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Supply Chain Managers' Reverse Logistics Strategies to Control Cost Through Risk Mitigation

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Walden University

College of Management and Technology

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Lawrence A. Reeves III

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Walden University
2019

Abstract

Supply Chain Managers' Reverse Logistics Strategies to Control Cost Through Risk
Mitigation

by

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MBA, University of Phoenix, 2011

BS, North Carolina A & T State University, 1996

Doctoral Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Business Administration

Walden University

June 2019

Abstract

Supply chain managers in the food and beverage industry face significant challenges regarding the use of effective reverse logistics strategies to reduce supply chain disruptions, control risk, and reduce costs. Through the lens of resource dependence theory, the purpose of this multiple case study was to explore reverse logistics strategies used by supply chain managers in the United States to control cost through risk mitigation. Participants in this study included 5 supply chain managers in the food and beverage distribution industry in the state of Georgia who implemented successful reverse logistics strategies to control cost through risk mitigation. Data were collected using face-to-face, semistructured interviews and a review of relevant company documents. Data were thematically analyzed using Yin's 5-step process of compiling, disassembling, reassembling, interpreting, and concluding the data. The 3 key themes that emerged from data analysis were a communication strategy, an inspection strategy, and a cost allocation strategy. Supply chain leaders may use the findings of this study to improve their communication flow with internal and external partners, implement an effective inspection strategy to reduce damaged goods, and implement a cost allocation strategy to reduce their financial exposure regarding products in need of return to the original source because of damage or spoilage. The implications of the research for positive social change include the potential for supply chain leaders to lower the cost of food and beverage products for consumers and avoid or reduce the flow of damaged or spoiled food and beverage products into consumer markets through effective implementation of reverse logistics strategies.

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Dedication

I dedicate this study to my wife, Ginger, who has supported and encouraged me every step of the way. Without you helping me to stay focused and reminding me by saying, “whatever you decide to do, make sure that you finish your study first,” I would have never completed the study. Together, Babe, we did it! Team Reeves!

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I thank God for answering my prayers by sending the team of people who have encouraged, pushed, guided, checked in with, and prayed for me.

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Section 1: Foundation of the Study

Supply chain disruptions within the global marketplace are a significant problem, yet business leaders who implement effective mitigation strategies enjoy improved business endurance and growth (Gupta, Mau, & Marion, 2015). When a supply chain disruption occurs, a significant negative effect on shareholder value may result (Hohenstein, Feisel, Hartmann, & Guinipero, 2015). The focus of this doctoral study was strategies used to manage risk by reducing the effects of disruptions on the supply chain. Leaders must implement strategies that will reduce cost and increase revenue because of the sophistication of supply chains (Heckmann, Comes, & Nickel, 2015).

Kumar and Nambirajan (2013) stated that a supply chain manager manages the process of coordinating among storage facilities, distributors, retailers, and suppliers that participate in the delivery, production, and sale of products to consumers. Therefore, supply chain risk valuation is vital to business operation (Gupta et al., 2015). The assessment of risk is a critical function of performance. To run an efficient and effective process within the supply chain, managers measure risk by quality, cost, and flexibility (Gupta et al., 2015).

Background of the Problem

Reverse logistics is the process of returning products from customers to capture value or ensure appropriate disposal (Jain & Khan, 2017). Productivity in companies has decreased because of the increase of disruptions in the supply chain (Abdullah, Ab Halim, & Yaakub, 2014). The increase of global sourcing and distribution with the increase of international trade causes leaders to create new business strategies (Dubey &

Gunasekaran, 2015; Kiessling, Harvey, & Akdeniz, 2014). Managers who conduct business outside of the United States experience lower cost and earn more profit (Schotter & Thi My, 2013). However, disruptions within the supply chain may cause reduction in a company's share price (Darkow, Weidmann, & Lorentz, 2015). Darkow et al. (2015) noted that disruptions affect supply chain performance, designs, policies, and planned level arrangements.

Leaders who limit their risk within the supply chain make their company more controllable. Limiting or mitigating risk within the supply chain improves a company's competitive posture and sustains growth, leading to quantifiable financial returns (Pettit, Croxton, & Fiksel, 2013). Shrinking the uncertainties in the supply chain is a goal for managers, who seek to improve vital areas within the supply chain (Pettit et al., 2013). In promoting risk strategies, managers create joint problem-solving efforts with supply chain partners. The implementation of best practices by these managers in the supply chain is beneficial for identifying and managing risk disruptions (Hollstein & Himpel, 2013). Sapp (2014) noted the need for additional research on risk assessment and supply chain management (SCM) in various global industries in developing markets to understand the phenomenon. Dey (2016) recommended further research regarding the supply of materials, manufacturing, operations, logistics, and delivery to the final customer. Opta (2015) recommended future research on the effect of management strategies on supply chain disruptions. Tukamuhabwa, Stevenson, Busby, and Zorzini (2015) noted that growing complexities and disruptions in the supply chain cause managers to adopt risk mitigation strategies to make decisions. However, managing

product flow becomes challenging and difficult to track, monitor, and trace within the supply chain structure (Hohenstein et al., 2015).

Problem Statement

The probability of disruptions increases in reverse logistics within the supply chain because of the depletion of managerial talent, globalization, and fluctuating markets (Kumar, Himes, & Kritzer, 2014). The growing amount of deficient reverse logistics in firms results in a 20% decrease in productivity (Abdullah et al., 2014). The general business problem was that ineffective strategic reverse logistics processes lower business profitability. The specific business problem was that some supply chain managers lack reverse logistics strategies to control cost through risk mitigation.

Purpose Statement

The purpose of this qualitative multiple case study was to explore reverse logistics strategies used by some supply chain managers to control cost through risk mitigation. The targeted population consisted of supply chain managers with at least 2 years of experience in five food and beverage distribution companies in Georgia who had successfully implemented reverse logistics strategies to mitigate risk, resulting in controlling cost in the supply chain. The implications for positive social change are to provide customers with products at a reduced price and to eliminate unnecessary waste in the environment. Supply chain managers may use the findings of this study to prevent damaged products from entering the market.

Nature of the Study

The three principal research methods are qualitative, quantitative, and mixed method (Yin, 2018). Qualitative researchers seek the deeper meaning of phenomena to gain insight into contemporary problems (Johnson, 2015). I selected the qualitative method to seek the deeper meaning of a phenomenon to gain insight into a contemporary problem. In contrast, quantitative researchers use numeric data to statistically test hypotheses among variables (Johnson, 2015). Mixed-method researchers include both a qualitative element and quantitative element in their methodology (Yin, 2018). To explore strategies for mitigating risk within reverse logistics and answer the research question, I did not need to use numeric data to test hypotheses, which is an element of a quantitative study or the quantitative portion of a mixed-method study; therefore, a quantitative or mixed-method approach was not appropriate.

I considered four research designs that one could use for a qualitative study on mitigating risk strategies: (a) phenomenology, (b) ethnography, (c) narrative inquiry, and (d) case study. An ethnographic researcher focuses on developing a complex description of a culture-sharing group or a subset of that group (Jarzabkowski, Bednarek, & Cabantous, 2015). I chose not to use the ethnographic design because studying the culture of supply chain managers was not the objective of this study. The narrative inquirer collects data in a chronological manner based on the life stories of participants (Jarzabkowski et al., 2015). A narrative inquiry was not appropriate because collecting data on the participants' life stories would not have resulted in suitable data to answer the research question. Phenomenological researchers use interviews to collect data from

participants' lived experiences (Lewis, 2015). I was seeking data regarding reverse logistics strategies used by some supply chain managers to control cost through risk mitigation, not the participants' lived experiences; therefore, phenomenology was not appropriate. By using multiple data sources through case studies, researchers find solutions and justify their research (Jarzabkowski et al., 2015). A case study design is suitable when discovering complex and specific occurrences within a real-world context (Yin, 2018). The case study design was appropriate because I was exploring strategies within a contextual setting using multiple sources of data.

Research Question

What reverse logistics strategies do some supply chain managers use to control cost through risk mitigation?

Interview Questions

The purpose of the interview questions was to collect detailed information from supply chain managers who had direct knowledge of strategies that control costs and mitigate risk within the reverse logistics process within the supply chain. Through a series of questions, I sought a comprehensive understanding of the strategies used by supply chain managers:

1. What reverse logistics strategies did you use to control cost through risk mitigation?
2. How do you identify and select a strategy that supports the internal and external resources to control cost in the reverse logistics process?

3. What are the procedures in place to recognize potential risk and costs in the reverse logistics process?
4. What resources did you use to implementing reverse logistics strategies?
5. What strategy did you find most effective?
6. How did implementing the strategies reduce cost?
7. How did you measure the benefits of implementing reverse logistics strategies?
8. What key challenges did you face implementing reverse logistics strategies to control cost through risk mitigation?
9. How did you address the key challenges you faced in implementing reverse logistics strategies?
10. What other information would you like to add regarding implementing reverse logistics strategies to reduce cost through risk mitigation?

Conceptual Framework

The resource dependence theory (RDT) developed by Pfeffer and Salancik (1978) was the conceptual framework for this study. The tenets of the RDT are (a) resource importance, (b) discretion of resource allocation and use, (c) concentration of resource control, (d) interdependence, and (e) dependence (Pfeffer & Salancik, 1978). Leaders use RDT to predict organizational survival; survival depends on leadership acquiring key resources on a long-term basis (Wolf, 2014). Chu and Wang (2012) built on the prior work of Pfeffer and Salancik by noting that the RDT facilitates explanation of why resource-dependent companies experience significant risk exposure.

Supply chain leaders use RDT to establish strategies to help bypass disruptions and minimize the cost of those disruptions in the supply chain (Pfeffer & Salancik, 1978). I sought to explore how supply chain managers manage ambiguity and attempt to create logistics relationships that control logistical resources that lead to a better quality relationship and fewer incidences of disruptions; therefore, RDT aligned with the purpose of the study. RDT served as an effective lens because the theory was essential to the connection of external pressures and sustainable logistics management.

Operational Definitions

Competitive advantage: Competitive advantage is the capability of a company to create secure positions over rivals (Diugwu, 2011).

Forward logistics: Forward logistics is the movement of goods from the manufacturer to the customer within the supply chain (Govindan, Azevedo, Carvalho, & Cruz-Machado, 2014).

Remanufacturing: Remanufacturing is disassembling a product completely, in a manner similar to refurbishing (Govindan et al., 2014).

Reverse logistics: Reverse logistics is the movement of goods and materials in the opposite direction in the supply chain for the purpose of creating or recapturing value, or for proper disposal (Govindan et al., 2014).

Risk mitigation: Risk mitigation is exposure to uncertainties that managers must understand and efficiently manage with strategies to achieve business objectives and create value (Rostamzadeh, Ghorabae, Govindan, Esmaili, & Nobar, 2018).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are expectations that a researcher presumes to be true but cannot verify the accuracy of, which are not under the researcher's control (Chung & Shin, 2015). Supply chain managers in the food and beverage industry in the state of Georgia participated in a 45-minute interview. I assumed that the participants responded truthfully and completely to the interview questions. I assumed that all participants possessed knowledge about strategies used for mitigating risk in reverse logistics. I gained access to company documents. I assumed that the documents were accurate, up-to-date, and complete.

Limitations

Limitations are potential weaknesses that are out of a researcher's control (Chung & Shin, 2015). Limitations potentially affect the results of a study (Chung & Shin, 2015). A limitation of this study was that the validity of the interview data collected relied on the experience and opinions of supply chain managers in five food and beverage organizations and did not reflect the views of the broader population of food and beverage industry leaders. The sample's restriction to the state of Georgia was a limitation. Transferability of the findings to other organizations or industries by future researchers represented a limitation because of the limited scope of this study. A final limitation was that I relied on the honesty of potential participants as well as the accuracy of supporting documentation to identify supply chain managers in the food and beverage industry who had implemented successful strategies to manage costs in reverse logistics.

Delimitations

Delimitations refer to the scope and boundaries of a study. Delimitations are what a researcher uses to limit the scope and boundaries of a study. Delimitations are within the researcher's control and allow for defining the scope and boundaries of a study (Chung & Shin, 2015). The geographic region of the state of Georgia was a delimitation. The sample drawn from supply chain managers of five companies in the food and beverage industry was a delimitation. The participant inclusion criteria encompassing supply chain managers with at least 2 years of experience who had successfully implemented strategies to control cost in reverse logistics limited the scope of this study and represented an additional delimitation. Another delimitation was that answering the research question required focusing on strategies that supply chain managers used to mitigate disruptions that affect cost in reverse logistics; therefore, I did not address other logistical issues that might affect leaders in the food and beverage industry. I did not include managers who did not had knowledge or experience in creating or implementing strategies to mitigate cost in reverse logistics.

Significance of the Study

The potential value of this study lies within providing a deeper understanding of the effect of risk within the supply chain and how mitigating risks might improve service levels and business performance while reducing logistics costs. This research could be beneficial for food and beverage supply chain managers seeking to improve supply chain performance within service levels and cost by understanding and planning for supply chain risk.

Contribution to Business Practice

In the global business environment, two factors lead to a higher probability risk of disruption in the supply chain that affects performance: disruptions and a focus on productivity (Scholten & Schilder, 2015). The findings of this research may expose effective business strategies used to lessen the impact of supply chain risk on business performance. Supply chain managers may benefit from these strategies and findings in creating plans that help to minimize risk within the food and beverage industry to supply products to local stores for consumer consumption.

In the supply chain, the point of origin and consumption involves planning, implementing, and controlling forward and reverse logistics efficiently and effectively (König & Spinler, 2016). SCM is an important aspect of a company and directly links to its success or failure. Because of increased competition, leaders face tremendous pressure to reduce costs. Business leaders may benefit from this study by gaining additional insight regarding cost reduction through implementing proven reverse logistics strategies.

Implications for Social Change

The implications of the research for positive social change include the potential for supply chain leaders to lower the cost of food and beverage products to consumers through effective implementation of reverse logistics strategies. Business leaders may use the findings of this study to reduce the environmental effect of their operations through reductions in waste and discarded food and beverage products. Supply chain leaders implementing effective reverse logistics strategies lower the probability that damaged products will enter the consumer market (Jain & Khan, 2017). Supply chain managers

may gain insight from the recommendations and findings from the study to avoid or reduce the flow of damaged or spoiled food and beverage products into consumer markets.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to explore reverse logistics strategies used by some supply chain managers to control cost through risk mitigation. In the literature review for this study, I provide background information on reverse logistics cost challenges within the supply chain because of disruptions. The literature review flows from an overview of RDT to an overarching focus on strategies within the supply chain to fixated approaches relative to mitigating disruptions in the supply chain. In the following sections, I cover RDT, SCM, mitigating supply chain risk, disruption in the supply chain, collaboration within the supply chain, and strategies to minimize risk and disruption to gain a better understanding of the literature regarding strategies that leaders use to mitigate risk in reverse logistics.

The strategy that I used to conduct research was a focused and broad search of numerous sources across several disciplines, which included electronic media, scholarly journal articles, and books. Using the Walden University library, I explored the following databases: ABI/INFORM Complete, SAGE Premier, ProQuest, Source Complete, and Emerald Management Journals. The sources I used in this study were (a) 203 peer-reviewed scholarly journal articles, (b) eight dissertations, (c) 11 seminal books, and (d) one government source. Of the 223 sources used, 91% were peer reviewed and 192 had publication dates from 2014-2018, equating to 86%. One hundred one sources are unique

to the literature review. The key words searched included *supply chain disruptions*, *supply chain risks*, *supply chain management*, *technology and supply chains*, *business continuity planning*, *supply chain risk management*, *preventing disruptions*, *global supply chain*, *responding to disruptions*, *mitigating supply chain risks*, and *supply chain partners*. The thematic organization of the literature review is as follows: RDT, complementary and alternative theories of normal accident theory and contingency theory of fit, supply chain and supply chain management, mitigating supply chain risk, supply chain disruption, the challenges of the global environment and disruptions reverse logistics, technology, technology risk, the food and beverage industry, and food and beverage industry risk.

Resource Dependence Theory

Researchers and business leaders use RDT to explain how companies reduce interdependence in the internal and external environment as well as reduce uncertainty in business decisions (Hillman, Withers, & Collins, 2009). I used this theory as the conceptual framework in this research study. Pfeffer and Salancik (1978), creators of RDT, noted five areas that company leaders can focus on to minimize disruptions: (a) mergers, (b) joint ventures, (c) board of directors, (d) political action, and (e) executive succession. Researchers can recognize external factors of a company by using RDT (Hillman et al., 2009).

Proponents of RDT have noted that a company's existence is contingent on its capability to obtain critical resources from its external environment (Xia, Ma, Lu, & Yiu, 2014). Xia et al. (2014) explained how the management of these organizations sought to

decrease uncertainty in the availability of resources. Xia et al. commented that the methods that company leaders use to ensure the low availability of resources involve interacting directly with other companies through information exchange, friendship, or goods or reducing attrition in vital resources. The use of the RTD assumes that companies are somewhat reliant on resources from their external environment (Gaffney, Kedia, & Clampit, 2013). Supply chain managers try to create strategies that will reduce dependency on external environments that have forces that could restrict a company's management from performing (Gaffney et al., 2013). Gaffney et al. (2013) noted that the use of RDT helps managers respond to external environments by collaborating with other groups within the organization and contending with rivals in the global market. The originators of the RDT developed two key facets: efforts to manage the external environment by organizational managers and the organization's power (Xia et al., 2014).

Within RDT, there is emphasis on (a) the importance of a company's capacity to obtain and sustain resources, (b) a company's presence within other groups that affect its access to vital resources, and (c) company leaders' efforts to reduce the company's dependency while making other organizations dependent upon it (Gaffney et al., 2013). As Xia et al. (2014) noted, one of the principles of RDT is that company leaders have the right to control resources on which other companies must depend, which is called *constraint absorption*. Hillman et al. (2009) explained that with the use of RDT, supply chain managers try to mitigate uncertainty and their dependence on the external environment, noting that the use of RDT significantly influences strategic management decisions that depend on pressures in the external environment. Supply chain managers

can act to decrease or remove external factors that can cause uncertainty and dependency even though managers have the possibility of being constrained by the external environment (Hillman et al., 2009).

The acquisition of vital resources links with the influence of leaders, providing several benefits such as attracting and inviting members within the SCM community and local communities (Hillman et al., 2009). RDT is a helpful tool for leaders seeking to create strategies to manage external factors; however, further research related to RDT would be beneficial (Hillman et al., 2009). Khieng and Dahles (2014) posited that RDT is a theoretical tool used by supply chain managers to manage their work environment and operations. Three assumptions that emanate from RDT are that (a) companies generate strategies to attain objectives and independence, (b) leaders use social framework elements, and (c) power is significant in managing organizational decisions (Khieng & Dahles, 2014). Studies written about the effects of the external environment on companies and their strategies, structure, and performance are resources for managers to use in understating their internal and external environments (Yeager et al., 2014). Reacting to uncertainty and the environment is a behavior of organizational leaders, and the use of the RDT indicates that managers create decisions based on the level of uncertainty (Yeager et al., 2014).

Yeager et al. (2014) suggested that RDT indicates that an organization's management strategies and decisions are important to its survival and that those strategies and decisions should be coordinated with the organization's external environment. Akingbola (2012) proposed that organizations are dependent on other resources or factors

that influence their survival and sustainability, and no company relies only on its own resources. Business leaders need a stable external environment to have access to ample resources (Khieng & Dahles, 2014). The use of the RDT shows management that good leaders need to manage the external factors that affect the organization; leaders should not overlook the importance of the external environment and must realize that they are not out in the market alone (Ribeiro & Colauto, 2016). Ribeiro and Colauto (2016) suggested that reputable leaders try to create a link between the external environment and resources with their organization. By using RDT, sound leadership will minimize levels of contingency and uncertainty factors (Ribeiro & Colauto, 2016).

Akingbola (2012) posited the RDT centers on three aspects: (a) how critical a resource is to the performance of an organization, (b) the level of control that employees have over the allocation of resources, and (c) the existence of substitutes or alternatives to resources. Leaders use these aspects to recognize the level of dependence between the external environment and their organization (Akingbola, 2012). Leaders try satisfying short-term needs or protect long-term needs by trying to obtain necessary resources (Bass & Chakrabarty, 2014). Leaders tend to contemplate resources that will give an advantage for their future needs as opposed to focusing only on resources for immediate needs, and they use RDT to explore why they compete for resources internally (Bass & Chakrabarty, 2014). Organizational leaders can become more influential if they depend less on outside entities by owning their resources (Bass & Chakrabarty, 2014).

