other farmers not as competitors but as collaborators." P2 stated that this view enables farmers to shift the distribution chain and expand their outreach. Viewing other farmers as collaborators can benefit organic producers by allowing them to share struggles and work with similar or compatible farms.

Connection to the Literature and Conceptual Framework

The RDT was useful in identifying the importance of relationships within the organic food supply chain. The RDT enables organic supply chain members to understand the relationships between the organization and the external environment (Drees & Heugens, 2013). Understanding the organization-environment relationship can allow supply chain members to develop an open mind regarding the need to be dependent on other organizations. In the RDT, it was proposed that an organization's survival depends on its ability to acquire resources from other organizations (Pfeffer & Salancik, 1978; Pu et al., 2020). The overarching research question for this study revolved around the strategies that organic food supply chain leaders use to reduce organic food production costs effectively. After discovering the emerging themes utilizing the RDT, I identified several strategies that can successfully reduce organic food production costs. These strategies will be highlighted in the Recommendations for Action subsection.

Applications to Professional Practice

The findings of this study and the exhaustive literature review may contribute to organic food suppliers by helping them reevaluate their current strategies to identify any changes they may need to implement to increase efficiency and reduce costs. The expansive body of literature showed that the cost of organic produce is significantly higher than that of conventional foods. Additionally, the literature revealed compelling health and environmental benefits to growing and consuming organic foods. Identifying successful strategies to reduce organic food production costs is advantageous not only to organic farmers but also to retailers and consumers.

The themes that emerged from this study all provide meaningful data for organic food supply chain suppliers. The six themes (i.e., organic certification, food appearance, expensive freight costs, speed of food distribution, labor, and relationships with farmers) show the major costs and inefficiencies with organic food production and distribution. The strategies shared are realistic approaches to the organic food distribution process that are proven to reduce organic food production costs. Each participant assessed the strategies used and found them to be effective.

Implications for Social Change

Identifying strategies that organic food supply chain members use to reduce production costs is vital to the community. The findings of this study stand to contribute to positive social change by decreasing organic food production costs to make organic produce more price effective for consumers. Ismael and Ploeger (2020) found that one of the reasons that individuals do not purchase organic foods is the elevated price. The

current study provides numerous techniques that organic food producers and suppliers can implement to alleviate some of the high production costs.

Conventional foods are grown using synthetic and chemical-filled pesticides, and studies have shown that these pesticides have tremendous adverse health effects on humans, such as causing cancer and even death (Hassaan & Nemr, 2020). However, many consumers cannot afford organic produce due to the increased price when compared to conventional foods. The findings from the current study provide ample suggestions regarding strategies that organic suppliers can implement to reduce organic food production costs, thus making organic options more easily attainable and affordable for consumers. Making organic food more attainable promotes economic growth as well as healthier and safer food options for society.

Recommendations for Action

Knowledge of strategies used in the organic food supply chain process is a fundamental constituent of the survival of organic food suppliers. Organic food suppliers should be aware of competitors' strategies to reduce production costs. This is not to say that these suppliers should change their process to mimic their competition, but they should use these techniques to evaluate the process they are currently using.

This study provides many suggestions that organic food producers can utilize to reduce organic food production costs. The six emergent themes from this study were derived from successful organic food suppliers who sell to grocery stores in South Carolina. Based on the study findings, my recommendations for action are:

- Organic food suppliers should educate consumers on the differences between the quality of food and the appearance of food. Consumers associate the taste and quality of food based on its appearance, resulting in high amounts of food waste.
- Organic food suppliers should implement transportation strategies, such as coriding, piggybacking, and backhauling, to reduce expensive freight costs. With freight being one of the most significant costs in the organic food supply chain process, even a small savings in cost can positively impact total production expenses.
- In designing a transportation strategy, organic food suppliers should also consider an approach to decrease the time it takes for produce to get from the farm to the retailer. Reducing the time it takes for produce to get in the grocery stores will lengthen the shelf life and reduce food waste.
- Organic food suppliers should create an open and healthy relationship with the farmers as well as other suppliers. As stated in the RDT, no organization is fully self-sufficient (Pfeffer & Salancik, 1978). If suppliers work with each other and the producers, the organic food supply chain can become more efficient, reducing costs.

