


2018

# Strategies to Mitigate Supply Chain Disruptions in Miniconvenience Stores

Christopher Jason Roberts  
*Walden University*

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# Walden University

College of Management and Technology

This is to certify that the doctoral study by

Christopher Jason Roberts

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## Review Committee

Dr. Susan Fan, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Warren Lesser, Committee Member, Doctor of Business Administration Faculty

Dr. Douglas Keevers, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer  
Eric Riedel, Ph.D.

Walden University  
2018

Abstract

Strategies to Mitigate Supply Chain Disruptions in Miniconvenience Stores

by

Christopher Jason Roberts

MSM, Kaplan University, 2010

MBA, Geneva College, 2005

BS, Geneva College, 2003

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2018

## Abstract

Implementing strategies and policies and maintain standards are essential to improving supply chain systems. The purpose of this multiple case study was to explore strategies miniconvenience store managers used to mitigate supply chain disruptions to sustain productivity and increase profits. The population was 4 managers of miniconvenience stores within gas stations located in the southeastern region of the United States who successfully maintained productivity during a supply chain disruption. The conceptual framework for this study was resource dependency theory. Data were collected using company documents, face-to-face interviews and semistructured, open-ended questions. Two themes were identified from the data analysis: building relationships and effective communication. The findings from this study could contribute to positive social change by providing miniconvenience store managers with strategies to increase supply chain capabilities while reducing the impact disruptions have on business performance, customer satisfaction, and profitability. Store managers who minimize supply chain disruptions might improve organizational operative purchasing, decrease prices, increase customer gratification, and improve the standard of living for customers in the communities served.

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## Dedication

I dedicate this doctoral study to my wife, Marcia Roberts, and my children, Christian, Mariah, Nisiha, Giovanni, and Samara. I would also like to say thank you to my mother Sandra Roberts, my auntie Charlene Shabazz, her son Elijah Poughes, and my cousin Karen Abbott and her husband Cecil Abbott and their family. I thank each of you for your support and encouragement as I worked through the program.

## Acknowledgments

I want to acknowledge the Heavenly Father first because he gave me the strength each day to complete the task ahead. I want to thank my doctoral study committee members, Dr. Susan K. Fan, Dr. Warren P. Lesser, and Dr. Douglas M. Keevers, for your support through the entire doctoral process and the hours spent reviewing and providing feedback during my doctoral journey. Your knowledge and commitment provided me the determination to strive each second of the day. I want to thank the four managers whom I had the honor to interview and who provided insight to help me answer the questions for the case study. I also want to give special thanks to Toni Williams who provided her editorial services.

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## Section 1: Foundation of the Study

Supply chain disruptions are having a significant impact on companies' profits, and managers are trying to implement strategies and policies to reduce these disruptions. Disruptions can occur because of managers' poor planning and insufficient preparation to predict when an event will occur (Liu, Sarkar, Kumar, & Jin, 2018). The basis of the study was an exploration of the strategies that miniconvenience store managers use to mitigate the effects of supply chain disruptions to sustain productivity and increase profits. Managers try to increase their inventory levels to minimize production loss that might occur during a disturbance (Yang, Pan, & Ballot, 2016). Managers can effectively circumvent supply chain disruptions by lowering costs to improve their competitive advantage while meeting the needs of customers during potential disturbances such as terrorist attacks, natural disasters, and other ongoing disturbances.

### **Background of the Problem**

Some managers are unable to develop strategies to help reduce the effect of disasters that might occur because of supply chain disruption, which is an ongoing problem. Supply chain managers in some businesses must understand the importance of having a secondary source of suppliers for a brief period (Clemons & Slotnick, 2016; Kumar, Basu, & Avittathur, 2018). In 2016, due to earthquakes in Japan and not being able to receive supplies promptly, General Motors had to close four plants (Nagesh, 2016). In 2015, severe winter storms devastated some organizations and resulted in power outages on the East Coast of the United States, delaying the transportation of goods across individual states (Armental, 2015). Supply chain disruptions are a common

theme, and supply chain managers must have robust strategies to remain sustainable and improve their organizations' supply resources (Zhen, Li, Cai, & Shi, 2016).

Developing strategies to mitigate supply chain disruptions was important to this study because managers and leaders have a critical role to help sustain productivity during a disturbance. Supply chain managers must analytically derive solutions that can simplify disruptions and limit the cost of the recovery process (Schmitt, Kumar, Stecke, Glover, & Ehlen, 2017; Zhen et al., 2016). Supply chain managers must recognize the stages of production that will allow individuals to make the right decision while incorporating ideas and policies (Clemons & Slotnick, 2016). Moreover, supply chain disruptions are unavoidable, and implementing processes such as order fulfillment can help managers learn about how to manage supply chain vulnerability. Managers can introduce strategies such as having a diversified supply base or managing product demand that can help sustain productivity (Madani & Rasti-Barzoki, 2017). People might not understand the benefits of alleviating supply chain disruptions, but continuous education within supply networks might identify some concerns that need addressing.