Bass and Chakrabarty (2014) suggested that security resource theory and the resource-based view are supplements to the RDT and that organizational leaders can

improve performance by using these theories. Bass and Chakrabarty proposed that a gap exists in RDT, stating that company leaders do not give much thought to the means of acquiring resources and that an alternative to the RDT is security resource theory.

Organizational leaders experience dependence on the environments within which they operate. Leaders may use RDT to explain that dependence, recognizing that their organization is an exposed system that depends on restrictive factors in the environment (Lai, Chu, Wang, & Fan, 2013).

To improve performance, leaders try to create strong relationships with intercompany stakeholders to obtain and preserve essential resources (Lai et al., 2013). Lai et al. (2013) stated that according to RDT, leaders make decisions inside constraints, such as (a) joint ventures and mergers, (b) integration of board members from the community, (c) creation of strong relationships with the government, and (d) executive succession. Nienhüser (2017) stated that researchers use RDT to describe organizational behavior. Nienhüser further described behavior in the sense of decision-making and non-decision-making actions and results. Differences in management decisions link to differences of behavior that an organizational leader presents because of the influences of internal and external factors that affect the resources of the business (Nienhüser, 2017).

Leaders within organizations tend to focus primarily on acquiring resources without thinking about their communal bonds and their environment; however, a good relationship between all participants would build common trust and responsibilities (Nguyen, Szkudlarek, & Seymour, 2015). Nguyen et al. (2015) pointed out that these relationships could be either structurally or relationally implanted and could eventually

affect resource procurement cost. Amalou-Döpke and Süß (2014) suggested that RDT proponents mainly focus on organizations' acquisition of resources, organizations' handling of constraints in the environment, and the relationship between the environment and the organization. The key assumption of RDT is that leaders do not have control over the resources that they need; however, they gain access to the resources by working with others (Amalou-Döpke & Süß, 2014).

System theorists can explain the functioning of supply chain management.

Locatelli, Mancini, and Romano (2014) described a system as an adaptive entity that can survive changes in the environment in which it functions. Researchers have suggested that for professionals to understand and improve the supply chain, they must use a system perspective (Krause, Luzzini, & Lawson, 2018). Stacey (2011) stated that system theory indicates that each part of a system is important to the others and that each part must perform perfectly. RDT and systems theory are similar in that they have parts that are dependent on each other.

Complementary and Alternative Theories

Researchers use normal accident theory (NAT) to define the circumstances that contribute to risk conditions (Bode & Wagner, 2015). Accidents are expected and are a result of difficulty and collaborating forces (Marley, Ward, & Hill, 2014). Tilcsik (2016) posited that managers must increase slack to reduce the occurrence of failure, which can happen in unexpected ways. Difficulty and collaborating forces are precursors to disruptions to the supply chain (Ho, Zheng, Yildiz, & Talluri, 2015). Supply chain managers must develop and implement strategies to mitigate disruptions that occur as a

result of constricting forces and decisions (Ho et al., 2015). Marley et al. (2014) noted that theorists have hypothesized that companies can become less vulnerable to disruptions if they reduce the level of difficulty and collaborating forces. By reducing difficulty, supply chain managers reduce exposure to supply chain disruptions (Ho et al., 2015). The challenge is for supply managers to attain the capacity to understand and cope with difficulty and collaborating forces concurrently. NAT is similar to RDT; however, NAT has limits because of lack of applicability to an organizational framework.

The contingency theory of fit (CTF) contrasts with RDT (Alrjoub & Ahmad, 2017). The foundation of the CTF is the notion that it is necessary to prepare for, minimize, or prevent the effects of disruptions within the supply chain (Talluri, Kull, Yildiz, & Yoon, 2013). Talluri et al. (2013) posited that issues of the external and internal environments, resources matching the business environment, and the company's performance dictate supply chain managers' decisions. The *approach to fit* is the interaction within the relationship between organizational context and structure, and the fit is useful for leaders to examine the correlation between the specific characteristics and context within the organization (Hallavo, 2015). Supply chain managers can use the concepts of interaction and selection to create different strategies to mitigate or prevent various risks and enhance performance within the supply chain (Chang, Ellinger, & Blackhurst, 2015). Chang et al. (2015) also posited that managers select different sets of strategies at different times to minimize supply chain disruption and risk; however, managers need to match the response strategy with the organizational context.

Supply Chain and Supply Chain Management

The transport of services and products from the primary site of manufacture to the end user is all-inclusive within a supply chain (Sharma, 2013). Elements exist within the supply chain for management to create strategies that will bring about supply chain resilience. Supply chain management incorporates logistical functions, participant organization, and customer management (Ho et al., 2015). Several components involved in the supply chain activities are manufacturers, raw materials, final product producers, wholesalers, retailers, and distributors (Sharma, 2013).

Harsasi and Minrohayati (2017) posited that SCM is a set of activities and decisions used to integrate manufacturers, suppliers, transporters, warehouses, and retailers effectively to guarantee that providing the right service or product occurs in the exact quantities needed to precise locations at appropriate times to satisfy consumers. Rakovska and Stratieva (2018), in agreement with Harsasi and Minrohayati, noted that to meet customers' demand because of competitiveness within the supply chain, coordination of the flow of materials and the integration of other firms must take place. Collaboration and integration with customers and a firm's partners are critical to an effective supply chain (Kumar & Nambirajan, 2013).

The purpose of using SCM is to reduce costs while integrating processes and using resources efficiently (Kluczek, 2017). A leader's objective in using SCM strategies is to improve effectiveness in gathering product data and moving goods from manufacturer to consumer (Ivanov, Sokolov, & Solovyeva, 2016). Nel, de Goede, and Niemann (2018) posited that SCM is a social software platform that promises inter- and

intraorganizational alignment and information sharing to guarantee exceptional performance and building competitive advantage by integrating transactions and resources through traditional means. The primary activities of SCM serve to improve the flexibility of activities within the supply chain, improve service collaboration with supply chain partners, and minimize costs (Tarofder, Marthandan, Mohan, & Tarofder, 2013). Fawcett, Magnan, and McCarter (2008) noted that company leaders have difficulty in creating successful strategic alliance plans, which poses challenges related to integration and collaboration within the supply chain. Sharma (2013) noted that to provide leadership for SCM and innovative products, to aid in customer satisfaction, and to increase internal customer satisfaction, managers need to determine the relationship between value creation and lean thinking.

Fawcett et al. (2008) suggested that inconsistent metrics, inadequate information sharing, corporate cultures, and the nature of interfirm collaboration create barriers for collaboration. Developing a strategic plan between organizations may prove to be difficult for leaders; this is one of the challenges in supply chain collaboration. Brekalo, Albers, and Delfmann (2013) discovered that 70% of all strategic partnership plans fail after investigating several companies' strategic partnership plans. To address this issue, management must identify the organization's capabilities to maintain a successful strategic partnership plan that incorporates logistics partners and logistics activities.

Techniques in SCM are collaboration between suppliers, local businesses, and the customer (Lu, Shang, & Lin, 2016). The RDT is appropriate in SCM to provide insight into fostering relationship and obtain an understating that these relationships aid in

managing supply chain risks, support incentives, and forges relations (Wandfluh, Hofmann, & Schoensleben, 2016). In different stages of the supply chain, collaboration among partners can lead to the proficient operations in the supply chain (Lu et al., 2016). This participation helps build the relationship and creates benefits in the supply chain such as high-quality services, timely deliveries, lower costs, effective interaction of activities, and efficient operations (Ellram & Cooper, 2014).

The contributing factors that cause the way leaders make changes in conducting business is information sharing, intense competition, globalization, changing markets, and technology (Kluczek, 2017). Supply chain partners sometimes will make decisions that are not ideal for the total performance of the supply chain in a bid to increase their own profits (Sekip Altug & Van Ryzin, 2014). Simon, Di Serio, Pires, and Martins (2015) noted that the success of business depends on company leaders' capability to integrate their network of business associations. Additionally, to take complete advantage of the supply chain leaders in companies must recognize the factors that affect the performance of their partners (Cheng & Tang, 2014).

To compete and remain competitive in global markets requires supply chain leaders to identify the practices that influence supply chain and improve their performance, and their supply chain partners performance (Ahmad & Mohd Saifudin, 2014). Satisfying consumer demand, competition, and operating with an emphasis on efficiency and cost reduction are challenges that business leaders face while operating in the global environment (Marshall, McCarthy, McGrath, & Claudy, 2015). Supply chain managers must deal with uncertainty in the supply chain (Hasani & Khosrojerdi, 2016).

Moreover, the difficult task for supply chain managers to manage global suppliers and subcontractors to guarantee of quality products and components delivered on time (Ho et al., 2015).

Mitigating Supply Chain Risk

According to Scholten and Schilder (2015), global sourcing and risk increases concurrently, and managers do not have proper risk management mitigation programs in place. However, managers do understand that they need to manage or control disruptions in their supply chain operations (Ivanov, Sokolov, & Dolgui, 2014). Part of risk planning is to try to consider the situations that supply chain disruptions can or will occur so that the proper response from management occurs (Rostamzadeh et al., 2018). Maroofi and Kalhori (2016) noted that perceptions of risk and the disruptions cause by risk, guides managers' decision making. Scholten and Schilder (2015) discovered that managers from different industries gravitated to informal methods to manage risk as opposed to using methods that are more formal. Disruptions either lowers profitability by an average of 3.8%, decreases shareholder wealth, increases operation closures, and detrimental to a company's reputation (Schotter & Thi My, 2013).

To control the uncertainties and risk in logistical activities, supply chain managers should seek collaboration among the partners (Hohenstein et al., 2015). To identify such potential disruptions managers must use several approaches, such as looking at historical trends, creating cause and effect scenarios, or creating contingency plans (Parida, Wincent, & Oghazi, 2016). The focus for supply chain managers to manage disruption is to develop new risk strategies (Ho et al., 2015). Since 2009, the climate changes within

the supply chain from short product life cycles, technology, globalization, and uncertainty in supply and demand for understanding risk becomes important for leaders (Jahanbakhsh & Akafpour, 2013). Managers cannot always avoid disruption and the use of risk mitigation strategies can minimize the interruptions (Scholten & Schilder, 2015). Heckmann et al. (2015) noted that increased revenues, reduced costs, and reduced assets are benefits of strategies implemented by many of supply chain managers. These strategies also have become more refined and susceptible to disruptions. However, if leaders could understand the impact of risks and the effect risks can have on their company's supply chain then they could create an effective supply chain network (Punniyamoorthy, Thamaraiselvan, & Manikandan, 2013).

Strategies to manage risk have become more important because of the changing scope of the world (Ambulkar, Blackhurst, & Grawe, 2015). Risks that can be potential threats are in the form of political, human, environmental, organizational, and technological (Govindan, Fattahi, & Keyvanshokoo, 2017). The techniques used by supply chain managers have reduced weakness to events that could possibly be high impact (Ray & Jenamani, 2016). Cheng and Tang (2014) noted that risks that are part of supply chain are operational risk and disruptions risk. When management has a disruption, they use supply chain tools as gauges to monitor and measure the performance of the company (Ceryno, Scavarda, & Klingebiel, 2015).

The risk management tools has to be effective which entails an evaluation of the focus of control and the assortment of alternate control activities to respond to any disruption (Agrawal, De Meyer, & Van Wassenhove, 2014). Several types of demand

uncertainties occur in the supply chain system that can interrupt the continuous flow of goods and services to customers (Linton, Boyson, & Aje, 2014). To mitigate disruption in the supply chain the normal accident theory is a solution for leaders, which enables the use of the postponement because of the aspects of catastrophic accidents (Linton et al., 2014).

Supply Chain Disruption

The probability for disruption to expand as the global business environment expands is inevitable. Supply chain leaders who are involved in the trend to outsource face global competition, which makes the companies exposed to disruptions and operational risks and could lead to revenue loss, negative company reputation, and even closing the company (Yu & Huatuco, 2016). Leaders need to consider various strategies and management methods that will reduce the impact of supply chain disruption to avoid disruptions altogether within the changing global environment (Kessler et al., 2012). The frequency of disruptions within the supply chain is increasing and the impact can be costly and some parts of the supply chain can potentially come to a halt (Son & Orchard, 2013). Shareholder wealth, negative operating performance, and large financial losses are often the result of disruptions (Macdonald & Corsi, 2013). For instance, a recall conducted at Menu foods Corporation cost the company \$70 million because of chemical and wheat gluten in approximately 60 million cans of pet food (Chen, 2014). In addition, port strikes in Hong Kong in 2013 and on the west coast of the United States in 2002 caused huge financial losses and extensive shipping delays (Loh & Thai, 2015). Supply chain polices, designs, strategies, and the flow of materials are direct affects because of

disruptions within the supply chain (Darkow et al., 2015). Darkow et al. (2015) noted that disruption in the supply chain would probably increase, which will indicate the need for more attention from supply chain managers.

Economic disruptions occurred because of the financial crises of 2008, such as product price instability, money fluxes, and the frequency of government restrictions on investments (Schotter & Thi My, 2013). To manage these disruptions in the supply chain, company leaders face challenges regarding altering their risk management strategies for their supply chain. To mitigate the possible disruptions within the supply chain, the strategies have become important because one fiasco of any component within the supply chain can cause issues for other portions within that chain (Ho et al., 2015). For example, a strike in 2008 by one of General Motors (GM) key vendors caused GM to lose \$800 million in operating cost (Opta, 2015).

Some leaders do have a plan and some leaders do not have a plan in place to respond to the disruptions that take place within their supply chain. These disruptions can lead to loss of revenue, and a loss of customers. Asgary and Naini (2011) noted that 73% of business leaders believed that a contingency plan is important for their company, and 94% believed that such a plan in place would reduce the impact of supply chain disruptions. Asgary and Naini stated that out of 1,257 companies they studied, more than 50% did not have a contingency plan in place.

Disruptions in the supply chain could arise as an outcome from natural disasters, political instability, and poor economic and financial conditions (Olatunde, Chan, & Wang, 2012). Internal and external sources could directly relate to the disruption in the

supply chain (Zsidisin & Wagner, 2010). Disruptions could cause increased inventories, which leads to unanticipated cost for companies, producers are not satisfying market demand, adjusting production and shipping schedules, companies suffer from unnecessary backordering, and consumers receiving discounted prices because the product is not readily available (Co, David, Feng, & Patuwo, 2012). Disruptions directly affect an organizations sustainability and solvency (Cheng & Tang, 2014). Nevertheless, a company's flexibility to respond to the changes within the supply chain quicker and minimize the penalty in quality, cost, delivery, performance, and labor (Tiwari, Tiwari, & Samuel, 2015).

Hurn (2013) noted that global supply chains are susceptible to disturbances. Risk is inevitable, and no company can operate in safe environment without risk (Kırılmaz & Erol, 2017). For example, products shipped in containers on barges are subject to many disruptions, such as piracy, natural disasters, international terrorism, or political turbulence (Hurn, 2013). The global business environment has also become more complicated.

The Challenges of the Global Environment and Disruptions

The supply chain concept evolved from a product or raw materials from a vendor to supplier to a complex network that involves interdependent business units (Wagner & Neshat, 2012). The challenge for leaders in the supply chain is to identify the location of risk or disruption because every activity within the supply chain system has a degree of risk and disruption (Wagner & Neshat, 2012). Ineffective management, terrorism, political changes, natural disasters, and power outages are occurrences that can cause

major disruption in supply chain systems (Wagner & Neshat, 2012). Supply chain networks created by supply chain managers or managers who are part of these networks are vulnerable to a great number of risk (Omar, Davis-Sramek, Myers, & Mentzer, 2012).

Increased competition and globalization pressured supply chain managers to create mitigation strategies (Omar et al., 2012). Two facets that are vital to a supply chain are enhanced efficiency and low inventory level, which allows for cost reduction and lowers the risk of product design neglect (Silbermayr & Minner, 2014). The functionality of entire supply chain has the possibility of experiencing an interruption because of disruptions and vulnerabilities increasing (Omar et al., 2012). The use of a direct supplier or a dependable shipper during a shortage can enhance reliability (Xia et al., 2014). Application of the safety measures to mitigate risk and awareness of the disruption was not enough for this study because disruption within supply chains are substantial (Świerczek, 2013). Because of risk uncertainty, leaders revert to establishing corporate risk cultures within many organizations (Tukamuhabwa et al., 2015). However, some managers lack a vision for risk management and that included even collaborating with employees about the risk management process by communicating alertness in the supply chain (Tukamuhabwa et al., 2015). The ability to manage logistical function and the increasing global supply chain is vital to leadership setting a standard for costs in a global setting (Giannakis & Papadopoulos, 2016). However, managers in certain industries strengthen the elasticity of international supplies in an organizations total performance (Omar et al., 2012).

Reverse Logistics

To gain a competitive advantage, creating a reverse logistic (RL) program is an important role (Gooran, Rafiei, & Rabani, 2018). The definition of RL, according to Govindan, Soleimani, and Kannan (2015), is the opposite of forward logistics within the supply chain and involves the process of planning, implementing, and controlling the reverse flow of products back to the manufacture or a secondary market. RL is different from traditional supply chains in which they have inherent uncertainty, such as price, quality, time, and the quantities of return products (Gooran et al., 2018). Because of the nature of these uncertainties, supply chain managers need to enforce a high level of complexity in the design of a RL strategy (Babazadeh, Jolai, & Razmi, 2015).

A food product is considered unsaleable if the product package has dents or the product itself has blemishes; however, the product is still edible (Holweg, Teller, & Kotzab, 2016). Holweg et al. (2016) posited that with food products, supply chain managers could present a couple of different RL design depending on the innovation or functionality of the product. The process of RL is within the retail sector and includes customer returns, retailer, and manufacture returns to the supplier (Holweg et al., 2016). RL process starts by placing the unsaleable tag on a product at the primary outlet; management must determine if the product is in a condition for resale in another outlet, or if donation is an acceptable means of disposing the product.

Meyer, Niemann, Mackenzie, and Lombaard (2017) suggested that supply chain leaders in the 1970s and 1980s perceived RL as a nonvalue-adding facet or a cost draining activity; however, RL can be a positive impact for a company financially by

recuperating the value of products. The removal of internal and external barriers for RL managers could develop a company's competitive advantage, enhance profitability, and sustainability (Meyer et al., 2017). Meyer et al. posited that internal barriers are hindrances that have an effect on the performance on RL. Internal barriers consist of (a) communication, (b) cooperation, (c) financial, (d) commitment from top management, and (e) absence of adequate information systems (Meyer et al., 2017).

Communication suffers in organizations because of the lack of cooperation with RL practices (Abdulrahman, Gunasekaran, & Subramanian, 2014). Internally, companies should collaborate and work collectively as a single entity expecting mutual outcomes of the RL practices (Meyer et al., 2017). Upper management may not be committed or cooperative because of the lack of awareness of how the RL can benefit the profitability of the company (Abdulrahman et al., 2014). Meyer et al. (2017) suggested the RL leaders be a part of upper management for companies to obtain the gains and success of RL strategies. Investments in RL monitoring systems are a means for leaders to improve financial performance. Monitoring the reverse flow of the products, storage, in-house handling of returns through RL information systems is a necessary component of an RL strategy (Abdulrahman et al., 2014). Information systems are costly; however, information systems are vital when supply chain managers are developing RL strategies to recover and track and trace products (Meyer et al., 2017). Information systems also hinder RL practices when they are incompatible or deficient within an organization (Ganjali, Shirouyehzad, & Shahin, 2014). Returns are mishandled or lost if employees are manually handling the products; information systems can provide information

simultaneously to the internal departments (Ganjali et al., 2014). In addition, training of employees to engage in RL is necessary and takes financial support from the organization. A lack of investment in RL information systems likely results in reduced RL effectiveness (Meyer et al., 2017). Leaders increase organizational efficiency by removing the barriers to RL strategies, educating employees, and upgrading RL systems.