I will disseminate the findings of this study and the recommendations of action to interested stakeholders during conferences, seminars, and workshops. I also plan on distributing the results of this study in business and academic journals.

Recommendations for Further Research

This qualitative pragmatic inquiry aimed to explore the processes supply chain leaders use to supply organic foods to local grocery stores. In this study, I acknowledge three possible limitations. The first limitation is that participants may not share thorough supply chain strategies, limiting the accuracy of the data. Ensuring confidentiality and stressing the value of obtaining this information can alleviate the participants' hesitation in sharing industry information. The second limitation is that the strategies used for one participant may not be successful for other participants. It is true that all organizations operate differently and may have contrasting results when implementing similar strategies. A good idea in the future would be to implement suggested strategies in other organizations to see if similar results emerge. The final limitation is that although some businesses may have sufficient supply chain strategies, the costs associated with organic food labeling may prevent a reduction in organic food costs. The costs associated with the USDA organic certification are a significant cost and, unfortunately, is one that is unavoidable.

I recommend expanding the population to include organic food suppliers in other states for future research. It would be valuable to this topic to identify issues that exist in other areas and the successful strategies utilized. Future research on organic food waste would also complement the findings of this study.

Reflections

Throughout this process, not only did I learn about organic food supply chain strategies, but I also learned many other things. I now fully understand how extensive and

demanding growing organic crops is. I also learned about the many health benefits of consuming organic foods and saw how passionate the organic food suppliers are about getting their products on the market. Because of this, I feel even stronger about the importance of consuming an organic food diet. Finally, I learned to look past the appearance of produce and purchase items that are not cosmetically perfect.

In addition to industry knowledge, I have also grown in my research process knowledge. The DBA doctoral study process has allowed me to gain a great understanding of how to collect and analyze data. Furthermore, this program has taught me the importance of evaluating data without imposing my own biases to obtain accurate data. This process has helped me grow as a student, teacher, professional, and person.

Conclusion

The purpose of this qualitative pragmatic inquiry was to explore the strategies supply chain leaders use to effectively reduce organic food production costs. There is a significant price difference between organic and conventional foods. Organic foods sometimes cost more than 5 times as much as conventional foods (Dangi et al., 2020; Schlatter et al., 2020). This price differential decreases the attainability of organic produce for many consumers. Identifying strategies that successful organic food suppliers implement to reduce production costs is essential in creating a more efficient supply chain and making organic foods more accessible.

I conducted semistructured interviews with supply chain leaders at four organizations that supply organic foods to local grocery stores in South Carolina. Using the RDT as the lens through which I conducted this study, the findings fill a gap in the

relevant literature regarding the organic food supply chain. This study and its findings contribute to organic food supply chain research and provide practical strategies for reducing organic food production costs.

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Appendix A: Interview Protocol

1. Reading opening statement: Thank you for agreeing to participate in this study and allowing me to interview you. Your participation in this study on organic food supply chain strategies is important to further understanding this topic. You had an opportunity to read about this study before the interview and understand that your participation is voluntary. You may stop at any time. I will be recording this interview and taking notes. I will provide my interpretation of the interview for your approval and to ensure the content is accurate. Any information obtain for this interview and process will be completely anonymous. Do you have any questions?
2. Present consent form and answer any questions on participant's concerns.
3. Obtain signature and provide a copy of the Informed Consent Form to the participant. Retain a copy for my files.
4. Turn on recording device and note the date and time.
5. Ask semistructured interview questions:
    a. What strategies do you use that contribute to an increase in the price of organic food production costs when compared to conventional food production costs?
    b. What transportation strategies have you implemented to minimize the supply chain process?
    c. What process of the supply chain have you eliminated to increase efficiency?
    d. What were the key barriers you faced in creating a more efficient supply chain?
    e. How did you overcome the key challenges that you faced in producing a more efficient supply chain?
    f. How do you assess the effectiveness of the strategies you use to reduce organic food prices?
    g. What additional information can you provide on the strategies you have employed to reduce organic food production costs?
6. End interview by discussing member checking with the participant and scheduling a time for the follow-up member checking interview.
7. Thank the participant for their time and cooperation.
8. Confirm participation contact information
9. Perform member checking protocol.
10. Transcribe the interview,
11. Review and interpret the interview transcript.
12. Synthesize response into a summary paragraph.
13. Provide a copy of the summary and notes to the participate via email.
14. Conduct member checking follow-up interview to discuss and clarify responses.
15. End protocol.