### **Problem Statement**

In 2016, a Fortune 500 technology company recorded a loss of approximately US\$17 billion because of defective batteries (Wang, Xue, & Sun, 2017). Although the supply chain is the foundation of globalization, 27% of business owners have suffered damage, 40% have suffered reduced stock prices, 58% have reported lost productivity, and 38% have reported reduced revenue from supply chain disruptions (Paul, Sarker, & Essam, 2017; Varzandeh, Farahbod, & Zhu, 2016; Wang et al., 2017). The general

business problem is that store managers who experience supply chain disruptions may experience productivity loss and reduced profits. The specific business problem is that some miniconvenience store managers lack strategies to mitigate the effects of supply chain disruptions to sustain productivity and increase profits.

### **Purpose Statement**

The purpose of this qualitative multiple case study was to explore strategies that successful miniconvenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits. The target population consisted of four store managers of miniconvenience stores within gas stations who successfully maintained productivity during a recent supply chain disruption. Each store manager had generated less than \$500,000 in annual sales, had less than seven employees, and had been in business for 2 years or more located in the southeastern region of the United States. Miniconvenience store managers who can sustain profitable operations may employ more workers, who may subsequently realize more wage income, self-esteem, and personal dignity.

### **Nature of the Study**

The three research methods are qualitative, quantitative, and mixed methods. In the qualitative method, researchers use interview questions to explore the similarities and differences of people's behavior (Bristowe, Selman, & Murtagh, 2015; White & Drew, 2011). In contrast, researchers use quantitative methods to conduct measurements and use statistical analogies to compare numerical data (Frels & Onwuegbuzie, 2013; Park & Park, 2016; Yilmaz, 2013). A mixed-methods study is a synthesis of qualitative and

quantitative data (Griensven, Moore, & Hall, 2014; Molina-Azorin, 2011). Thus, the mixed-methods approach was not appropriate for this study because I did not gather quantitative data. A qualitative methodology was the most suitable method for this study.

Qualitative research designs include ethnographic, phenomenological, and case study (Myers, 2013; Yin, 2014). Ethnographic research design is the study of people in communities and cultures (Gössling & Stavrinidi, 2016). An ethnographic research design was not suitable for my study because I was not studying people in communities and cultures. In the phenomenological research design, researchers study individual experiences from strategic situations (Park & Park, 2016; Saunders et al., 2015; Skiba & Disch, 2014). A phenomenological research design was not suitable because I did not explore the meanings of participants' experiences. A researcher can use a case study design to interpret activities through the process of collecting data about circumstances that may arise (Boblin, Ireland, Kirkpatrick, & Robertson, 2013). In this study, I explored the strategies that store managers of miniconvenience stores within gas stations used to mitigate supply chain disruptions; therefore, a case study research design was appropriate for the study.

### **Research Question**

What strategies do miniconvenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits?

### **Interview Questions**

1. What product shortages have you experienced during a supply chain disruption at your miniconvenience store?

2. What strategies do you use to prevent supply chain disruptions?
3. How did you increase profits during supply chain disruptions?
4. How do you determine the most effective strategies for avoiding future supply chain disruptions?
5. What strategies have you used to cultivate effective working relationships with suppliers to sustain productivity?
6. What additional information as a manager would you like to add regarding strategies you have developed and employed to mitigate supply chain disruptions to sustain productivity and increase profits?

### **Conceptual Framework**

The conceptual framework for this qualitative exploratory case study was resource dependency theory (RDT). Pfeffer and Salancik introduced RDT in 1978 as a theory on leadership behavior concerning the efficiency that managers use to formulate ideas while seeking external resources (Wolf, 2014). Within the RDT framework, individuals must foster relationships between customers and suppliers to reduce uncertainty in operational environments (Esfabodi, Zhang, & Watson, 2016). RDT is important because managers must maintain relationships while seeking innovation to balance resources and sustain accountability (Esfabodi et al., 2016).

Managers must maintain sufficient inventory levels with a diversified supply base during a disruption because diversification can mitigate the weakness of having only one supplier. Managers must continue to build foundations that inspire the ability of leaders to improve efficiency during supply chain disruptions (Wolf, 2014). Leaders who

embrace RDT may maintain organizational goals while communicating with suppliers to facilitate sustainable supply chain management practices (Esfabodi et al., 2016). RDT was essential to my study because store managers using this theory can enhance productivity, build relationships, learn to collaborate with suppliers, and share information while providing recommendations to other suppliers within the supply chain network.

### **Operational Definitions**

*Global supply chain management:* An independent output of a decision process in which managers have an opportunity to maintain relationships that influence the distribution of goods and services (Connelly, Ketchen, & Hult, 2013).