External barriers that affect RL practices are the lack of supply chain partner integration, the lack of accurate forecasting, and government regulations (Meyer et al., 2017). Partners within a company's supply chain motivate managers RL practices, forging close-knit practices in which integration occurs at different levels of the supply chains (Shen & Li, 2015). Poor integration of collaboration can negatively affect the integration of supply chain partners and RL practices dealing with returns take considerably large amounts of time, money, and effort to develop a complex return system (Shen & Li, 2015). Forecasting can cause an issue when not accurate among the partners because of planning of quantities and diversity of products that flow through reverse logistics (Meyer, et al., 2017). Market fluctuations cause uncertainty; therefore, having good information plays an effective role in managing, improving, and creating more profits with in RL operations (Govindan et al., 2015).

Technology

A vital tool within the supply chain management is information technology (IT) (Ivero, 2016). Information technology involve IT technical skills knowledge, and infrastructure (Sears & Hoetker, 2014). Leaders use IT to lower production and labor costs, communicate within organization, improve the quality of services and products,

reduce service time, and increase the competitiveness of the firm (Ivero, 2016). Supply chain managers in companies might use web technologies to (a) deliver operation efficiency (b) communicate easier and frequently (c) provide efficient payment systems (d) improve supply chain performance and inventory management (Tarofder et al., 2013). Managers can use IT to improve their competitive advantage, and sustainability for their organization (Luse & Mennecke, 2014). Sook-Ling, Ismail, and Yee-Yen (2015) posited that by using IT, managers could refine customer service and reduce inventory cost to achieve competitive advantage. Tripathy, Aich, Chakraborty, and Lee (2016) also suggested the existence of an intertwining relationship among IT, logistics and operational efficiency, competitive and customer relationship, and competitive advantage. Supply chain managers should have current technology throughout their systems, including customers and suppliers' systems (Tripathy et al., 2016).

To minimize risk, organizational leaders should invest in IT and develop new technologies (Tang & Zimmerman, 2013). Strengthening the supply chain against disruptions occurs when supply chain managers leverage innovative technology within the supply chain (Huang, Wu, Lu, & Lin, 2016). Murphy (2014) suggested that managers could use IT tools for data analysis to help minimize risk and disruption in the supply chain. Managers can use systems, such as enterprise resource planning, to curtail data mistakes within the supply chain (Bhakoo, Singh, & Chia, 2015). Managers need to use IT to help make better decisions and strategies to improve performance and minimize risk given the susceptibility of risk in the supply chain (Bhakoo et al., 2015). A vital tool within the supply chain management is IT (Ivero, 2016). IT involves technical skills

knowledge, and infrastructure (Sears & Hoetker, 2014). Leaders use IT to lower production and labor costs, communication within organization, improve the quality of services and products, reduce service time, and increase the competitiveness of the firm (Iveroth, 2016). Managers can use IT to improve their competitive advantage, and sustainability for their organization (Luse & Mennecke, 2014). Sook-Ling et al. (2015) posited that by using IT managers by refining customer service and reducing inventory cost to achieve complete advantage. Tripathy et al. (2016) also suggested among IT, logistics and operational efficiency, competitive and customer relationship and competitive advantage that there is an intertwining relationship. Supply chain managers should have current technology throughout their systems, including customers and suppliers' systems and add this to their IT businesses strategy (Tripathy et al., 2016).

To minimize risk, organizational leaders should invest in IT and develop new technologies (Tang & Zimmerman, 2013). The supply chain can be strengthened against disruption when supply chain managers leverage innovative technology within the supply chain (Huang et al., 2016). Murphy (2014) suggested that managers can use IT tools for data analyzation to help minimize risk and disruption in the supply chain. Managers need to use IT to help make better decisions and strategies to improve performance and minimize risk given the susceptibility of risk in the supply chain (Bhakoo et al., 2015).

Technology Risk

Although IT is a vital resource for businesses, risks exist. Managers use IT to increase communication and improve efficiencies, but explore the company to additional risks, such as technical failures, fraud, and security breaches (Huong Tran, Childerhouse,

& Deakins, 2016). When managers share information with other organizations, concerns for information security increase (Safa et al., 2015). Huong Tran et al. (2016) posited that when information sharing between supply chain managers increases, supply chain risks escalate. The risks of IT include data threats, software attacks, information leaks within the company and across the supply chain, and technological uselessness (Huong Tran et al., 2016). Hacking, phishing, piracy, and unethical IT use are other risk associated with technology (Chatterjee, Sarker, & Valacich, 2015). IT risks affect business performance. The damage caused by an unauthorized intrusion or a loss of privacy can severely disrupt the supply chain, cause disruption of internal communication and processes, wasting of time, and a loss of sales (Sindhuja & Kunnathur, 2015). Technology can lead to improved visibility within the supply chain; however, without adequate protection of IT systems, security breaches can lead the lack of trust between suppliers and vendors within the supply chain and impact competitiveness of the supply chain (Mazzarol, 2015). Huong Tran et al. (2016) suggested that IT risk could lead loss of market share, profit, and credibility. Technological underperformance can lead to lack of competitiveness that will affect a company negatively (Huong Tran et al., 2016).

Food and Beverage Industry

The food industry role affects (a) the development of other economic sectors, (b) the ability of cutting-edge technology and scientific achievements, and (c) the effect to stimulate labor growth (Kamenova et al., 2016). The food industry also has a multiplicative transport, agriculture, and retail trade (Kamenova et al., 2016). Kamenova et al. (2016) noted that the primary objective of food manufactures is to be innovative and

make the products competitive within the market. Kamenova et al. mentioned that domestic food production requires enhancing the readiness of available resources, renovation, and the reduction of investment concentration of new equipment. Disruptions in the supply chain affect the food and beverage industry (Tse, Matthews, Hua Tan, Sato, & Pongpanich, 2016). Floods or other natural disasters potentially impede distribution channels (Tse et al., 2016).

One of the leading food industries of the 21st century is the instant food industry because of quick preparation and convenience (Dogan, Aslan, Aktar, & Goksel Sarac, 2016). Semisolid foods, such as Oatmeal, and liquefied foods, such as soups, are some of the instant foods; however, there are also instant beverages when mixed with water that flood the market like hot chocolate and powdered drinks (Dogan et al., 2016). Dogan et al. (2016) noted that consumers choose food preferences based on texture and other sensory characteristics. Blažková and Dvouletý (2017) posited food segments have different essential characteristics than other industry segments. Distinctive characteristics in agribusiness from other business include political, cultural, and institutional aspects of food and the uncertainty because of livestock and crop production, political intervention, technology development, and competitive structures within agribusiness (Blažková & Dvouletý, 2017). In addition, large companies spread their global presence through direct foreign investments, which raises their concentration outside of their home markets. The larger corporations control the food markets because of their ease to thrive in pricing policies, competition, and safety legislation regarding food quality (Blažková & Dvouletý, 2017).

Food and Beverage Industry Risk

Unstable environmental issues cause inherent disruption risk in the food supply chain (Shukla & Jharkharia, 2013). Nyamah, Yi, Oppong-Sekyere, and Nyamaah (2014) suggested that major risk categories are (a) poor infrastructure, (b) price fluctuations and volatile consumer demand, (c) environmental and biological risk, (d) implementation of mandates because of weak officials, and (e) financial risk. Tse et al. (2016) suggested that disruption of the supply chain within the food and beverage is a derivative of demand, logistic, and product quality uncertainty. In the refrigerated food supply chain, disruptions occur because of long transport distance, temperature fluctuations, traceability of temperature while product in motion, and sanitary violations (Brenner, 2014). Perishability of food products is a significant source of risk in the food and beverage industry (Srivastava, Chaudhuri, & Srivastava, 2015). The condition of processing, storing, and transporting effects the result of food perishability within the supply chain (Chaudhuri, Srivastava, Srivastava, & Parveen, 2016). Srivastava et al. (2015) posited that cross-contamination, unsold inventory, spoilage, store processing mistakes, and traceability errors are other risk within the food and beverage industry; therefore, it is essential for leaders to be aware of these occurrences to create strategies the can increase operational efficiency and minimize risk.

Managers in the food and beverage industry need to understand the risk of product harm occurrences when consumers respond to adverse health influences resulting from malfunctioning or contaminated product (Song, Sheinin, & Yoon, 2016). Managers within the food industry hope nothing negative occurs; however, the mindset of the

managers indicates that product harm will happen (Hamlin, Bishop, & Mather, 2015). Zou and Li (2016) posited that if managers fail to implement a mitigation strategy, the likelihood of product harm occurs, increasing the risks for consumer and corporate loss increases. Managers should plan to determine the risk of product harm occurring instead of a plan that one will happen (Zavyalova, Pfarrer, Reger, & Hubbard, 2016).

Managers need to use strategic planning to help reduce loss associated with product harm and managers need to determine the cost and risk connected to a food product and beverage product harm predicaments (Magno, 2015). Supply chain managers need to understand the complexities of product harm, and how to create mitigation strategies that will reduce or eliminate negative occurrences in the food and beverage industry (Magdoff, 2015). Köhn and Jainzik (2014) noted that the population of the world demand for food products continues to increase correlates with the possibility of negative occurrences within the food and beverage industry. Köhn and Jainzik suggested that food production is declining, and product harm is increasing; therefore, the prospect for food shortage is growing.

When product harm occurs, there is liability that follows, and the outcomes can vary with death being the harshest result and cause companies to continue sustainability (Leighton, 2016). When defective or contaminated products cause harm to consumer these occurrences become legal issues (Hartmann & Moeller, 2014). Which also leads to consumers holding companies responsible when they voice their concern and opinions about the food and beverage products harm in the marketplace (Gonzalez-Padron, 2016). Majority of the liability could fall on a select few of those who are involved in the food

supply chain when several consumer groups start to voice the negatives of the product harm (Hartmann & Moeller, 2014).

Transition

In Section 1, I presented the background of the problem, the problem statement, and the purpose statement. When I reviewed the literature, I observed the different perspectives and thoughts of the events that affects supply chain costs. In Section 2, I discuss the basis for and the reason why I used a single case study to explore supply chain managers' knowledge and explore the role of the researcher, participants, method and design, ethical research, and population and sampling. The supply chain managers experiences and information obtained from the interviews will contribute to documenting strategies used to mitigate risk within the supply chain. In Section 3, I present my findings, offer recommendations for action, present the implications for social change, provide my reflections of the research process, and end with a concluding statement.

Section 2: The Project

In Section 2, I provide information on the steps that I took in conducting this study. This section contains a reiteration of the purpose statement and thorough discussions of (a) my role as the researcher, (b) participants, (c) research method, (d) research design, (e) population and sampling, (f) ethical research, (g) data collection instruments, (h) data collection techniques, (i) data organization techniques, (j) data analysis procedures, and (k) reliability and validity. Researchers who propose to conduct research on similar topics in the future could find the contents of Section 2 of this study to be supportive in attaining dependability, credibility, and transferability in their studies.

Purpose Statement

The purpose of this qualitative multiple case study was to explore reverse logistics strategies used by some supply chain managers to control cost through risk mitigation. The targeted population consisted of supply chain managers with at least 2 years of experience in five food and beverage distribution companies in Georgia who had successfully implemented reverse logistics strategies to mitigate risk, resulting in controlling cost in the supply chain. This study has implications for positive social change, in that the findings may inform organizations' efforts to provide customers with products at a reduced price and to eliminate unnecessary waste in the environment. Supply chain managers may use the findings of this study to prevent damaged products from entering the market.

Role of the Researcher

In a qualitative research, the researcher is the key instrument and must remain unbiased (Lewis, 2015). Qualitative researchers seek to explain applicable aspects of themselves, including any assumptions, expectations, experiences, and biases, to qualify their capacity to conduct the research (Greenbank, 2003). I was the main resource for data collection, interpretation, and analysis. I used face-to-face, semistructured interviews and a review of company documents to collect data.

My professional experience included involvement as a third-party logistics sales and operations director and an adjunct professor within the supply chain field of study in the state of Georgia. However, the participants in the study did not include any individuals with whom I had a professional or business relationship. To avoid any personal views or bias, I separated my knowledge, experiences, and feelings when interpreting the data obtained from the participants. I did not offer any guidance to participants and remained impartial. I was passive except when I needed further information from participants. To prevent my personal views from affecting the study, I used bracketing, which Bradbury-Jones, Taylor, and Herber (2014) described as a process for separating perceptions, personal experiences, beliefs, and moral judgments from study data. Brill-Barniv, Moran, Naaman, Roe, and Karnieli-Miller (2017) recommended that researchers keep journals to document any personal reactions, insights, and reflections to indicate how bracketing took place.

Researchers should maintain ethical protocols and protect the rights of participants (Bromley, Mikesell, Jones, & Khodyakov, 2015). I followed the ethical

guidelines and principles of the Belmont Report and Walden University's Institutional Review Board (IRB). Relevant themes from the Belmont Report included (a) respect of people, (b) informed consent, and (c) confidentiality/privacy (Dahling, Taylor, Chau, & Dwight, 2016). Omidoyin, Opeke, and Osagbemi (2016) noted that company leaders need assurances of privacy and confidentiality when they are involved in the research process.

I conducted face-to-face interviews with supply chain managers who implemented strategies to mitigate risk and disruptions within reverse logistics in the food and beverage industry. The interviews with the participants were voluntary; the participants could withdraw from the study at any time. I conducted each interview session with the same questions and in the same order. The questions were open ended. When facilitating the interviews, I introduced myself and let the participants know that I would be audio recording and taking notes. The rationale for using an interview protocol was that it would support consistency and the ability to stay within the confines of my planned interview process. When making multifaceted decisions, an interview protocol is a valid method to chart and measure an individual's thoughts (Horeni, Arentze, Benedict, Dellaert, & Timmermans, 2014). An interview protocol is a suitable method for limiting omissions and inconsistencies during an interview (Culbert, Ristic, Ovington, Saliba, & Wilkinson, 2017). The interview protocol is in Appendix A.

Participants

Kindstrom, Kowalkowski, and Nordin (2012) stated that participants who are knowledgeable about the studied issue or phenomenon should participate in interviews.

The question that I explored in this study involved the reverse logistics strategies that some supply chain managers use to control cost through risk mitigation. In order to meet eligibility requirements for the study, each participant needed to hold a position as a manager and have an ability to provide specifics to recognize supply chain disruptions within the food and beverage industry in the state of Georgia. The specific requirement was that the participants had experienced qualified success in implementing strategies to mitigate supply chain disruptions. I sought out supply chain managers with at least 2 years of experience. Researchers may gain access to participants through public directories, Chamber of Commerce membership lists, Internet searches, and in-person recruitment (Cridland, Jones, Caputi, & Magee, 2015). I gained access to participants using a Chamber of Commerce directory and followed up with emails, letters, and phone calls. Yin (2018) noted that a working rapport between researcher and participants is necessary to support the appropriate execution of a case study protocol. I obtained permission from Walden University's IRB prior to contacting potential participants. I established trust with the participants by reassuring them that their identities would be confidential. I met with the participants in a conference room at a public library to establish a relationship. I continued to develop trust by explaining to the participants that I would use a consent form in accordance with a strict academic code of ethics. I informed the participants that they were able to withdraw at any time from the interview without facing any consequences.

Research Method and Design

Skinner, Tagg, and Holloway (2000) commented that in qualitative research, the researcher focuses on the participant's experience, knowledge, and insight to gain a deeper understanding of the phenomenon under study. Researchers conducting qualitative case studies explore real-world phenomena within a contextual setting (Yin, 2018). I conducted a qualitative case study in this research.

Research Method

The qualitative method was the most suitable method to discover the strategies that supply chain managers in the food and beverage industry located in the state of Georgia used to mitigate disruptions in the supply chain. Researchers use qualitative research to gain a deeper understanding and gain rich insight from participants' viewpoints (Stake, 2010). Nel et al. (2018) noted that qualitative researchers discover themes consistent with participants' experience and expertise. Qualitative researchers combine documentation, observation, and interviewing to collect data (Alvesson & Sköldberg, 2017). Through semistructured interviews and a review of company documents, I was able to engage in open dialogue, discover deeper meaning, and gain rich insight into the reverse logistics strategies used by some supply chain managers to control cost through risk mitigation. Qualitative researchers seek knowledge from participants (Stake, 1995). The qualitative method was appropriate for this study because I sought to explore the phenomenon using the knowledge of the participants and a review of supporting, relevant documentation.

Researchers use the quantitative research method to test theory by accepting or refusing hypotheses (Neuman, 2011). Additionally, quantitative researchers use measurement strategies to produce new knowledge (Bernard, 2013). Researchers use quantitative research methods to study the relationship between variables, typically with a postpositive understanding of the world (Lewis, 2015). I rejected the quantitative method because I was not trying to prove a theory and did not have a need to conduct quantitative statistical analysis to answer the research question.

Mixed-method research studies involve a blend of qualitative and quantitative methods, characteristically using a rational worldview, where multiple data types are included to recognize the problem (Yin, 2018). From a statistical perspective, mixed method studies are appropriate for researchers who are searching for an in-depth understanding of a phenomenon (Siddiqui & Anneke Fitzgerald, 2014). Lo Iacono, Symonds, and Brown (2016) noted that for the mixed methods is essential for researchers needing to use quantitative and qualitative methods to answer their research questions. A mixed-method approach was not appropriate because answering the research question did not require a quantitative statistical analysis of numeric data. I used a single research method to answer the research question.

Research Design

A research design is a blueprint for a researcher, and the selection of an appropriate design is important (Yin, 2018). I considered four qualitative designs for my study. The four designs were (a) narrative design, (b) ethnographic design, (c) phenomenological design, and (d) case study design.

The objective of this qualitative case study was to discover how supply chain managers effectively mitigate disruptions in the food and beverage industry. In a case study approach, the focus of the study is typically acknowledged in advance, and the study is planned around an established method or theory (Stake, 1995). A case study design involves the researcher conducting an exhaustive examination of a single case or a small number of cases (Lehtinen, Mäntylä, Vanhanen, Itkonen, & Lassenius, 2014). Researchers use case study designs when researching developing concepts from multiple sources (Netland, 2016). Based on this description, the case study design was the most suitable research design to obtain data from supply chain managers who had been effective in mitigating reverse logistics disruptions in a supply chain.

The key concern of researchers using the narrative research design is gathering data from one contributor's story to extract the meaning of their experiences (Lewis, 2015). Safari and Thilenius (2013) noted that narrative researchers base data collection on storytelling experiences of people or the life experience of one individual. In using the narrative approach, concerns to consider include the transferability and credibility of the study because of issues with validity, reliability, and data manipulation (Erlingsson & Brysiewicz, 2013). This research study involved assembling data from more than one person to discover how supply chain managers successfully implement strategies to mitigate disruptions within reverse logistics within the supply chain. Consequently, the narrative research design was not appropriate for this study because my purpose was not to discover one contributor's story.

The ethnographic research design involves a pool of contributors who are of the same culture, location, and ethnicity (Bernard, 2013). Researchers use the ethnographic research design to study cultural groups over an extended period in a natural setting, with a focus on understanding the actions of a culture as opposed to understanding the phenomenon from participants' vantage point (Wilson, 2012). The use of ethnographic research design requires developing a vivid written interpretation of a culture or group (Yin, 2018), which did not align with the purpose of this study; therefore, I rejected the ethnographic design.

Researchers use the phenomenological research design to clarify a person's experiences to obtain information on a phenomenon (Finlay, 2012). A connection exists between phenomenological research and interviewing contributors to obtain their views through life experiences (Miller & Barrio Minton, 2016). Researchers using the phenomenological design search for an understanding of the relationship between social life and individuals (van der Werff & Buckley, 2017). My focus in this study was not obtaining an understanding of people's relationships; rather, I sought to discover how supply chain managers effectively mitigate disruptions in the reverse logistics supply chain. The purpose of this study was not to discover only participants' insights and knowledge, but rather to investigate strategies used to mitigate supply chain disruptions. Consequently, the phenomenological research design was not a suitable design for this study.

Data saturation occurs when a researcher collects all the data relevant to the case under study (Harwood, Gapp, & Stewart, 2015). I conducted document reviews, member

checking, methodological triangulation to crosscheck data, and interviews until I reached a point at which I obtained the same information from the participants repeatedly and no new information was given. When no new information emerged, I reached data saturation. In the development of a research study, qualitative researchers aim to attain data saturation (Fusch & Ness, 2015). Data saturation is the point at which no new theme or patterns emerge from additional data collection efforts (Antes, 2014). If a researcher does not reach data saturation, the dependability, credibility, confirmability, and transferability of the results within the study are at risk (Cope, 2014). To reach data saturation, researchers ask participants probing questions during interviews, engage participants in member checking, collect data from multiple sources, and engage in methodological triangulation (Fusch & Ness, 2015). I engaged the participants in semistructured interviews, asked probing follow-up questions, used member checking, collected data from company documents, and engaged in methodological triangulation to reach data saturation. I continued data collection efforts until no new themes or patterns emerged.