Appendix B: Copyright Approval

November 18, 2022

Samir Mili & Imen Arfa

Hi:

I am completing a doctoral dissertation at Walden University titled "Organic Food Supply Chain Efficiency Strategies to Reduce Costs for Local Food Businesses." I would like your permission to reprint in my dissertation excerpts from the following:

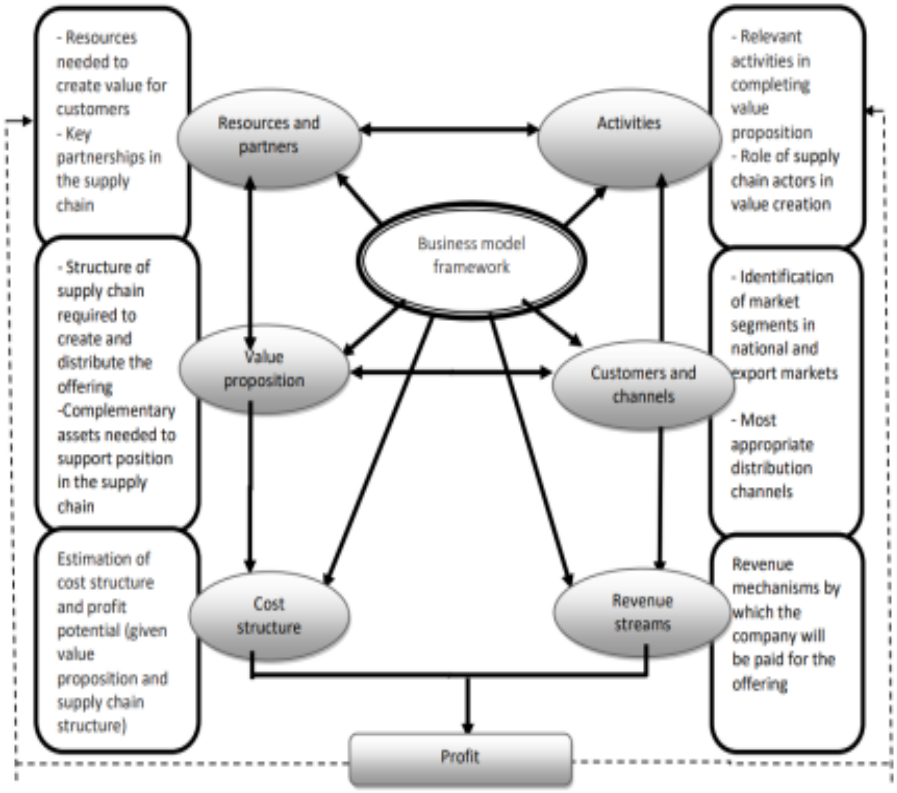
Mili, S., & Arfa, I. (2020). Uncovering value creation factors in organic food supply chains. *International Journal on Food Systems Dynamics, 11*(5), 503–521. https://doi.org/10.18461/ijfsd.v11i5.70

The excerpts to be reproduced are:

Figure 4 illustrates a business model framework consisting of resources, partners, activities, customers, and channels, that has been successful in value creation processes that promote long-lasting economic, social, and cultural impacts (Mili & Arfa, 2020).

Figure 4

Business Model Framework



Note. The business model framework for value creation.

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If these arrangements meet with your approval, please sign this letter where indicated below and return it to me by email. Thank you so much!

Sincerely,

Tonya K. Adair

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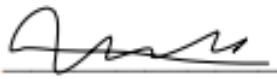

Imen Arfa

Date: 21 November 2022