Population and Sampling

The population for this qualitative case study was supply chain managers in the state of Georgia with at least 2 years of experience who experienced success in mitigating supply chain disruptions within the food and beverage industry. I used purposeful sampling to identify business leaders in the food and beverage who implemented strategies to mitigate supply chain disruptions in their companies. The objective of using

purposeful sampling is to choose the most knowledgeable contributors or cases who best aid the research objectives (Patton, 2002). This sampling method is like the maritime allegory of casting a wide net and then picking the best from the catch (DeFeo, 2013).

Researchers use purposeful sampling to exercise their judgment when choosing contributors with criteria-based methods (Leedy & Ormrod, 2014). I used criteria-based, purposive sampling in this study to select logistics managers who met the requirements for the research. Using criteria-based, purposive sampling to choose contributors warrants a sample population whose members will meet the requirements for research participation (Gonzalez, 2017). Applying a purposive sampling correlates with the specified intent of the case study design and ensures that chosen participants have proficient knowledge to identify and offer exhaustive descriptions about the phenomenon (Bernard, 2013).

I recruited five supply chain managers in the food and beverage industry who had successful mitigation strategies within the supply chain. Bowman (2015) conducted a qualitative research study about strategies to mitigate supply chain disruptions, for which he interviewed six supply chain managers in Florida; however, he reached data saturation with four. Penn (2016) conducted a study of managers' strategies for mitigating supply chain risks and the impact of mitigating risk on business performance, which involved interviews with six supply chain managers. Muzvondiwa (2017) interviewed five participants in a study on strategies to prevent and mitigate the effects of disruptions in Zimbabwe agro-food supply chains. Because my study was similar to Penn, Bowman, and Muzvondiwa's, five participants was an appropriate sample size.

The knowledge of contributors will provide extensive and detailed knowledge of the research under study (Erlingsson & Brysiewicz, 2013). The distinct knowledge and the uniqueness of supply chain managers with successful mitigation strategies parallel the sampling criteria (Elo et al., 2014). I summarized the interviews and used member checking to make sure that the responses I had written were accurate and asked if there is any additional information. To achieve data saturation, researchers should ask participants additional questions after reviewing and verifying the accuracy of the interview summary (Fusch & Ness, 2015).

In the development of a research study, qualitative researchers aim to reach data saturation (Fusch & Ness, 2015). Data saturation is the point in which no new theme or patterns emerge from additional data collection efforts (Antes, 2014). If a researcher does not reach data saturation, the dependability, credibility, confirmability, and transferability of the results within the study are at risk (Cope, 2014). To reach data saturation, researchers ask participants probing questions during the interviews, engage participants in member checking, collect data from multiple sources, and engage in methodological triangulation (Fusch & Ness, 2015). I engaged the participants in semistructured interviews, asked probing follow up questions, used member checking, collected data from company documents, and engaged in methodological triangulation to reach data saturation. I continued data collection efforts until no new themes or patterns emerged.

Ethical Research

Participants will provide informed consent. Researchers use the informed consent form to provide participants with an understanding of the content and nature of the study

and the extent of their involvement (Wu, Chuang, & Hsu, 2014). Researchers obtain informed consent from participants to ensure maintaining ethical research standards, convey to participants the assurance of confidentiality, and provide an overview of the risks and benefits from participating in the study (Donges, 2015). Ethical interviewers should instruct interviewees on all risks and dangers that relates to the research (Yardley, Watts, Pearson, & Richardson, 2014). I used the informed consent form to provide the participants with an overview of the study, provide some sample interview questions, and provide a list of the potential risk and benefits of participating in this study.

I adhered to all guidelines applicable to rights of the participants, as required by both the Belmont report and Walden University institutional review board (IRB). I obtained approval from Walden's IRB before contacting participants. Ethical guidelines in the Belmont Report contain respecting private and reduced independence, following the principles of generosity and fairness, acquiring informed consent, evaluating risks and benefits, and I will select participants fairly (U.S. Department of Health and Human Services, 1979). The ethical research includes protecting contributors' identity, rights, and confidentiality (McCormick, Boyce, Ladd, & Cho, 2012). To preserve ethical results, I notified the participants that I would not offer any incentives for contributing in the study. Further, participants had the right to withdraw from the study at any time, without consequence.

Pyhälä et al. (2016) noted to protect participants and all who are involved with the use of a consent form from researchers. I protected the confidentiality of the participants participated and did not use any information that can identify the contributors. I used the

code names of P1, P2, P3, P4, and P5 to remove participant identifiers and C1, C2, C3, C4, and C5 to remove company identifiers. Moustakas (1994) noted by removing identifiers will prevent any risk to the participants. The consent form provides information to the participants about the risk participating in the study, how to manage those risk, and the responsibilities associated with participation (Pyhälä et al., 2016). I used a small safe to lock up the thumb drive and all written documents from the interview process for 5 years in my home office. At the end of the 5th year, I will destroy all documents with a paper shredder and use hard drive removal software to delete electronic files.

Data Collection Instruments

The participants provide the data for this qualitative case study through direct interactions. I was the primary data collection instrument and used semistructured interviews and document review. The characteristics of semistructured interview are (a) open-ended questions with follow up questions (b) specific questions aligned with a central research question, (c) relevant to the topic under study, or (d) areas that researchers want to increase knowledge about, but do not have sufficient information in the start of the research to form specific questions (Kahlke, 2014). Majid, Othman, Mohamad, Lim, and Yusof (2017) denoted that the basis of the interview questions is the overarching research question about the subject matter and permission should be obtain before starting the process; identify actions before, during, and after interviews. Consequently, interviews are trusted and reliable ways of collecting data because the

researcher can explore the participants' experiences with robust dialogue (Tran, 2016). I conducted interviews with the participants. The use of semistructured interviews was a means for the participants to discuss their views and thoughts about the strategies used to mitigate risk in reverse logistics in the supply chain. I took notes and used a recording device with the permission of the participants shown by the consent form to improve the reliability and validity of the data collection process. To ensure proper recording, I tested the recording device and I had a backup recording device in the event of a malfunction with the primary recorder.

Turner (2010) noted that interview protocols are significant to ease bias and to ensure dependability and credibility. Researchers should adequately prepare to conduct interviews (Majid et al., 2017). I used preparatory procedures as outlined in the interview protocol (see Appendix A) and used open-ended interview questions that directly align with the research question (see Appendix B). When meeting the participants on the interview day we selected, I made sure that I had permission to record their responses. I then asked the interview questions and asked follow-up questions for additional clarity.

To maintain dependability, credibility, and confirmability in the data collection process, I used member checking as the method to allow the participants an opportunity to review my interpretation of their interview responses. Researchers use member checking to provide the participants an opportunity to confirm the dependability and credibility of the researcher's interpretation (Chong & Yeo, 2015). Corner, Singh, and Pavlovich (2017) noted that the use of member checking endorses trustworthiness within the study. Member checking also involves the sharing of the researchers' interpretation

and the data analysis of the participants experiences (Koelsch, 2013). The use of the transcript checking permits the participants to check the accuracy of the researchers notes (Jonsen & Jehn, 2009). Researchers improve dependability by reviewing themes and the accuracy of the findings (Koelsch, 2013). I transcribed the interviews, created an interpreted summary of the participant's responses, and e-mailed the summary to each participant 3 days prior to the member checking sessions. During the 30-minute member checking session, I asked the participants to verify the accuracy of the interpretation of their responses and then asked them for additional information to help reach data saturation.

Data Collection Technique

Researchers use multiple sources when collecting data in a case study (Yin, 2018). To answer the research question, researchers use the data collection process to gather information (Le Roux, 2017). The data collection techniques that I used were semistructured face-to-face interviews and document reviews. I chose a predetermined place to conduct the interviews, such as a private meeting room at a public library. After obtaining permission from Walden IRB, I sent e-mails to possible participants and include the informed consent form. Participants provided informed consent by replying *I consent* to the e-mail, signing, scanning, and returning the informed consent form, or signing the form just prior to the start of the interview. The participants and I agreed to a time and place with interviews. When we met, I introduced myself and provided a copy of the interview protocol. I informed the participants that I would be taking notes and recording the session. To collect the data, I used a smart pen, which was a digital pen that

records the information spoken. I used a digital audio recorder as a backup in case the digital pen battery power dies.

Flexibility and control while conducting thorough interviews with the participants, and to gain supplementary data from the participants are the main advantages of the face-to-face interviews and document reviews (Yin, 2018). Another advantage is that the research can clarify misunderstandings during the face-to-face interview process (Kisely & Kendall, 2011). A disadvantage of face-to-face interviews is that my presence could change the behaviors of the participants (Mojtahed, Nunes, Martins, & Peng, 2014). Another disadvantage of face-face interviews participant could be uncomfortable when researchers ask sensitive questions (Kisely & Kendall, 2011). The use of the interview protocol could minimize the inconsistencies in the process (see Appendix A). The use of company documents would help me to understand how supply chain managers mitigate risk successfully with in the food and beverage industry. I compared the interview information with the document reviews. Yin (2018) noted that researchers conducting a case study should validate one set of data with a second set of data. I used the data gleaned from reviewing company documents to crosscheck the interview data.

To ensure the accuracy and trustworthiness of the interview data, I used member checking. Member checking is the process that researchers use to verify words spoken using transcripts of discussions for accuracy. Member checking contains the consistency, sequencing, and regularity of those checks, which strengthens the study's trustworthiness (Corner, et al., 2017). To ensure the correct meaning of interview data, researchers should

crosscheck the literal translation with the participants' intent (Shenton, 2004). Furthermore, member checking also necessitates the confirmation of the researchers' interpretation of the participant knowledge when sharing of data analysis (Koelsch, 2013). Alvesson and Sköldbberg (2017) noted that participants should feel free to communicate openly their ideas, knowledge, and opinions through the interview process.

Data Organization Technique

I collected, coded, and analyzed data for themes and trends. Obtaining data for analysis can be an intense process (Yin, 2018). Standard methods to analyze and organize qualitative case study is pattern identification, description, generalization, and concept categorization (Patichol, Wongsurawat, & Johri, 2014). Data organization strategies are important for researchers to use such as planning, conducting, and illuminating the interview data (Lo Iacono et al., 2016). I used NVivo 12.0 for data organization, inputting the interview transcripts into the program. Organizing and coding data are vital parts of the qualitative research (Bernard, 2013). I coded the participants' responses into main categories with headings and subsections. To stay organized, I kept a journal and used Microsoft cloud storage to keep my digital files and recordings.

I used a thumb drive to save and store participants' transcribed interviews. I used a small safe to lock up the thumb drive and all written documents from the interview process for 5 years in my home office. At the end of the 5th year, I will destroy all documents with a paper shredder and use hard drive removal software to delete electronic files.

Data Analysis

Salajeghe, Nejad, and Soleimani (2014) noted that data analysis occurs when the qualitative researcher seeks to discover a fundamental meaning through data interpretation and a systematic review of all collected information. I used Yin's (2018) five-phase process to analyze data, which is compiling, disassembling, reassembling, interpreting, and concluding the data. Researchers use methodological triangulation to crosscheck one set of data with a second set of data (Fusch & Ness, 2015). During data analysis, I employed methodological triangulation to crosscheck the interview data with the data collecting from the review of company documents.

Data Compiling

To begin data analysis, researchers compile all the collected data in an organized manner (Salajeghe et al., 2014; Yin, 2018). I conducted face-to-face interviews using the open-ended questions (see Appendix B), follow an interview protocol (see Appendix A), and review company documents to gather all the data for this study. I read, analyzed, and interpreted the information in an unbiased and reliable way. Yin (2018) recommended researchers should categorize data by themes that identify through the interviews from the participants to establish commonality through their viewpoints. I initially compiled the data in an organized manner using Microsoft Word and Excel. I used NVivo 12.0 for data organization, inputting the interview transcripts into the program.

Data Disassembling

The disassembling phase is part of the data analysis in which researchers separate and label the data through a coding process (Corner et al., 2017; Yin, 2018). I inputted

the data collected from interviews and company documents into NVivo 12.0 software to disassemble the data into fragments and nodes. I coded and labeled the nodes using NVivo 12.0. Kozleski (2017) noted that the use of NVivo 12.0 software is an effective means to label and code data. I separated and grouped the data into similar themes, ideas, or patterns.

Data Reassembling

In the data reassembling phase, researchers' group and catalog the labels into classification and sets (Corner et al., 2017; Yin, 2018). I used NVivo 12.0 software to reassemble the data to find patterns or commonality of the data. Data analysis involves formulating and establishing data for classifying themes and for analysis (Yu, Abdullah, & Saat, 2014). Yin (2018) proposed three procedures researchers may use in the reassembly phase: creating repetitious comparisons, looking for negative cases, and engaging in opposing thought process. Researchers utilizing constant comparisons identify resemblances and differences among items in data sources (Yin, 2018). During data reassemble, I compared the interview data with documentation data to discover themes and patterns.

Data Interpretation

In the interpretation phase, researchers create narratives from the categories and groups (Corner et al., 2017; Yin, 2018). I established commonalities and narratives by interpreting the data with the use of the NVivo 12.0 software. I grouped the data based on the strategies that managers in the food and beverage industry used to mitigate risk. The combination of data sources to study similar social phenomenon the data analysis process

in use is triangulation (Denzin & Lincoln, 2010). Triangulation has four types: (a) investigator triangulation, (b) theory triangulation, (c) data triangulation (d) methodological triangulation (Denzin & Lincoln, 2010). I used methodological triangulation because of the data I collected by interviews and document reviews within this study. The types of data that I emanated from the interviews and documents. Yin (2018) noted that the use of multiple of data sources reduces bias and enhances the profundity of a study. I collected data from multiple sources and used methodological triangulation to ensure credibility, transferability, and conformability in research (Yin, 2018). Yin noted to strengthen a study and to enhance the quality of research the use of multiple sources of evidence to triangulate the results. I reviewed documents related to procedures, policies, and business planning, and then compared the document data with the interview data for crosschecking purposes.

Data Conclusion

Researchers seek the relationships between the themes from the interview with other data sources company documents and through observations that validate or back the conceptual framework of the study (Corner et al., 2017). Researchers who use case studies focus on themes when discussing and documenting the study. I evaluated the relationship between the interviews with the literature review and the conceptual framework. I took six steps in the final analysis:

1. Documented the findings.
2. Organized the findings using triangulation.
3. Provided the outcomes that contributed to business practice.

4. Provided influences that the study will have on social change.
5. Recommended the strategies and decision to supply chain managers.
6. Identified limitations of this research and made recommendations for future research.

Software Plan

To code, map, and identify themes researchers use computer software programs (Rushing & Powell, 2014). To help to organize the data that I obtained, I used Microsoft Word and Excel, and NVivo 12.0 software for Microsoft. As I used the software, I was able to code, label, classify, count, and tabulate the themes obtained from the interviews. Researchers' use of the computer system is effective when researchers complete these four data stages: comprehending, synthesizing, theorizing, and recontextualizing (Darawsheh, 2014). Kozleski (2017) indicated that researchers should import documents and findings into NVivo to code and thematically label the data.

Key Themes

Through observation, documents, and interviews, I established main themes that I could focus on when I was analyzing the data. I used the findings to either support or refute researchers who conducted mitigating risk studies. I used the findings to help contribute to furtherance of risk mitigation strategies within SCM to improve business practices and progress social change. I continuously linked the finding to the RDT developed by Pfeffer and Salancik (1978).

Reliability and Validity

Researchers address reliability and validity when evaluating, planning, and assessing a study's quality (Yin, 2018). Accuracy and precision of research is synonymous or related to trustworthiness of the data and the findings (Gheondea-Eladi, 2014). Rigor is vital to a study and the researcher must have rigor to assure the quality of the study (Darawsheh, 2014). The elements sought after by qualitative researchers to depict rigor in a study are credibility, confirmability, transferability, and dependability (Wamba, Akter, Edwards, Chopin, & Gnanzou, 2015).

Dependability

Qualitative researchers strive for consistent, dependable data and finding (Kihn & Ihantola, 2015). Yin (2018) stated the importance of maintaining consistent documentation and ensuring accurate findings by the researcher. Researchers should code and organize the data in qualitative research study in a meticulous and consistent manner (Stefaniak & Tracey, 2014). Ardhendu (2014) noted that for other people to replicate a study, the primary investigator should document the steps and procedures within a case study. Researchers should ask probing questions during the interviews, engage participants in member checking, and engage in methodological triangulation of data collected from multiple sources to ensure the dependability of the data. I documented each step of the research process, maintained consistency during the interviews using an interview protocol (see Appendix A), asked probing questions, engaged the participants in member checking, and used methodological triangulation to ensure dependability of the data and the findings.

Credibility

In the data collection process, researchers need to establish credibility of the interview process to achieve greater confidence in the results (Parsons et al., 2017). Yin (2018) noted that member checking is a means for researchers to improve the credibility of the findings. Researchers conducting a qualitative case study ensure credible findings through reaching data saturation (Fusch & Ness, 2015). Methodological triangulation is a process researchers undertake to cross check interview data with data collected from other sources (Yin, 2018). I used an interview protocol (see Appendix A), engaged the participants in member checking to validate my interpretation of their interview responses, and used methodological triangulation to ensure the credibility of the findings. I collected data from the interviews, reviewed of the documentation, and exhaustively reviewed the relevant literature to increase the credibility of the results of this research study.

Confirmability

Researchers conducting a qualitative case study strive for results that future researchers might confirm in other cases or settings (Kisely & Kendall, 2011). Yilmaz (2014) noted that qualitative researchers seek confirmability of the findings through asking the participants probing questions, collecting dependable, credible data, and ensuring the trustworthiness of the results of the study. Darawsheh (2014) commented that the researcher should use member checking and methodological triangulation to help ensure confirmable, trustworthy findings. I asked the participants probing questions

during the interviews, engaged the participants in member checking, used methodological triangulation, and reached data saturation to ensure the confirmability of the findings.

Transferability

Transferability of the findings of a qualitative case study is up to the reader or future researchers, yet the primary investigator should provide a clear explanation of the research processes to improve transferability (Elo et al., 2014). Researchers increase the potential for transferability through meticulously documenting each step of the research process, reaching data saturation, and ensuring the credibility of the findings (Yin, 2018). The researcher should ensure dependable, credible, confirmable findings to provide readers and future researchers an opportunity to transfer the findings to other cases or settings (Bengtsson, 2016). Collecting data from multiple sources of evidence, engaging in methodological triangulation, maintaining a chain of evidence, and reaching data saturation are means for researchers to improve the potential for future researchers to transfer the findings to other settings (Varpio, Ajjawi, Monrouxe, O'Brien, & Rees, 2017). Researchers seek transferability of the findings of a qualitative research study by providing a profound description of the research process (Yilmaz, 2014). I meticulously documented each step of the research process, maintained a chain of evidence, ensured dependable, credible findings, and reached data saturation to improve the potential for the transferability of the findings.

Data Saturation

In the development of a research study, qualitative researchers aim to attain data saturation (Fusch & Ness, 2015). Data saturation is the point in which no new theme or

patterns emerge from additional data collection efforts (Antes, 2014). If a researcher does not reach data saturation, the dependability, credibility, confirmability, and transferability of the results within the study are at risk (Cope, 2014). To reach data saturation, researchers ask participants probing questions during the interviews, engage participants in member checking, collect data from multiple sources, and engage in methodological triangulation (Fusch & Ness, 2015). I engaged in the participants in semistructured interviews, asked probing follow up questions, used member checking, collected data from company documents, and engaged in methodological triangulation to reach data saturation. I continued data collection efforts until no new themes or patterns emerged.

Transition and Summary

Supply chain managers need to understand how their strategies mitigate risk. In Section 2, I discussed the selection of why I chose the qualitative exploratory case study research method and design. Section 2 included a clarification of my research by using my research question and conceptual framework to help as a guideline to discuss the purpose, role of the researcher, participants, and data collection activities. Section 2 also included a dialogue about the case study design and the data analysis. In Section 3, I present the results of the study by discussing the analysis of the data, conclusions, how professionals can apply the information, implications to social change, recommendations for future study, and reflections.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this multiple case study was to explore the strategies that supply chain managers used to mitigate risk within reverse logistics in the food and beverage industry supply chain. The sample consisted of supply chain managers who created and implemented such strategies. Participants were employees at manager level or above with experience in the reverse logistics process who were successful in the implementation of these strategies. This section includes an overview of the findings, applications of the findings for professional practice, implications for social change, and recommendations for action and future research.

I collected data using semistructured interviews and review of company documents. During data analysis, three key themes emerged: communication strategy, inspection strategy, and cost allocation strategy. The strategies shared by the participants could be helpful to other supply chain managers seeking to lessen the effect of risk and disruption or to avoid both altogether.

Presentation of the Findings

The overall research question for the study was the following: What reverse logistics strategies do some supply chain managers use to control cost through risk mitigation? To obtain detailed information from the participants about the strategies they used to control cost through risk mitigation, I used semistructured interviews with open-ended questions. I used company standard operating procedural documents that contained an outline of what employees, vendors, or transportation providers should do in situations

of damage or risk, or when issues arise that could compromise food and beverages. I reviewed information and documents collected from the companies' websites. I used the code names P1, P2, P3, P4, and P5 for the participants, and C1, C2, C3, C4, and C5 for their companies, respectively. To sort, code, and analyze data, I used NVivo 12 software. The three emergent themes were (a) communication strategy, (b) inspection of product, and (c) cost allocation.

Theme 1: Communication Strategy

The first theme that emerged from data analysis was a communication strategy, whether used internally with other departments or externally with vendors, supply partners, or transportation providers. All of the five participants stated that they used some form of communication, internally or externally, as a strategy to mitigate risk and control cost within reverse logistics. P1 stated, "We have continuous improvement with internal communication between the internal business units and reverse logistics teams to make sure they are up to date on policy and procedures when it comes to risk management of our products." P2 and P3 noted that they had daily and weekly meetings to create buy-in among the logistics staff and top management, respectively, to discuss how they were mitigating costs. However, P3 added that they used training sessions for new process and procedures. P5 mentioned, "When a business unit has a RL issue then they have to report to an internal department who then determines the course of action that needs to take place." P5 also mentioned that they used training as way of communicating new policies and procedures. P5 described "lots of communication through meetings and reviews with key constituents (internal/external) and the use of

leveraged scorecards (facts) to help change behaviors.” Table 1 displays the key responses from the participants and the frequency of occurrence regarding their communication strategy.

Table 1

Participants’ Responses for Communication Strategy

Key responses	Participants	Frequency of occurrence
Daily and weekly meetings	P1, P2, P3, P4, P5	25
Memorandums	P1, P2, P3, P4, P5	20
Training sessions	P1, P2, P3, P4, P5	15

All participants used internal and external meetings to discuss how they could improve and used metrics to measure how they were being effective in implementing strategies that would help to mitigate costs. The preferred method to communicate issues that arose was through email for documentation purposes. P2 and P5 both had RL department managers who made all decisions about overages, shortages, and damages to the product. They constantly monitored the process to make decisions. All participants talked about continually training and updating employees on policy and procedures, even to the point of having meetings through Zoom or Go-to Meeting for those who could not physically be at face-to-face meetings. P3, P4, and P5 discussed how they talked to vendors and carriers about changes in their policies and procedures for handling overages, shortages, damages, and the type of equipment that the supply chain partners

needed to use. The type of equipment required for hauling food and beverages was food-grade trailers that had no holes, leaks, or odors.

I reviewed documents regarding how the participants' companies communicated their corporate policy on product damage, returns, and reverse logistics to suppliers, vendors, and carriers to validate the data collected from the participants during the semistructured interviews. I include some excerpts from company documents as examples of triangulating and crosschecking the interview data with the data collected from documents. C1's company standards-of-operations manual contained the following statement:

When any damages or overages occur, they are to be communicated at the time of occurrence to Company representative and documented on the bill of lading so a proper decision can be made to allocate cost and/or to avoid any additional costs.

This statement corroborates P1's interview response regarding communication with suppliers and carriers to mitigate risks and control costs. P4 noted that part of the company's communication strategy was to make effective use of reverse logistics, control costs, and reduce risk through monthly review meetings with supply chain partners. C4's company website included the following statements: "We use a variety of communication channels and platforms to engage with stakeholders." "We require supply chain partners, vendors, and carriers to appoint a representative to attend monthly logistics' meetings."

C5's company website contained the following statements:

Year-round engagement with diverse stakeholders informs our cost reporting on risk, reverse logistics, and sustainability. We publicly report on topics that reflect

an organization's significant economic, environmental, and social impacts; or that substantively influence the assessments and decisions of stakeholders.

P3 noted the value of frequent communication with supply chain partners to improve reverse logistics and reduce costs. C3's operations manual contained the following information for supply chain managers: "Supply chain managers will hold monthly conference calls with our supply chain partners to discuss current or changes in policies and procedures related to damaged goods, cost allocation of returned goods, and potential areas of cost savings." C2 used a carrier contract to communicate with third-party carriers, using language such as "At any time of an occurrence of damage to a load or shortage of ordered products, the carrier must report the incident to the company via email with a copy of the bill of lading." I used C2's carrier contact to verify P2's interview responses regarding communicating company policies to transportation providers and supply chain partners.

Supply chain managers use communication to align internal business units, vendors and suppliers, and transportation providers to be proactive and to minimize risk and disruption within the supply chain (Zhu, Krikke, Caniels, & Wang, 2016). Zhu et al. (2016) reported that communication is an effective strategy that supply chain leaders use to help mitigate risk and cost within the food and beverage industry. The findings in the current study confirm the research of Swanson, Jin, Fawcett, and Fawcett (2017) in that managers' use of communication strategy is a means to discuss with their teams and partners ways to uphold company policies and control costs. Supply chain managers disseminate information to employees, suppliers, vendors, and carriers through the use of

memos, meetings, and training. Figure 1 displays the flow of information to implement the communication strategy.

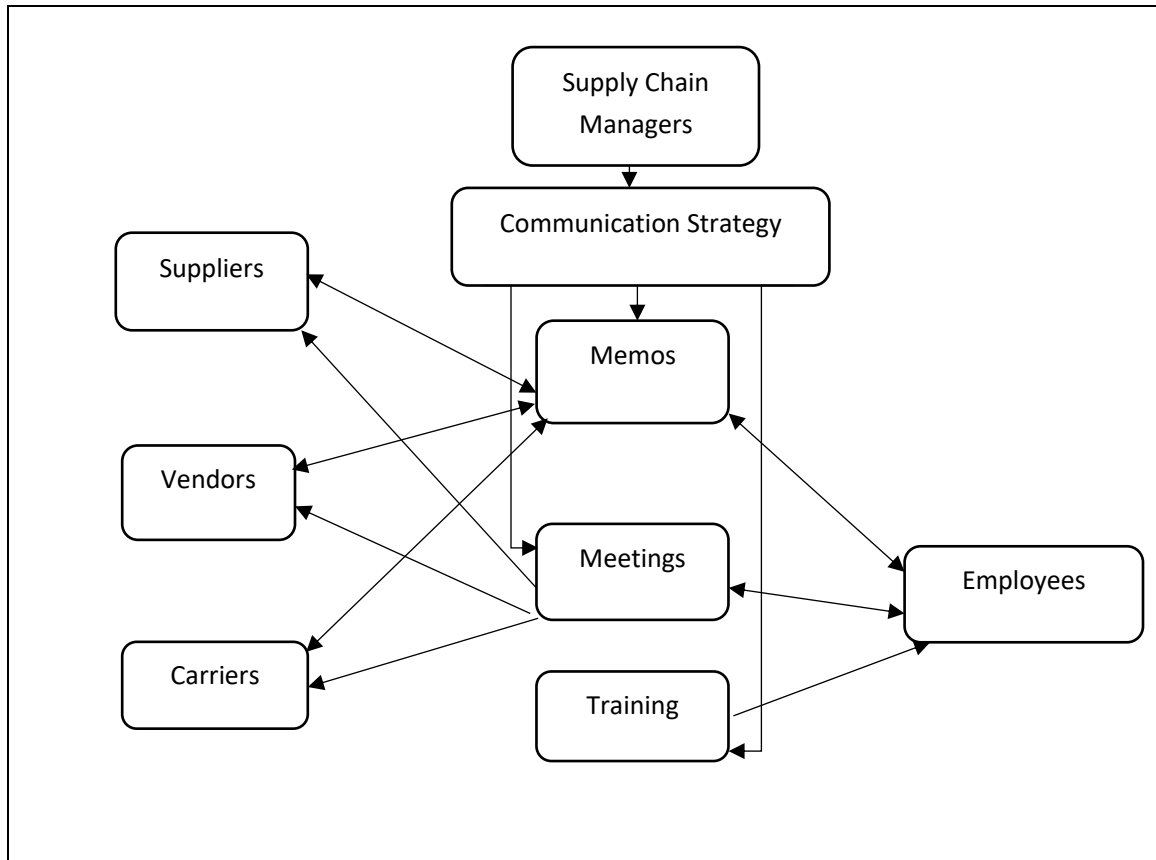


Figure 1. Communication strategy implementation.

Gaffney et al. (2013) noted that the use of RDT helps managers respond to external environments by collaborating with other groups within the organization and contending with rivals in the global market. Pfeffer and Salancik (1978), the originators of RDT, noted that communication among internal and external stakeholders is essential for company leaders to manage resources as well as interdependent relationships with supply chain partners. The communication strategy aligns with RDT because

communication is a key resource for company leaders regarding effective reverse logistics strategies.

Theme 2: Inspection Strategy

The second theme that emerged from the analysis of interview and document data was an inspection strategy. Inspection was critical because the participants' companies were working with ingredients: raw meat, processed meat, and finished goods. All five of the participants implemented an inspection strategy that supply chain managers used to mitigate cost and disruption. Table 2 displays the key responses from the participants regarding their inspection strategy and the frequency of occurrence.

Table 2

Participants' Responses on Inspection Strategy

Key responses	Participants	Frequency of occurrence
Internal inspections	P3, P4, P5	15
External supplier inspections	P1, P2, P3, P4, P5	21
Transportation inspections	P1, P2, P3, P4, P5	40

Internal inspectors who are responsible for conducting inspections at all phases of the supply chain process helps mitigate the risk or costs that can occur through disruption or damages. P3, P4, and P5 stated that they have internal inspectors who perform

inspections in all phases of the supply chain from the manufacturing process to the point where the product is loaded onto a trailer for transit. P1 and P2 noted that vendors and suppliers handled the inspections on the manufacturing side; however, P1 and P2 required the vendors to send them the results of the inspections, and they sent representatives to their vendors and suppliers for site visits to be part of the inspections. These inspections included sample testing to make sure that there were no bacteria present and the product was of the correct consistency. P3 stated, “The product is inspected at all phases of the manufacturing, packing, loading and the materials from the inbound are inspected as well.”

The participants mentioned that they chose transportation vendors on the basis of safety criteria that they had to meet. All of the participants required inspection of the transportation providers’ equipment. They stated that the trailers needed to be food grade and be clean and odor free. On the outbound or loading side, if a trailer was not clean, they would allow the carrier to go and wash the trailer out. P1 and P2 stated that on the inbound transit or unloading side, employees checked the product for any physical damage and the trailers for any damage such as holes, cracks, or structural integrity problems. Additionally, P3 mentioned checking refrigerated or frozen product temperature to ensure the maintenance of proper temperature during transit.

I reviewed the carrier packets, which included contracts, instructions on trailer requirements, washout procedures, food safety documents, documents from the companies’ websites, and operational manuals. The documents that I reviewed corroborated the data collected from the participants during interview and member-

checking sessions. For example, P1 noted that inspection of transportation vendors who hauled refrigerated or frozen food occurred by downloading the history of the refrigeration unit. C1's standard-of-operations document that each transportation vendor signed contained the following statements:

We require our Temperature Controlled Carriers to have a reefer unit that is capable of downloading the reefer unit's history. This includes set point, continuous run or cycle, data of incremental timing, output air temperature, return air temperature, and ambient air temperature.

This statement validates P1's interview response concerning how they inspected the product when transporting fresh or frozen product. P3 noted that inspections of the carriers' equipment occurred prior to loading. I used the following statement from C3's transportation policy manual to crosscheck and validate P3's interview response: "We require the inspection of every trailer prior to loading. We inspect the refrigeration unit and the floor to make sure that it is free and clear from any debris, leakage, and odor." P5 noted the use of third-party inspectors and auditors to ensure C5's compliance with safety regulations. I used the following information gathered from C5's website to crosscheck P5's statement: "We utilize globally recognized third-party organizations to conduct independent audits to assess our manufacturing sites' food safety management practices. These audits require a detailed inspection assessing food safety based on government standards and requirements." P2 noted that transport-trailer inspections were a mandatory process at C2. I reviewed the following content from C2's operational manual to verify P2's response: "Before any product is loaded on a trailer, an employee must inspect the

trailer prior to loading, document the inspection with photos, and reinspect the trailer after the loading of the pallets.” C4’s website included the following statements:

The global nature of our business requires that our system has the highest standards and processes to ensure consistent quality across our entire supply chain—from our concentrated production to our packaging and product delivery. Through our quality management program, our inspections help us identify and mitigate risk, which drives our improvement. We stringently test, measure, and inspect the quality of our products at every step of production.

The information I reviewed on C4’s website corroborated P4’s interview responses regarding the use of inspection strategy.

Mitigating cost and risk through inspection is in line with the conceptual framework of the study. When supply chain managers use an inspection strategy, they should be able to keep cost and risk at minimum. The use of inspection strategy is in alignment with the work of Naevestad, Hesjevoll, and Phillips (2018), in that inspections by supply chain managers help to promote reduction of risk and damages through the supply chain process. The findings of this study confirm the research of Iqbal, Waheed, Tesfamariam, and Sadiq (2018), who noted that inspection is a tool used by supply chain managers to ensure compliance with specific governmental regulatory compliances. Additionally, Iqbal et al. stated that an inspection strategy minimizes risks and costs within the food and beverage RL supply chain.

Product safety is contingent upon business leaders using an inspection strategy routinely. Xia et al. (2014) explained how the management of these organizations sought

to decrease uncertainty in the availability of resources. Pfeffer and Salancik (1978), the developers of RDT, noted that resource control through monitoring and routine inspections is vital for mitigating risks and controlling cost in the supply chain. The inspection strategy aligns with the RDT in that product integrity depends on supply chain managers or quality control managers continually monitoring the transportation of products. Without inspection, the risk of delivery of contaminated products increases.

Theme 3: Cost Allocation Strategy

The third theme that emerged from the analysis of the interviews with the participants and a review of company documents was a cost allocation strategy. All of the participants discussed cost allocations. The participants used internal cost allocation, external cost allocation, or a combination of internal and external cost allocation strategies to mitigate risk in the supply chain, reduce cost, and minimize disruptions regarding reverse logistics. Table 3 displays the key responses from participants regarding their cost allocation strategy and the frequency of occurrence.

Table 3

Participants' Responses for Cost Allocation Strategy

Key responses	Participants	Frequency of occurrence
Determination of responsible party	P1, P2, P3, P4, P5	22
Damage or loss of product	P1, P2, P3, P4, P5	24
Supplier responsibility	P1, P2, P3, P4, P5	16

P4 and P5 mentioned that have companies have their own internal group that handles all of the reverse logistics process. The department manager decides to divert, destroy, or work with the customer to keep overages or damages to cut down on reverse logistics transportation charges. P4 and P5 noted that to save cost on hiring transporters or paying for return trips, that they will work with their customer to keep overages or they will find a place to donate the product if it the value of the product is not worth shipping back to the origin point. P2 noted that having a cost allocation strategy is important for the company to correctly place any incurred charges to the correct party that is involved in the reverse logistics process. Such cost is demurrage, detention, extra mileage, stop offs, claims for damages, and rerouting. P1 and P2 have contracts in place in which the vendors and suppliers take care of any cost regarding damages, overages, or shortage of products that has to be reshipped or returned. They also noted that having a cost allocation strategy in place was a means to make better decisions when issues arise. P1 and P2 noted that they used the strategy to have more flexibility with their cash flow and have the freedom to invest their capital in product development, innovation, and resources. P3 stated that they investigate to see who is actually responsible, since they have control from a supplier perspective, they can quickly execute their plan and decide. P3 gave an example of where they had a shipment that had an overage, identified their mistake, and arranged with the transportation provider to bring the freight back at the same cost they paid to ship. P3 stated that this process saved them time, money, and product integrity.

I reviewed stockholders' reports, annual reports, and supply, vendor, and carrier contract information via the corporate websites regarding the companies' cost allocations for reverse logistics, product loss, and damages for triangulation purposes. P1 noted the importance of conveying the cost allocation policy to the vendors and suppliers. C1 uses a contract to convey to suppliers its cost-allocation policy regarding reverse logistics for product returns. C1's contract with suppliers contains the following statements:

The supplier will be responsible for the cost of shipping, manicuring, and any direct or indirect cost incurred from detention, damages, transportation, rerouting, or returns. Suppliers will incur all cost and will not hold the C1 liable for the cost allocated to product returns.

I used the information contained in C1's contract with suppliers to verify P1's interview responses regarding cost allocation. P5 noted the use of a carrier contract to bolster the determination of the responsible party for temperature-sensitive shipments. I reviewed C5's carrier contract to corroborate P5's interview responses. The carrier contract contained the following information:

If Carrier accepts goods requiring temperature control, but does not determine the temperature of the goods prior to loading, or does not provide proper equipment, or fails to maintain and monitor proper temperature requirement for the shipment while in Carrier's possession, the Company or the consignee may reject, and the Carrier shall be liable for the load as a total loss, without any salvage obligation to or credit from the Company.

Documents reviewed on cost allocation from C2, C3, and C4 contained similar language as found in C5's carrier contract. For example, C2's policy: "Every carrier shall install a seal on the trailer door. If the seal is broken during transit, the Company may reject the load and allocate the cost of the load to the carrier." C3's vendor contract included the following statement: "The vendor is responsible for all costs associated with the return of products as a result of damage during transport." C4's carrier contract included the following statements: "We are committed to ensuring the delivery of the highest quality, damage-free products. The carrier agrees to accept the incurred costs of products damaged while under the carrier's control." My review of company documents for triangulation purposes validated the information collected from the participants during the interviews.

Wu, Wang, Lu, and Cheng, (2017) along with Dwivedi and Chakraborty (2017) corroborated the importance of identifying the cost and who is responsible for paying those cost. Supply chain leaders use the RDT to establish strategies to help bypass the disruptions and minimize the cost of those disruptions in the supply chain (Pfeffer & Salancik, 1978). The use of a cost allocation strategy coincides with the conceptual framework of the study. Cost is an important resource for a company because the sustainability of a company is dependent on profit and those occurrences, such as risk and disruption that can have a negative effect on companies' profitability.

Applications to Professional Practice

The supply chain managers' ability to use effective strategies to mitigate disruptions and risk within the food and beverage supply chain can reduce their RL costs

and improve sustainability and their competitiveness (Tse et al., 2016). Supply chain managers could implement effective communication strategies through the use of memos, meetings, and metrics to reduce disruptions and risk and control RL cost within the food and beverage industry. Based on the data collected from the participants, internal and external communication with employees, vendors, suppliers, and transportation providers is a means to reduce the risk and disruptions. Supply chain managers might apply the findings of this study to implement and conduct weekly meetings with the leadership and supply chain partners to analyze, create, or implement strategies that will help to mitigate risk and disruptions. Moraitakis, Huo, and Pfohl (2017) stated that collaboration among supply chain partners and careful strategic planning and analyzation of strategies is a means to mitigate surprises from risk and disruption. These findings might be significant for strengthening communication among supply managers with their internal and external partners.

Food and beverage managers could apply the findings of this study to implement strategies to mitigate risk and disruption through the use of an inspection strategy. Using an inspection strategy involves periodic monitoring, testing, and maintenance of raw materials, ingredients, machinery, and transport equipment to promote product integrity. Riley, Ahoor, Regnery, and Cath (2018) noted that effective inspections are a way to lessen the occurrences risk and disruptions. Frequent inspection through testing and monitoring of process might mitigate contamination, packaging, and transporting of food and beverages. Supply chain leaders could use inspections to reduce or control cost in respect to damages, fines, rerouting, court cases, and restitutions due to contamination of

food and beverages. Dahl and Kongsvik (2018) suggested that applying an inspection strategy might help to mitigate the high cost of disruption and risk can have on operations within the supply chain, promote product integrity, and delivery of damage free products. The use of the inspection strategy by supply chain managers may create better service and quality products that can driver customer loyalty and satisfaction.

Food and beverage supply chain managers might apply the findings of the study to implement mitigating risk and disruption strategies through cost allocation. The determination of who will pay for the occurrences that happens because of disruptions and risk will determine a company's ability to free up cash to operate effectively. If the party who is responsible for the product damage or disruption suffers the loss, supply chain partners will be more cognizant of their responsibility and try to mitigate any risk and disruptions. Dwivedi and Chakraborty (2017) noted that companies who have transparent relationships with supply chain partners about allocation of cost because of disruption and risk have a higher rate of competitiveness and sustainability.

Implications for Social Change

Supply chain leaders implementing effective reverse logistics strategies lower the probability that damaged products enter the consumer market (Jain & Khan, 2017). Supply chain leaders of successful companies contribute to the betterment of social and human conditions through job creation, safe work and community environments, and the sustainability and economic growth within a defined area (Polonsky, Grau, & McDonald, 2016). The implications of the research for positive social change include the potential for supply chain leaders to lower the cost of food and beverage products to consumers

through effective implementation of reverse logistics strategies. The findings of the study could result in positive social change through the use of a communication strategy to provide consumers product information and updates on products. Communication is a driving force between the consumer and a successful company (Jain & Khan, 2017).

Supply chain managers might use the finding of the studies to improve social change through an inspection strategy. Inspection in all phases of manufacturing and shipping is a means for business leaders to make decisions and create risk mitigation strategies. The use of the inspection strategy could reduce the number of food and beverage recalls and contamination. Chaudhuri et al. (2016) noted that supply chain disruptions and risks might result in product recalls that have an unfavorable effect on a company's profitability and reputation, but more importantly, a potential detrimental effect on consumer health and wellbeing. The implementation of the inspection strategy could lead to high quality, safer products for consumer use.

The finding of the studies could contribute to a positive social change through a cost allocation strategy. Leaders can lower their cost by passing on the cost of damaged products to their supply chain partners, which will reduce their risk, vulnerability, and costs. Supply chain managers could use the cost allocation strategy to control the amount of risk and disruptions that can occur. Consumers can benefit by having lower costs and higher quality products.

Recommendations for Action

The business problem addressed in this study was that ineffective strategic reverse logistics processes lower business profitability. Chaudhuri et al. (2016) noted that the

importance of supply chain managers developing effective strategies to mitigate risk and disruption because the food and beverage industry is prone to expensive disruptions. The results of this study indicate that supply chain managers use several strategies effectively to mitigate risk and disruption in the food and beverage industry. Based on the findings from this study, I recommend that food and beverage supply chain managers adopt a communication strategy to inform internal and external partners of new policies and procedures. I recommend the communication to be transparent and consist of open lines of communications on how to handle risk and disruption. The use of memos and meetings are a means to improve communication flow between internal and external supply chain partners to maintain a chain of information, resulting in improved reverse logistics processes.

Based on the findings of the study, I recommend that food and beverage managers implement an inspection strategy. Inspection is a critical tool for supply manager to test for contamination, risk, inconsistencies that can occur. Inspection does not exclude the manufacturing equipment or the external environment, such as the vendors, suppliers, and transport equipment. I also recommend that supply chain managers would use a third party to manage inspections to minimize bias.

Reverse logistics can have a major impact on cost on any company. To prevent issues, such as detentions, overages, and damages, I recommend that each company adopt a cost allocation strategy. The implementation of a cost allocation strategy might result in lower costs borne by the company, improve the company's profitability, and create a strong sense of accountability among supply chain partners. I also recommend that all

partners involved have a written document stating who is responsible for costs when allocated. I recommend that the responsible party of who caused damages, detention, and delays pays for the disruptions or damage. I recommend that supply chain partners agree in writing to the companies' cost allocation strategy to reduce disruptions and misunderstandings.

The findings and recommendations of this study are relevant to supply chain managers in the food and beverage industry, organizational leaders, researchers, and scholars. I will provide the participants with an executive summary of the findings of this study. I will discuss the results of the research to variety of stakeholders and managers, and at professional development and training seminars. I intend to submit articles for publication in the *Journal of Supply Chain Management* and the *Journal of Business Logistics*.

Recommendations for Further Research

A limitation of this study was the sample of five supply chain managers who implemented strategies to mitigate risk and disruption within reverse logistics in food and beverage industry. Future researchers could increase the scope of this study by using a larger sample size of supply chain managers. Transferability of the findings to other organizations or industries by future researchers represents a limitation because of the limited scope of this study. Future researchers should consider using a sample of supply chain managers in a different geographic region who uses various strategies to help achieve their operational goals of mitigating reverse logistics risks to test the transferability of the findings of this study. In this study, I only explored reverse logistics

strategies used by supply chain managers. Future researchers could explore other strategies that leaders within the food and beverage industry use to mitigate risk and disruption in their supply chains. I also recommend that a future researcher conduct a study to explore strategies reverse logistics supply chain leaders use to mitigate risk and disruption and who operate within the global environment of the food and beverage industry. Future researchers could use the quantitative method to examine the significance of the relationships between a variety of variables, such as the cost of reverse logistics, the number of supply chain disruptions resulting the damaged products, the amount of returned goods versus total goods sold, and the consumers' reaction to reverse logistics policies. Future researchers could also expand this study by researching in other industries that utilizes reverse logistics.

Reflections

I have worked with supply chain managers as a third-party logistics professional since 2000. My matriculation through the doctoral program has been my most challenging life experience and there were times that I wanted to stop. However, I pushed on to complete this study. I learned a great deal going through the doctoral process on how to become a better researcher, writer, and interviewer. Participating in the doctoral program was a means for me to understand the use of certain decisions and strategies in the reverse logistics process. Food and beverage supply chain managers have a difficult task in balancing between governmental policies, maintaining profit margin, and mitigating risk and disruption while trying to satisfy their customers and stakeholders. As a transportation partner, I have deeper understanding of the role that I play in supply

process and going through this process has helped in training my teams to recognize indicators that result in increased supply chain risks or disruptions.

I have experience within the food and beverage industry as a transportation provider; therefore, I used an interview protocol and the same open-ended questions to alleviate any bias. I have a better understanding of why companies take their time to decide what do with overages and damages. In addition, I am amazed of how interconnected the themes that emerged from the analyzed data and the conceptual framework. Supply chain managers depend on communication with internal and external environments, inspection of products from the raw material to the transporting and delivery, and cost allocation to mitigate risk and disruption while creating growth and maintain sustainability for their companies. I also value the relationships that I have fostered with my doctoral colleagues. I feel honored to have met some amazing individuals. I look forward to seeing the impact we have on our communities and the positive changes that stem from our studies.

Conclusion

Supply chain managers in the food and beverage industry face significant challenges regarding the use of effective reverse logistics strategies to reduce supply chain disruptions, control risk, and reduce costs. Through the lens of the RDT, the purpose of this multiple case study was to explore reverse logistics strategies used by supply chain managers to control cost through risk mitigation. Participants in this study consisted of five supply chain managers with at least 2 year of experience in the food and beverage distribution industry in the state of Georgia who implemented successful

reverse logistics strategies to control cost through risk mitigation. I collected data using face-to-face, semistructured interviews and a review of relevant company documents. I analyzed data using Yin's five-step process of compiling, disassembling, reassembling, interpreting, and concluding the data. The three key themes that emerged from data analysis were a communication strategy, an inspection strategy, and a cost allocation strategy. Supply chain leaders might use the findings of this study to improve their communication flow with internal and external partners, use an effective inspection strategy to reduce damaged goods, and implement a cost allocation strategy to reduce their financial exposure regarding products in need of return to the original source because of damage or spoilage. The implications of the research for positive social change include the potential for supply chain leaders to lower the cost of food and beverage products to consumers, and avoid or reduce the flow of damaged or spoiled food and beverage products into consumer markets through effective implementation of reverse logistics strategies.

References

- Abdullah, N., Ab Halim, N., & Yaakub, S. (2014). Reverse logistics: Pressure for adoption and the impact on firm's performance. *International Journal of Business & Society*, 15(1), 1-12. Retrieved from <http://www.ijbs.unimas.my/>
- Abdulrahman, M. D., Gunasekaran, A., & Subramanian, N. (2014). Critical barriers in implementing reverse logistics in the Chinese manufacturing sectors. *International Journal of Production Economics*, 147, 460-471.
doi:10.1016/j.ijpe.2012.08.003
- Agrawal, A., De Meyer, A., & Van Wassenhove, L. N. (2014). Managing value in supply chains: Case studies on the sourcing hub concept. *California Management Review*, 56(2), 23-54. doi:10.1525/cm.2014.56.2.23
- Ahmad, N., & Mohd Saifudin, A. (2014). *Supply chain management in telecommunication industry: The mediating role of logistics integration*. Paper presented at the Fourth International Conference on Technology and Operations Management. Retrieved from <http://repo.uum.edu>
- Akingbola, K. (2012). A model of strategic nonprofit human resource management. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 24, 214-240. doi:10.1007/s11266-012-9286-9
- Alrjoub, A. M. S., & Ahmad, M. A. (2017). Inventory management, cost of capital and firm performance: Evidence from manufacturing firms in Jordan. *Investment Management and Financial Innovation*, 14(3), 4-14.
doi:10.21511/imfi.14(3).2017.01

- Alvesson, M., & Sköldbörg, K. (2017). *Reflexive methodology: New vistas for qualitative research*. Thousand Oaks, CA: Sage.
- Amalou-Döpke, L., & Süß, S. (2014). HR measurement as an instrument of the HR department in its exchange relationship with top management: A qualitative study based on resource dependence theory. *Scandinavian Journal of Management*, 30, 444-460. doi:10.1016/j.scaman.2014.09.003
- Ambulkar, S., Blackhurst, J., & Grawe, S. (2015). Firm's resilience to supply chain disruptions: Scale development and empirical examination. *Journal of Operations Management*, 33, 111-122. doi:10.1016/j.jom.2014.11.002
- Antes, A. L. (2014). A systematic approach to instruction in research ethics. *Accountability in Research*, 21(1), 50-67. doi:10.1080/08989621.2013.822269
- Ardhendu, S. S. (2014). Conducting case study research in non-profit organisations. *Qualitative Market Research*, 17, 77-84. doi:10.1108/QMR-04-2013-0024
- Asgary, A., & Naini, A. (2011). Modeling the adaptation of business continuity planning by businesses using neural networks. *Intelligent Systems in Accounting, Finance & Management*, 18(2/3), 89-104. doi:10.1002/isaf.326
- Babazadeh, R., Jolai, F., & Razmi, J. (2015). Developing scenario-based robust optimization approaches for the reverse logistics network design problem under uncertain environments. *International Journal of Services and Operations Management*, 20, 418-440. doi:10.1504/IJSOM.2015.068526

- Bass, A., & Chakrabarty, S. (2014). Resource security: Competition for global resources, strategic intent, and governments as owners. *Journal of International Business Studies*, 45, 961-979. doi:10.1057/jibs.2014.28
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *Nursing Plus Open*, 2, 8-14. doi:10.1016/j.npls.2016.01.001
- Bernard, H. R. (2013). *Social research methods: Qualitative and quantitative approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Bhakoo, V., Singh, P. J., & Chia, A. (2015). Supply chain structures shaping portfolio of technologies. *International Journal of Physical Distribution & Logistics Management*, 45, 376- 399. doi:10.1108/IJPDLM-12-2014-0298
- Blažková, I., & Dvouletý, O. (2017). Is the price-cost margin affected by the market concentration? Evidence from the Czech food and beverages industry. *Business and Economic Horizons*, 13, 256-269. doi:10.15208/beh.2017.19
- Bode, C., & Wagner, S. M. (2015). Structural drivers of upstream supply chain complexity and the frequency of supply chain disruptions. *Journal of Operations Management*, 36, 215-228. doi:10.1016/j.jom.2014.12.004
- Bowman, J. (2015). *Strategies for mitigating supply chain disruptions* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3742226)
- Bradbury-Jones, C., Taylor, J., & Herber, O. (2014). How theory is used and articulated in qualitative research: Development of a new typology. *Social Science & Medicine*, 120, 135-141. doi:10.1016/j.socscimed.2014.09.014

- Brekalo, L., Albers, S., & Delfmann, W. (2013). Logistics alliance management capabilities: Where are they? *International Journal of Physical Distribution & Logistics Management*, 43, 529-543. doi:10.1108/JPDLM-06-2012-0194
- Brenner, V. (2014). *Causes of supply chain disruptions: An empirical analysis in cold chains for food and pharmaceuticals*. Hannover, Germany: Springer Gabler.
- Bril-Barniv, S., Moran, G. S., Naaman, A., Roe, D., & Karnieli-Miller, O. (2017). A qualitative study examining experiences and dilemmas in concealment and disclosure of people living with serious mental illness. *Qualitative Health Research*, 27, 573-583. doi:10.1177/1049732316673581
- Bromley, E., Mikesell, L., Jones, F., & Khodyakov, D. (2015). From subject to participant: Ethics and the evolving role of community in health research. *American Journal of Public Health*, 105, 900-908.
doi:10.2105/AJPH.2014.302403
- Ceryno, P. S., Scavarda, L. F., & Klingebiel, K. (2015). Supply chain risk: Empirical research in the automotive industry. *Journal of Risk Research*, 18, 1145-1164.
doi:10.1080/13669877.2014.913662
- Chatterjee, S., Sarker, S., & Valacich, J. S. (2015). The behavioral roots of information systems security: Exploring key factors related to unethical IT use. *Journal of Management Information Systems*, 31(4), 49-87.
doi:10.1080/07421222.2014.1001257
- Chaudhuri, A., Srivastava, S. K., Srivastava, R. K., & Parveen, Z. (2016). Risk propagation and its impact on performance in food processing supply chain.

Journal of Modeling in Management, 11, 660-693. doi:10.1108/JM2-08-2014-0065

Chang, W., Ellinger, A. E., & Blackhurst, J. (2015). A contextual approach to supply chain risk mitigation. *International Journal of Logistics Management*, 26, 642-656. doi:10.1108/IJLM-02-2014-0026

Chen, Y. (2014). Supply disruptions, heterogeneous beliefs, and production efficiencies. *Production & Operations Management*, 23, 127-137. doi:10.1111/poms.12027

Cheng, J. H., & Tang, C. H. (2014). Interorganizational cooperation and supply chain performance in the context of third party logistics services. *Asia Pacific Management Review*, 19, 375-390. doi:10.6126/APMR.2014.19.4.03

Chu, Z., & Wang, Q. (2012). Drivers of relationship quality in logistics outsourcing in China. *Journal of Supply Chain Management*, 48(3), 78-96. doi:10.1111/j.1745-493X.2011.03259.x

Chung, K. M., & Shin, D. H. (2015). Effect of elastic touchscreen and input devices with different softness on user task performance and subjective satisfaction. *International Journal of Human-Computer Studies*, 83, 12-26. doi:10.1016/j.ijhcs.2015.06.003

Chong, C. H., & Yeo, K. J. (2015). An overview of grounded theory design in educational research. *Asian Social Science*, 11(12), 258-265. doi:10.5539/ass.v11n12p258

- Co, H. C., David, I., Feng, P., & Patuwo, E. (2012). A continuous-review model for dual intercontinental and domestic outsourcing. *International Journal of Production Research*, 50, 5460-5473. doi:10.1080/00207543.2011.638941
- Cope, D. G. (2014). Methods and meanings: Credibility and trustworthiness of qualitative research. *Oncology Nursing Forum*, 41, 89-91. doi:10.1188/14.ONF.89-91
- Corner, P. D., Singh, S., & Pavlovich, K. (2017). Entrepreneurial resilience and venture failure. *International Small Business Journal*, 35, 687-708. doi:10.1177/0266242616685604
- Cridland, E. K., Jones, S. C., Caputi, P., & Magee, C. A. (2015). Qualitative research with families living with autism spectrum disorder: Recommendations for conducting semistructured interviews. *Journal of Intellectual and Developmental Disability*, 40(1), 78-91. doi:10.3109/13668250.2014.964191
- Culbert, J. A., Ristic, R., Ovington, L. A., Saliba, A. J., & Wilkinson, K. L. (2017). Influence of production method on the sensory profile and consumer acceptance of Australian sparkling white wine styles. *Australian Journal of Grape and Wine Research*, 23(2), 170-178. doi:10.1111/ajgw.12277
- Dahling, J. J., Taylor, S. R., Chau, S. L., & Dwight, S. A. (2016). Does coaching matter? A multilevel model linking managerial coaching skill and frequency to sales goal attainment. *Personnel Psychology*, 69, 863-894. doi:10.1111/peps.12123
- Darawsheh, W. (2014). Reflexivity in research: Promoting rigour, reliability and validity in qualitative research. *International Journal of Therapy and Rehabilitation*, 21, 560-568 doi:10.12968/ijtr.2014.21.12.560

- Darkow, I. L., Weidmann, M., & Lorentz, H. (2015). Adaptation of foreign logistics service providers' resources and capabilities to a new institutional environment. *Journal of Supply Chain Management*, 51(1), 27-51. doi:10.1111/jscm.12068
- Dahl, Ø., & Kongsvik, T. (2018). Safety climate and mindful safety practices in the oil and gas industry. *Journal of Safety Research*, 64, 29-36. doi:10.1016/j.jsr.2017.12.009
- DeFeo, J. D. (2013). Toward a model of purposeful participant inclusion: Examining deselection as a participant risk. *Qualitative Research Journal*, 13, 253-264. doi:10.1108/QRJ-01-2013-0007
- Denzin, N. K., & Lincoln, Y. (Eds.). (2010). *The landscape of qualitative research: Theories and issues* (3rd ed.). London, England: Sage.
- Dey, C. K. (2016). *Strategies to reduce supply chain disruptions in Ghana* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 10247948)
- Diugwu, I. A. (2011). Building competitive advantage of small and medium sized enterprises through knowledge acquisition and sharing. *KCA Journal of Business Management*, 3(3), 102-120. doi:10.4314/kjbm.v3i3.72098
- Dogan, M., Aslan, D., Aktar, T., & Goksel Sarac, M. (2016). A methodology to evaluate the sensory properties of instant hot chocolate beverage with different fat contents: Multi-criteria decision-making techniques approach. *European Food Research and Technology*, 242, 953-966. doi:10.1007/s00217-015-2602-z

- Donges, W. (2015). A qualitative case study: The lived educational experiences of former juvenile delinquents. *Qualitative Report*, 20, 1009-1028. Retrieved from <http://nsuworks.nova.edu/tqr/>
- Dubey, R., & Gunasekaran, A. (2015). Shortage of sustainable supply chain talent: an industrial training framework. *Industrial and Commercial Training*, 47(2), 86-94. doi:10.1108/ICT-08-2014-0052
- Dwivedi, R., & Chakraborty, S. (2017). Strategic decision making for a footwear industry using activity-based costing and value chain models. *Leather and Footwear Journal*, 17(3), 119–128. doi:10.24264/lfj.17.3.1
- Ellram, L. M., & Cooper, M. C. (2014). Supply chain management: It's all about the journey, not the destination. *Journal of Supply Chain Management*, 50(1), 8-20. doi:10.1111/jscm.12043
- Elo, S., Kaariainen, M., Kanste, O., Polkki, T., Utriainen, K., & Kyngas, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 1-10. doi:10.1177/2158244014522633
- Erlingsson, C., & Brysiewicz, P. (2013). Orientation among multiple truths: An introduction to qualitative research. *African Journal of Emergency Medicine*, 3(2), 92-99. doi:10.1016/j.afjem.2012.04.005
- Fawcett, S. E., Magnan, G. M., & McCarter, M. W. (2008). Supply chain alliances and social dilemmas: Bridging the barriers that impede collaboration. *International Journal of Procurement Management*, 1, 318-341. doi:10.1108/13598540810850300

- Finlay, L. (2012). Unfolding the phenomenological research process: Iterative stages of “seeing afresh.” *Journal of Humanistic Psychology, 53*, 172-201.
doi:10.1177/0022167812453877
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20*, 1408-1416. Retrieved from <https://nsuworks.nova.edu/tqr/>
- Gaffney, N., Kedia, B., & Clampit, J. (2013). A resource dependence perspective of EMNE FDI strategy. *International Business Review, 22*, 1092-1100.
doi:10.1016/j.ibusrev.2013.02.010
- Ganjali, M., Shirouyehzad, H., & Shahin, A. (2014). Evaluating barriers of reverse logistics using DEMATEL method. *Journal of Applied Science and Engineering Management 2*(1), 51-61. Retrieved from www.ijasem.org/
- Gheondea-Eladi, A. (2014). Is qualitative research generalizable? *Journal of Community Positive Practices, 14*(3), 114-124. Retrieved from <http://jppc.ro/ojs/index.php/jppc>
- Giannakis, M., & Papadopoulos, T. (2016). Supply chain sustainability: A risk management approach. *International Journal of Production Economics, 171*, 455-470. doi:10.1016/j.ijpe.2015.06.032
- Gonzalez, J. D. (2017). *Beyond the enclave: Success strategies of immigrant entrepreneurs* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 10619374)
- Gonzalez-Padron, T. L. (2016). Ethics in the supply chain: Follow-up processes to audit

results. *Journal of Marketing Channels*, 23(1), 22-33.

doi:10.1080/1046669X.2016.1147341

Gooran, A., Rafiei, H., & Rabani, M. (2018). Modeling risk and uncertainty in designing reverse logistics problem. *Decision Science Letters*, 7(1), 13-24.

doi:10.5267/j.dsl.2017.5.001

Govindan, K., Azevedo, S. G., Carvalho, H., & Cruz-Machado, V. (2014). Impact of supply chain management practices on sustainability. *Journal of Cleaner Production*, 85, 212-225. doi:10.1016/j.jclepro.2014.05.068

Govindan, K., Soleimani, H., & Kannan, D. (2015). Reverse logistics and closed-loop supply chain: A comprehensive review to explore the future. *European Journal of Operational Research*, 240, 603-626. doi:10.1016/j.ejor.2014.07.012

Govindan, K., Fattahi, M., & Keyvanshokoh, E. (2017). Supply chain network design under uncertainty: A comprehensive review and future research directions. *European Journal of Operational Research*, 263(1), 108-141.

doi:10.1016/j.ejor.2017.04.009

Greenbank, P. (2003). The role of values in educational research: The case for reflexivity. *British Educational Research Journal*, 29, 791-801.

doi:10.1080/0141192032000137303

Gupta, A., Mau, R. R., & Marion, J. W. (2015). Supply chain risk management in aviation and aerospace manufacturing industry: An empirical study. *International Journal of Supply Chain and Operations Resilience*, 1, 300-317.

doi:10.1504/IJSCOR.2015.072624

- Hallavo, V. (2015). Superior performance through supply chain fit: A synthesis. *Supply Chain Management: An International Journal*, 20, 71-82. doi:10.1108/SCM-05-2014-0167
- Hamlin, R. P., Bishop, D., & Mather, D. W. (2015). Marketing earthquakes: A process of brand and market evolution by punctuated equilibrium. *Marketing Theory*, 15, 299-320. doi:10.1177/1470593115572668
- Harwood, I., Gapp, R. P., & Stewart, H. J. (2015). Cross-check for completeness: Exploring a novel use of leximancer in a grounded theory study. *The Qualitative Report*, 20, 1029-1045. Retrieved from <https://nsuworks.nova.edu/tqr/>
- Harsasi, M., & Minrohayati, M. (2017). The impact of supply chain management practices on competitive advantage. *International Journal of Economic Policy in Emerging Economies*, 10(3), 240-247. doi:10.1504/IJEPEE.2017.086623
- Hartmann, J., & Moeller, S. (2014). Chain liability in multitier supply chains? Responsibility attributions for unsustainable supplier behavior. *Journal of Operations Management*, 32, 281-294. doi:10.1016/j.jom.2014.01.005
- Hasani, A., & Khosrojerdi, A. (2016). Robust global supply chain network design under disruption and uncertainty considering resilience strategies: A parallel memetic algorithm for a real-life case study. *Transportation Research Part E: Logistics and Transportation Review*, 87, 20-52. doi:10.1016/j.tre.2015.12.009
- Heckmann, I., Comes, T., & Nickel, S. (2015). A critical review on supply chain risk: Definition, measure and modeling. *Omega*, 52, 119-132. doi:10.1016/j.omega.2014.10.004

- Hillman, A., Withers, M., & Collins, B. (2009). Resource dependence theory: A review. *Journal of Management*, 35, 1404-1427. doi:10.1177/0149206309343469
- Huang, K., Wu, J., Lu, S., & Lin, Y. (2016). Innovation and technology creation effects on organizational performance. *Journal of Business Research*, 69, 2187-2192. doi:10.1016/j.jbusres.2015.12.028
- Huong Tran, T. T., Childerhouse, P., & Deakins, E. (2016). Supply chain information sharing: challenges and risk mitigation strategies. *Journal of Manufacturing Technology Management*, 27, 1102-1126. doi:10.1108/JMTM-03-2016-0033
- Holweg, C., Teller, C., & Kotzab, H. (2016). Unsaleable grocery products, their residual value and instore logistics. *International Journal of Physical Distribution & Logistics Management*, 46, 634-658. doi:10.1108/IJPDLM-11-2014-0285
- Hollstein, C., & Himpel, F. (2013). Supply chain risk management. *Logforum*, 9(1), 21-25. Retrieved from <http://www.logforum.net>
- Ho, W., Zheng, T., Yildiz, H., & Talluri, S. (2015). Supply chain risk management: A literature review. *International Journal of Production Research*, 53, 5031-5069. doi:10.1080/00207543.2015.1030467
- Hohenstein, N. O., Feisel, E., Hartmann, E., & Guinipero, L. (2015). Research on the phenomenon of supply chain resilience: A systematic review and paths for further investigation. *International Journal of Physical Distribution & Logistics Management*, 45(1/2), 90-117. doi:10.1108/IJPDLM-05-2013-0128
- Horeni, O., Arentze, T. A., Dellaert, B. G., & Timmermans, H. J. (2014). Online measurement of mental representations of complex spatial decision problems:

- Comparison of CNET and hard laddering. *Transportation Research Part F: Traffic Psychology and Behaviour*, 22, 170-183. doi:10.1016/j.trf.2013.12.002
- Hurn, J. B. (2013). Response of managers to the challenges of globalization. *Industrial and Commercial Training*, 45, 336-342. doi:10.1108/ict0420130020
- Iqbal, H., Waheed, B., Tesfamariam, S., & Sadiq, R. (2018). IMPAKT: Oil and gas pipeline integrity management program assessment. *Journal of Pipeline Systems Engineering and Practice*, 9(3), 06018003. doi:10.1061/(ASCE)PS.1949-1204.0000326
- Ivanov, D., Sokolov, B., & Dolgui, A. (2014). The ripple effect in supply chains: Trade-off 'efficiency-flexibility-resilience' in disruption management. *International Journal of Production Research*, 52, 2154-2172. doi:10.1080/00207543.2013.858836
- Ivanov, D., Sokolov, B., & Solovyeva, I. (2016). Integrated planning and scheduling with dynamic analysis and control of service level and costs. In *Metaheuristics for Production Systems* (pp. 263-283). Springer. doi:10.1007/978-3-319-23350-5_12
- Iveroth, E. (2016). Strategies for leading IT-enabled change: Lessons from a global transformation case. *Strategy & Leadership*, 44, 39-45. doi:10.1108/SL-06-2015-0050
- Jahanbakhsh, M., & Akafpour, A. (2013). Ranking of risks in supply chain by lean production approach. *Nature & Science*, 11(7), 102-107. Retrieved from <http://www.sciencepub.net/nature>

- Jain, V., & Khan, S. A. (2017). Application of AHP in reverse logistics service provider selection: a case study. *International Journal of Business Innovation and Research*, 12(1), 94-119. doi:10.1504/IJBIR.2017.080711
- Jarzabkowski, P., Bednarek, R., & Cabantous, L. (2015). Conducting global team-based ethnography: Methodological challenges and practical methods. *Human Relations*, 68, 3-33. doi:10.1177/0018726714535449
- Johnson, J. S. (2015). Qualitative sales research and exposition of grounded theory. *Journal of Personal Selling and Sales Management*, 35, 262-273. doi:10.1080/08853134.2014.954581
- Jonsen, K., & Jehn, K. A. (2009). Using triangulation to validate themes in qualitative studies. *Qualitative Research in Organizations and Management*, 4, 123-150. doi:10.1108/17465640910978391
- Kahlke, R. M. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods*, 13(1), 37-52. doi:10.1177/160940691401300119
- Kamenova, M. Z., Nakipova, G. N., Akhmetova, K. A., Terzhanova, A. Z., Taubaev, A. A., & Omarova, A. T. (2016). The current state and forecast of food production during the industrial and innovative development of Kazakhstan. *Journal of Advanced Research in Law and Economics*, 7, 543-553. doi:10.14505/jarle.v7.3(17).10

- Kessler, W. W., McGinnis, L. L., Bennett, N. N., Goetschalckx, M., Huang, E., & Mital, P. (2012). Robust global supply network design. *Information Knowledge Systems Management, 11*, 119-130. doi:1108/scm1020120331
- Khieng, S., & Dahles, H. (2014). Resource dependence and effects of funding diversification strategies among NGOs in Cambodia. *Voluntas: International Journal of Voluntary & Nonprofit Organizations, 26*, 1412-1437. doi:10.1007/s11266-014-9485-7
- Kihn, L. A., & Ihantola, E. M. (2015). Approaches to validation and evaluation in qualitative studies of management accounting. *Qualitative Research in Accounting & Management, 12*, 230-255. doi:10.1108/QRAM-03-2013-0012
- Kiessling, T., Harvey, M., & Akdeniz, L. (2014). The evolving role of supply chain managers in global channels of distribution and logistics systems. *International Journal of Physical Distribution & Logistics Management, 44*, 671-688. doi:10.1108/IJPDLM-06-2013-0166
- Kindstrom, D., Kowalkowski, C., & Nordin, F. (2012). Visualizing the value of service-based offerings: Empirical findings from the manufacturing industry. *Journal of Business Ethics, 107*, 65-77. doi:10.1007/s10551-012-1297-3
- Kırılmaz, O., & Erol, S. (2017). A proactive approach to supply chain risk management: Shifting orders among suppliers to mitigate the supply side risks. *Journal of Purchasing and Supply Management, 23*(1), 54-65. doi:10.1016/j.pursup.2016.04.002

- Kisely, S., & Kendall, E. (2011). Critically appraising qualitative research: A guide for clinicians more familiar with quantitative techniques. *Australasian Psychiatry, 19*, 364-367. doi:10.3109/10398562.2011.562508
- Kluczek, A. (2017). An overall multi-criteria approach to sustainability assessment of manufacturing processes. *Procedia Manufacturing, 8*, 136-143. doi:10.1016/j.promfg.2017.02.016
- Koelsch, L. E. (2013). Reconceptualizing the member check interview. *International Journal of Qualitative Methods, 12*(1), 168-179. Retrieved from <http://www.ualberta.ca>
- Köhn, D., & Jainzik, M. (2014). Food security and a holistic finance for rural markets. Springer Berlin Heidelberg. In D. Kohn (Ed.), *Finance for food*, (pp. 23-41). doi:10.1007/978-3-642-54034-9
- König, A., & Spinler, S. (2016). The effect of logistics outsourcing on the supply chain vulnerability of shippers. *The International Journal of Logistics Management, 27*, 122-141. doi:10.1108/IJLM-03-2014-0043
- Kozleski, E. B. (2017). The uses of qualitative research: Powerful methods to inform evidence-based practice in education. *Research and Practice for Persons with Severe Disabilities, 42*(1), 19-32. doi:10.1177/1540796916683710
- Krause, D., Luzzini, D., & Lawson, B. (2018). Building the case for a single key informant in supply chain management survey research. *Journal of Supply Chain Management, 54*(1), 42-50. doi:10.1111/jscm.12159

- Kumar, C. G., & Nambirajan, T. (2013). Supply chain management components, supply chain performance and organizational performance: A critical review and development of conceptual model. *International Journal on Global Business Management & Research*, 2, 86-96. Retrieved from <http://ssrn.com/en>
- Kumar, S., Himes, K. J., & Kritzer, C. P. (2014). Risk assessment and operational approaches to managing risk in global supply chains. *Journal of Manufacturing Technology Management*, 25, 873-890. doi:10.1108/JMTM-04-2012-0044
- Lai, F., Chu, Z., Wang, Q., & Fan, C. (2013). Managing dependence in logistics outsourcing relationships: Evidence from China. *International Journal of Production Research*, 51, 3037-3054. doi:10.1080/00207543.2012.752591
- Leedy, P. D., & Ormrod, J. E. (2014). *Practical research: Planning and design* (11th ed.). Boston, MA: Pearson Education.
- Lehtinen, T. O., Mäntylä, M. V., Vanhanen, J., Itkonen, J., & Lassenius, C. (2014). Perceived causes of software project failures: An analysis of their relationships. *Information and Software Technology*, 56, 623-643. doi:10.1016/j.infsof.2014.01.015
- Leighton, P. (2016). Mass salmonella poisoning by the peanut corporation of America: State-corporate crime involving food safety. *Critical Criminology*, 24(1), 75-91. doi:10.1007/s10612-015-9284-5
- Le Roux, C. S. (2017). Exploring rigour in autoethnographic research. *International Journal of Social Research Methodology*, 20, 195-207. doi:10.1080/13645579.2016.1140965

- Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health Promotion Practice, 16*, 473-475.
doi:10.1177/1524839915580941
- Linton, J. D., Boyson, S., & Aje, J. (2014). The challenge of cyber supply chain security to research and practice: An introduction. *Technovation, 34*, 574-581.
doi:10.1016/j.technovation.2014.05.001
- Locatelli, G., Mancini, M., & Romano, E. (2014). Systems engineering to improve the governance in complex project environments. *International Journal of Project Management, 32*, 1395-1410. doi:10.1016/j.ijproman.2013.10.007
- Lo Iacono, V., Symonds, P., & Brown, D. H. (2016). Skype as a tool for qualitative research interviews. *Sociological Research Online, 21*(2), 1-15.
doi:10.5153/sro.3952
- Loh, H., & Thai, V. (2015). Management of disruptions by seaports: Preliminary findings. *Asia Pacific Journal of Marketing and Logistics, 27*, 146-162.
doi:10.1108/APJML-04-2014-0053
- Lu, C. S., Shang, K. C., & Lin, C. C. (2016). Examining sustainability performance at ports: Port managers' perspectives on developing sustainable supply chains. *Maritime Policy & Management, 43*, 909-927.
doi:10.1080/03088839.2016.1199918
- Luse, A., & Mennecke, B. (2014). IT can matter: Co-evolution fostering IT competitive advantage. *Management Research Review, 37*, 574-588. doi:10.1108/MRR-02-2013-0028

- Macdonald, J. R., & Corsi, T. M. (2013). Supply chain disruption management: Severe events, recovery, and performance. *Journal of Business Logistics*, 34, 270-288. doi:10.1111/jbl.12026
- Magdoff, F. (2015). A rational agriculture is incompatible with capitalism. *Monthly Review*, 66(10), 1-10. doi:10.14452/mr-066-10-2015-03-1
- Magno, F. (2015). Managing product recalls: The effects of time, responsible vs. opportunistic recall management and blame on consumers' attitudes. *Procedia Social and Behavioral Sciences*, 58, 1309-1315. doi:10.1016/j.sbspro.2012.09.1114
- Majid, M. A. A., Othman, M., Mohamad, S. F., Lim, S. A. H., & Yusof, A. (2017). Piloting for interviews in qualitative research: Operationalization and lessons learnt. *International Journal of Academic Research in Business and Social Sciences*, 7, 1073-1080. doi:10.6007/IJARBS/v7-i4/2916
- Marley, K. A., Ward, P. T., & Hill, J. A. (2014). Mitigating supply chain disruptions: A normal accident perspective. *Supply Chain Management*, 19, 142-152. doi:10.1108/SCM-03-2013-0083
- Marshall, D., McCarthy, L., McGrath, P., & Claudy, M. (2015). Going above and beyond: How sustainability culture and entrepreneurial orientation drive social sustainability supply chain practice adoption. *Supply Chain Management: An International Journal*, 20, 434-454. doi:10.1108/SCM-08-2014-0267

- Maroofi, F., & Kalhori, K. (2016). Value and risk in business to business e-banking. In *Trends, Prospects, and Challenges in Asian E-Governance* (pp. 325-351). IGI Global. doi:10.4018/978-1-4666-9536-8.ch015
- Mazzarol, T. (2015). SMEs engagement with e-commerce, e-business and e-marketing. *Small Enterprise Research*, 22(1), 79-90. doi:10.1080/13215906.2015.1018400
- McCormick, J. B., Boyce, A. M., Ladd, J. M., & Cho, M. K. (2012). Barriers to considering ethical and societal implications of research: Perceptions of life scientists. *AJOB Primary Research*, 3(3), 40-50. doi:10.1080/21507716.2012.680651
- Meyer, A., Niemann, W., Mackenzie, J., & Lombaard, J. (2017). Drivers and barriers of reverse logistics practices: A study of large grocery retailers in South Africa. *Journal of Transport and Supply Chain Management*, 11(1), 1-16. doi:10.4102/jtscm.v11i0.323
- Miller, R. M., & Barrio Minton, C. A. (2016). Experiences learning interpersonal neurobiology: An interpretative phenomenological analysis. *Journal of Mental Health Counseling*, 38(1), 47-61. doi:10.17744/mehc.38.1.04
- Mojtahed, R., Nunes, M. B., Martins, J. T., & Peng, A. (2014). Equipping the constructivist researcher: The combined use of semistructured interviews and decision-making maps. *Electronic Journal of Business Research Methods*, 12(2), 87-95. Retrieved from: <http://www.ejbrm.com/main.html>

- Moraitakis, N. G., Huo, J., & Pfohl, H. (2017). Alignment of global supply networks based on strategic groups of supply chains. *LogForum*, 13, 327-338.
doi:10.17270/J.LOG.2017.3.7
- Moustakas, C. E. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
- Murphy, G. (2014). Supply chain complexity awaits technology solutions. *Strategic Finance*, 96(10), 56-57. Retrieved from <http://www.imanet.org>
- Muzvondiwa, E. (2017). *Strategies for preventing and mitigating the effects of agro-food supply chain disruptions* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 10638941)
- Naevestad, T. O., Hesjevoll, I. S., & Phillips, R. O. (2018). How can we improve safety culture in transport organizations? A review of interventions, effects and influencing factors. *Transportation Research Part F: Traffic Psychology and Behaviour*, 54, 28-46. doi:10.1016/j.trf.2018.01.002
- Nel, J., de Goede, E., & Niemann, W. (2018). Supply chain disruptions: Insights from South African third-party logistics service providers and clients. *Journal of Transport and Supply Chain Management*, 12, 12. doi:10.4102/jtscm.v12i0.377
- Netland, T. H. (2016). Critical success factors for implementing lean production: the effect of contingencies. *International Journal of Production Research*, 54, 2433-2448. doi:10.1080/00207543.2015.1096976
- Neuman, W. L. (2011). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Boston, MA: Pearson.

- Nguyen, L., Szkudlarek, B., & Seymour, R. G. (2015). Social impact measurement in social enterprises: An interdependence perspective. *Canadian Journal of Administrative Sciences*, 32, 224-237. doi:10.1002/cjas.1359
- Nienhüser, W. (2017). Resource dependence theory: How well does it explain behavior of organizations? In *Human Resources, Labor Relations and Organizations* (pp. 192-219). Nomos Verlagsgesellschaft MBH & Co. KG. doi:10.5771/0935-9915-2017-2-192
- Nyamah, E. Y., Yi, F., Opong-Sekyere, D., & Nyamaah, B. J. (2014). Agricultural supply chain risk identification: A case finding from Ghana. *Journal of Management and Strategy*, 4(2), 31-48. doi:10.5430/jms.v5n2p31
- Olatunde, A. D., Chan, H. K., & Wang, X. (2012). Entropy assessment of supply chain disruption. *Journal of Manufacturing Technology Management*, 23, 998-1014. doi:10.1108/17410381211276844
- Omar, A., Davis-Sramek, B., Myers, M. B., & Mentzer, J. T. (2012). A global analysis of orientation coordination and flexibility in supply chain. *Journal of Business Logistics*, 33, 128-144. doi:10.1111/j.0000-0000.2012.01045.x
- Omidoyin, E. O., Opeke, R. O., & Osagbemi, G. K. (2016). Utilization pattern and privacy issues in the use of health records for research practice by doctors: Selected Nigerian teaching hospitals as case study. *International Journal of Privacy and Health Information Management (IJPHIM)*, 4(1), 1-11. doi:10.4018/IJPHIM.2016010101

- Parida, V., Wincent, J., & Oghazi, P. (2016). Transaction costs theory and coordinated safeguards investment in R&D offshoring. *Journal of Business Research*, *69*, 1823-1828. doi:10.1016/j.jbusres.2015.10.063
- Parsons, K., Calic, D., Pattinson, M., Butavicius, M., McCormac, A., & Zwaans, T. (2017). The human aspects of information security questionnaire (HAIS-Q): Two further validation studies. *Computers & Security*, *66*, 40-51. doi:10.1016/j.cose.2017.01.004
- Patichol, P., Wongsurawat, W., & Johri, L. M. (2014). Upgrade strategies in the Thai silk industry: Balancing value promotion and cultural heritage. *Journal of Fashion Marketing and Management*, *18*, 20-35. doi:10.1108/JFMM-09-2011-0059
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Penn, R. L. (2016). *Mitigation strategies of technostress on supply chain management* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 10252606)
- Pettit, T. J., Croxton, K. L., & Fiksel, J. (2013). Ensuring supply chain resilience: Development and implementation of an assessment tool. *Journal of Business Logistics*, *34*(1), 45-76. doi:10.1111/jbl.12009
- Pfeffer, J., & Salancik, G. (1978). *The external control of organizations: A resource dependency perspective*. New York, NY: Harper and Row Publishers.

- Polonsky, M. J., Grau, S. L., & McDonald, S. (2016). Perspectives on social impact measurement and non-profit organisations. *Marketing Intelligence & Planning*, 34(1), 80-98. doi:10.1108/mip-11-2014-0221
- Punniyamoorthy, M., Thamaraiselvan, N., & Manikandan, L. (2013). Assessment of supply chain risk: Scale development and validation. *Benchmarking: An International Journal*, 20, 79-105. doi:10.1108/14635771311299506
- Pyhälä, A., Fernández-Llamazares, Á., Lehvävirta, H., Byg, A., Ruiz-Mallén, I., Salpeteur, M., & Thornton, T. F. (2016). Global environmental change: Local perceptions, understandings, and explanations. *Ecology and Society: A Journal of Integrative Science for Resilience and Sustainability*, 21(3) 1-29. doi:10.5751/ES-08482-210325
- Ray, P., & Jenamani, M. (2016). Sourcing decision under disruption risk with supply and demand uncertainty: A newsvendor approach. *Annals of Operations Research*, 237, 237-262. doi:10.1007/s10479-014-1649-8
- Rakovska, M. A., & Stratieva, S. V. (2018). A taxonomy of healthcare supply chain management practices. In *Supply Chain Forum: An International Journal* (Vol. 19, No. 1, pp. 4-24). Taylor & Francis. doi:10.1080/16258312.2017.1395276
- Ribeiro, F., & Colauto, R. (2016). The relationship between board interlocking and income smoothing practices. *Magazine Accounting & Finance*, 27, 55-66. doi:10.1590/1808-057x201501320
- Riley, S. M., Ahoor, D. C., Regnery, J., & Cath, T. Y. (2018). Tracking oil and gas wastewater-derived organic matter in a hybrid biofilter membrane treatment

system: A multi-analytical approach. *Science of the Total Environment*, 613, 208-217. doi:10.1016/j.scitotenv.2017.09.031

Rostamzadeh, R., Ghorabae, M. K., Govindan, K., Esmaeili, A., & Nobar, H. B. K. (2018). Evaluation of sustainable supply chain risk management using an integrated fuzzy TOPSIS-CRITIC approach. *Journal of Cleaner Production*, 175, 651-669. doi:10.1016/j.jclepro.2017.12.071

Rushing, C., & Powell, L. (2014). Family dynamics of the stay-at-home father and working mother relationship. *American Journal of Men's Health*, 9, 410-420. doi:10.1177/1557988314549414

Safa, N. S., Sookhak, M., Von Solms, R., Furnell, S., Ghani, N. A., & Herawan, T. (2015). Information security conscious care behavior formation in organizations. *Computers & Security*, 53, 65-78. doi:10.1016/j.cose.2015.05.012

Safari, A., & Thilenius, P. (2013). Alleviating uncertainty through trust: A narrative approach to consumers' foreign online purchasing behaviour. *Journal of Customer Behaviour*, 12, 211-226. doi:10.1362/147539213X13832198548418

Salajeghe, S., Nejad, A. S., & Soleimani, S. (2014). Analysis of the role of quality management in creating knowledge management value chain. *International Journal of Academic Research in Business and Social Sciences*, 4, 31-46. Retrieved from <http://www.hrmars.com>

Sapp, T. M. (2014). *U.S. pharmaceutical industry's global supply chain management strategies* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 3642596)

- Sears, J., & Hoetker, G. (2014). Technological overlap, technological capabilities, and resource recombination in technological acquisitions. *Strategic Management, 35*, 48-67. doi:10.1002/smj.2083
- Schotter, A., & Thi My, H. D. (2013). The effects of the global financial crisis on supply chain members in non-BRIC emerging markets. *Thunderbird International Business Review, 55*, 609-618. doi:10.1002/tie.21573
- Sekip Altug, M., & Van Ryzin, G. (2014). Is revenue sharing right for your supply chain? *California Management Review, 56*(4), 53-81. doi:10.1525/cmr.2014.56.4.53
- Scholten, K., & Schilder, S. (2015). The role of collaboration in supply chain resilience. *Supply Chain Management: An International Journal, 20*, 471-484. doi:10.1108/SCM-11-2014-0386
- Sharma, M. M. (2013). A study on the concept of green supply chain management. *Journal of Supply Chain Management Systems, 2*, 1-7. Retrieved from <http://www.manuscript.publishingindia.com/index.php/JSCMS>
- Shen, B., & Li, Q. (2015). Impacts of returning unsold products in retail outsourcing fashion supply chain: A sustainability analysis. *Sustainability, 7*, 1172-1185. doi:10.3390/su7021172
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*, 63-75. Retrieved from <http://www.iospress.nl/journal/education-for-information/>

- Shukla, M., & Jharkharia, S. (2013). Agro-fresh produce supply chain management: A state-of-the-art literature review. *International Journal of Operations & Production Management*, 33, 114-158. doi:10.1108/01443571311295608
- Siddiqui, N., & Anneke Fitzgerald, J. (2014). Elaborated integration of qualitative and quantitative perspectives in mixed methods research: A profound enquiry into the nursing practice environment. *International Journal of Multiple Research Approaches*, 8(2), 137-147. doi:10.1080/18340806.2014.11082056
- Silbermayr, L., & Minner, S. (2014). A multiple sourcing inventory model under disruption risk. *International Journal of Production Economics*, 149, 37-46. doi:10.1016/j.ijpe.2013.03.025
- Simon, T., Di Serio, L., Pires, I., & Martins, G. (2015). Evaluating supply chain management: A methodology based on a theoretical model. *Revista De Administração Contemporânea*, 19, 26-44. doi:10.1590/1982-7849rac20151169
- Sindhuja, P. N., & Kunnathur, A. S. (2015). Information security in supply chains: A management control perspective. *Information & Computer Security*, 23, 476- 496. doi:10.1108/ICS-07-2014-0050
- Skinner, D., Tagg, C., & Holloway, J. (2000). Managers and research: The pros and cons of qualitative approaches. *Management Learning*, 31, 163-179. Retrieved from <http://mlq.sagepub.com/>
- Son, J. Y., & Orchard, R. K. (2013). Effectiveness of policies for mitigating supply disruptions. *International Journal of Physical Distribution & Logistics Management*, 43, 684-706. doi:10.1108/IJPDLM-04-2012-0109

- Song, S., Sheinin, D. A., & Yoon, S. (2016). Effects of product failure severity and locus of causality on consumers' brand evaluation. *Social Behavior and Personality: An International Journal*, 44, 1209-1221. doi:10.2224/sbp.2016.44.7.1209
- Sook-Ling, L., Ismail, M. A., & Yee-Yen, Y. (2015). Information infrastructure capability and organizational competitive advantage. *International Journal of Operations & Production Management*, 35, 1032-1055. doi:10.1108/IJOPM-12-2013-0553
- Srivastava, S. K., Chaudhuri, A., & Srivastava, R. K. (2015). Propagation of risks and their impact on performance in fresh food retail. *The International Journal of Logistics Management*, 26, 568-602. doi:10.1108/IJLM-02-2014-0032
- Stacey, R. D. (2011). *Strategic management and organizational dynamics: The challenge of complexity* (6th ed.). Essex, England: Pearson Education Limited.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Stake, R. E. (2010). *Qualitative research: Studying how things work*. New York, NY: The Guilford Press.
- Stefaniak, J. E., & Tracey, M. W. (2014). An examination of the decision-making process used by designers in multiple disciplines. *TechTrends*, 58(5), 80-89. doi:10.1007/s11528-014-0789-7
- Swanson, D., Jin, Y. H., Fawcett, A. M., & Fawcett, S. E. (2017). Collaborative process design: A dynamic capabilities view of mitigating the barriers to working together. *International Journal of Logistics Management*, 28, 571-599. doi:10.1108/IJLM-02-2016-0044

- Świerczek, A. (2013). An identification of the "rippling effect" in the transmission of disruptions in supply chains. The dilemmas of theoretical study and empirical research. *Journal of Economics & Management*, *12*, 83-96. Retrieved from http://www.ue.katowice.pl/no_cache/en.html
- Talluri, S., Kull, T. J., Yildiz, H., & Yoon, J. (2013). Mitigation strategies in supply chains. *Journal of Business Logistics*, *34*, 253-269. doi:10.1111/jbl.12025
- Tang, C. S., & Zimmerman, J. (2013). Information and communication technology for managing supply chain risks. *Communications of the ACM*, *56*(7), 27-29. doi:10.1145/2483852.2483862
- Tarofder, A. K., Marthandan, G., Mohan, A. V., & Tarofder, P. (2013). Web technology in supply chain: An empirical investigation. *Business Process Management*, *19*, 431-458. doi:10.1108/14637151311319897
- Tilcsik, A. (2016). Teaching disaster risk management: Lessons from the Rotman School of Management. *AD-minister*, *28*, 127-140. doi:10.17230/ad-minister.28.6
- Tiwari, A. K., Tiwari, A., & Samuel, C. (2015). Supply chain flexibility: A comprehensive review. *Management Research Review*, *38*, 767-792. doi:10.1108/MRR-08-2013-0194
- Tran, B. (2016). The nature of research methodologies: Terms and usage within quantitative, qualitative, and mixed methods. *In Mixed Methods Research for Improved Scientific Study* (pp.1-27). IGI Global. doi:10.4018/978-1-5225-0007-0.ch001

- Tripathy, S., Aich, S., Chakraborty, A., & Lee, G. M. (2016). Information technology is an enabling factor affecting supply chain performance in Indian SMEs. *Journal of Modeling in Management, 11*, 269-287. doi:10.1108/JM2-01-2014-0004
- Tse, Y. K., Matthews, R. L., Hua Tan, K., Sato, Y., & Pongpanich, C. (2016). Unlocking supply chain disruption risk within the Thai beverage industry. *Industrial Management & Data Systems, 116*(1), 21-42. doi:10.1108/imds-03-2015-0108
- Tukamuhabwa, B. R., Stevenson, M., Busby, J., & Zorzini, M. (2015). Supply chain resilience: Definition, review and theoretical foundations for further study. *International Journal of Production Research, 53*, 5592-5623. doi:10.1080/00207543.2015.1037934
- Turner, D. W. (2010). Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report, 15*, 754-760. Retrieved from <http://www.nova.edu/tqr/>
- U.S. Department of Health and Human Services. (1979). *The Belmont report*. Retrieved from <http://www.hhs.gov>
- van der Werff, L., & Buckley, F. (2017). Getting to know you: A longitudinal examination of trust cues and trust development during socialization. *Journal of Management, 43*, 742-770. doi:10.1177/0149206314543475
- Varpio, L., Ajjawi, R., Monrouxe, L. V., O'Brien, B. C., & Rees, C. E. (2017). Shedding the cobra effect: Problematizing thematic emergence, triangulation, saturation and member checking. *Medical Education, 51*(1), 40-50. doi:10.1111/medu.13124

- Wagner, S. M., & Neshat, N. (2012). A comparison of supply chain vulnerability indices for different categories of firms. *International Journal of Production Research*, *50*, 2877-2891. doi:10.1080/00207543.2011.561540
- Wamba, S. F., Akter, S., Edwards, A., Chopin, G., & Gnanzou, D. (2015). How big data can make big impact: Findings from a systematic review and a longitudinal case study. *International Journal of Production Economics*, *165*, 234-246. doi:10.1016/j.ijpe.2014.12.031
- Wandfluh, M., Hofmann, E., & Schoensleben, P. (2016). Financing buyer–supplier dyads: An empirical analysis on financial collaboration in the supply chain. *International Journal of Logistics Research and Applications*, *19*, 200-217. doi:10.1080/13675567.2015.1065803
- Wilson, C. V. (2012). *Postimplementation planning and organizational structure of enterprise resource planning systems* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3512581)
- Wolf, J. (2014). The relationship between sustainable supply chain management, stakeholder pressure and corporate sustainability performance. *Journal of Business Ethics*, *119*, 317-328. doi:10.1007/s10551-012-1603-0
- Wu, M. F., Wang, S. L., Lu, T. Y., & Cheng, F. T. (2017). The profitability management mechanism of leather industry-based on the activity-based benefit approach. *World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, *11*(5), 1254-1258. Retrieved from

<http://waset.org/publications/10007408/the-profitability-managementmechanism-of-leather-industry-based-on-the-activity-based-benefit-approach>

- Wu, I. L., Chuang, C. H., & Hsu, C. H. (2014). Information sharing and collaborative behaviors in enabling supply chain performance: A social exchange perspective. *International Journal of Production Economics*, *148*, 122-132.
doi:10.1016/j.ijpe.2013.09.016
- Xia, J., Ma, X., Lu, J. W., & Yiu, D. W. (2014). Outward foreign direct investment by emerging market firms: A resource dependence logic. *Strategic Management Journal*, *35*, 1343-1363. doi:10.1002/smj.2157
- Yardley, S. J., Watts, K. M., Pearson, J., & Richardson, J. C. (2014). Ethical issues in the reuse of qualitative data: Perspectives from literature, practice, and participants. *Qualitative Health Research*, *24*, 102-113. doi:10.1177/1049732313518373
- Yeager, V., Menachemi, N., Savage, G., Ginter, P., Sen, B., & Beitsch, L. (2014). Using resource dependency theory to measure the environment in health care organizational studies. *Health Care Management Review*, *39*, 50-65.
doi:10.1097/hmr.0b013e3182826624
- Yilmaz, K. (2014). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, *48*, 311-325. doi:10.1111/ejed.12014
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Thousand Oaks, CA: Sage Publications, Inc.

- Yu, C., & Huatuco, L. H. (2016). Supply chain risk management identification and mitigation: A case study in a Chinese dairy company. In *Sustainable Design and Manufacturing 2016* (pp. 475-486). Springer, Cham. doi:10.1007/978-3-319-32098-4_41
- Yu, H., Abdullah, A., & Saat, R. M. (2014). Overcoming time and ethical constraints in the qualitative data collection process: A case of information literacy research. *Journal of Librarianship and Information Science*, 46, 243-257. doi:10.1177/0961000614526610
- Zavyalova, A., Pfarrer, M. D., Reger, R. K., & Hubbard, T. D. (2016). Reputation as a benefit and a burden? How stakeholders' organizational identification affects the role of reputation following a negative event. *Academy of Management Journal*, 59, 253-276. doi:10.5465/amj.2013.0611
- Zhu, Q., Krikke, H., & Caniels, M. (2016). Collaborate or not? A system dynamics study on disruption recovery. *Industrial Management & Data Systems*, 116, 271-290. doi:10.1108/IMDS-05-2015-020
- Zou, P., & Li, G. (2016). How emerging market investors' value competitors' customer equity: Brand crisis spillover in China. *Journal of Business Research*, 69, 3765-3771. doi:10.1016/j.jbusres.2015.12.068
- Zsidisin, G. A., & Wagner, S. M. (2010). Do perceptions become reality? The moderating role of supply chain resiliency on disruption occurrence. *Journal of Business Logistics*, 31(2), 1-20. doi:10.1002/j.2158-1592.2010.tb00140.x

Appendix A: Interview Protocols

I will email the participants a copy of the consent form to establish their agreement to participate as an unpaid volunteer. At least 24 hours will be given to participants to review the consent form and decide if they would like to participate in the study by responding via email. The following steps provide the interview procedure and structure:

- a) Send each participant an invitation letter to confirm a face-to-face interview with calendar days and available times.
- b) Ask the participant for authorization to begin the audio recording before starting the interview,
- c) If participant approves to the audio recording, move on to step 4. If not, move to step 7
- d) Start the audio recording
- e) Welcome each participant with these opening comments: *“Hello, my name is Lawrence A. Reeves, III. and I am a Doctoral student at Walden University. Thank you for volunteering to participate in this study. The interview should be about 30-45 minutes.”*
- f) If the participant elects not to give their permission to do an audio record of the interview: *“Thank you (participant’s name), I respect your choice. I need to take written notes of your answers about what strategies you use to mitigate supply chain disruptions. The interview could require additional time commitment to guarantee I write your responses accurately. Are you still willing to participate?”*

- g) Assure the participant that all replies will be confidential for privacy and reduce the likelihood of identification of the participants: *“(Participant’s name) your responses are confidential and to protect your identity the published doctoral study will not include any recognizable information.”*
- h) Check to validate they received an email copy of the written consent form. *“Did you receive the consent form document? The consent form includes; a) an email address for the Chair of my Doctoral Study Committee, b) the Walden Institutional Review Board (IRB) number for this study, and c) an email contact for the IRB if you have further questions beyond this interview about the purpose and nature of this study.”*
- i) *Are you still willing to be a contributor?”*
- j) Explain the study’s purpose and interview procedure: *“The purpose of this study is to explore reverse logistics strategies used by some supply chain managers to control cost through risk mitigation”*
- k) *“Open ended questions are the format for this interview. Please feel free to add clarifying comments, you believe suitable to express your view.”*
- l) Statement of consent and option to withdraw from the interview process:
- m) *“(Participant’s name) this interview is voluntary and you may decline to answer any question that makes you feel uncomfortable. Additionally, you may withdraw your agreement at any time, during this interview (given by you) and all references, notes, and recorded data previously collected enters a destruction*

process. Your withdrawal does not execute any retaliation or negatively affect your professional standing.”

n) Begin asking the interview questions.

After participant answers all questions, “Thank you (participant’s name) again for your contribution to the study.”

o) Advise participant that they will obtain a copy of the transcribed interpretation of the audio recording. “(Participant’s name), I will send you a copy of the transcribed notes from this audio recording. Once you receive the document, please review it for accuracy, then sign the document, and return it using the email address lawrence.reevesiii@waldenu.edu. Thank you again for your time.”

Appendix B: Interview Questions

1. What reverse logistics strategies did you use to control cost through risk mitigation?
2. How do you identify and select a strategy that supports the internal and external resources to control cost in the reverse logistics process?
3. What are the procedures in place to recognize potential risk and costs in the reverse logistics process?
4. What resources did you use to implementing reverse logistics strategies?
5. What strategy did you find most effective? Why?
6. How did implementing the strategies reduce cost?
7. How did you measure the benefits of implementing reverse logistic strategies?
8. What key challenges did you face implementing reverse logistics strategies to control cost through risk mitigation?
9. How did you address the key challenges you faced in implementing reverse logistics strategies?
10. What other information would you like to add regarding implementing reverse logistics strategies to reduce cost through risk mitigation?