*Supply chain disruption:* An unexpected event that interrupts the financial stability of the supply chain system (Bode & Wagner, 2015).

*Supply chain integration:* A strategic alignment through which managers can formulate ideas to maximize performance within a company (Chang, Ellinger, Kim, & Franke, 2016).

*Supply chain management:* The distribution of goods and services, where managers plan, execute, and coordinate supply chain activities to enhance the value of a company (Jaggi & Kadam, 2016).

*Supply chain network:* A system in which managers organize the movement of goods or services to customers from a supplier (Shafipour & Fetanat, 2016).

*Supply chain performance:* The development of a strategy by managers that aims to improve the responsiveness of a company over a period (Afonso & Cabrita, 2015).



*Supply chain risk management*: Risk that derives from the assessment of managing everyday supply chain activities that involve external factors (Qazi, Quigley, Dickson, & Ekici, 2017).

*Supply chain strategy*: A collective process within which managers incorporate different aspects through cooperation to gain competitive insights using operational activities (Jafarnejad, Rokhi, Abad, Khoury, & Jenab, 2017).

*Supply chain sustainability*: Managers establishing a foundation that will share ideas among individuals to benefit the reliability of a company while influencing each aspect of a supply chain network (Seuring & Müller, 2008).

*Supply chain technology*: The integration of strategies that managers use as tools to modify supply chain activities effectively within an organization (Autry, Grawe, Daugherty, & Richey, 2010).

### **Assumptions, Limitations, and Delimitations**

#### **Assumptions**

Qualitative research has information that is based on sample size with assumptions (Abrams, 2010). The first assumption was that miniconvenience store managers would respond to questions truthfully during the interview. The second assumption was the responses provided by store managers would contribute toward my analysis to identify strategies to mitigate supply chain disruptions in miniconvenience stores. The target population was four store managers, and I assumed (a) the appropriate responses would be adequate for this study and (b) the answers to the interview questions would not contain bias.

**Limitations**

Limitations refer to information not provided to researchers that can influence study findings (Bunniss & Kelly, 2010). The first limitation of this study was the availability of participants. Some product managers had limited experience with strategies to reduce supply chain disruptions. The respondents might have been unwilling to share information about the company's strategy to mitigate supply chain disruption. Also, participants may not have wanted to participate in face-to-face interviews because of the possibility of misinterpreting body language as a sign of not wanting to respond to questions.

**Delimitations**

Delimitations are specifications within a scope of study for what a researcher will define as boundaries of the study (Rusly, Corner, & Sun, 2012). A delimitation for this study was store managers located in the southeastern region of the United States. Other delimitations included store managers affiliated with miniconvenience stores, identifying the strategies used to prevent supply chain disruptions, and exploring the strategies managers used to sustain productivity and increase profits.

**Significance of the Study****Contribution to Business Practice**

The value of this case study is that miniconvenience store managers may use the study outcomes to help reduce supply chain disruptions. Supply chain operators among global partners may have relationships that allow leaders and managers within organizations to develop procedures to limit supply chain disruptions (Zeng & Yen,

2017). Supply chain partners may then more capably confront potential issues with suppliers to help reduce supply chain disruptions (Varzandeh et al., 2016; Zeng & Yen, 2017). Leaders must, therefore, develop solutions to help reduce supply chain failures. Supply chain managers must continue to develop supply chain solutions that will help mitigate supply chain disruptions (Nooraie & Parast, 2016). The results from this study indicate how store managers of miniconvenience stores within gas stations can improve productivity and reduce supply chain disruptions.

### **Implications for Social Change**

Miniconvenience store managers may be able to use the findings from this study to understand how to share knowledge and establish strong relationships with people in the community. Individuals in communities might build long-lasting relationships while developing cohesiveness toward social responsibility (Omar, Davis-Sramek, Fugate, & Mentzer, 2012). Improved commitment from miniconvenience store managers might improve organizational stability with effective purchasing, reduced prices, and a better standard of living for individuals and the community.

### **A Review of the Professional and Academic Literature**

The purpose of this qualitative exploratory case study was to explore strategies that supply chain managers used to mitigate supply chain disruptions to remain sustainable and increase business performance. This section includes a review of literature and information affiliated with the research topic. The managers of small businesses studied in the reviewed literature had strategies to mitigate supply chain disruptions. The analysis includes global supply chain management, supply chain

disruption, supply chain integration, supply chain management, supply chain networks, supply chain performance, supply chain risk management, supply chain strategies, supply chain sustainability, and supply chain technology. Thus, developing an understanding of supply chain disruptions among miniconvenience store managers was essential to evaluate this topic. The focus of the research questions was how miniconvenience store managers develop procedures to reduce supply chain disruptions and help mitigate cost that may occur from a lack of resources or from natural disasters.

### **Strategy for Searching the Literature**

The doctoral study consists of 155 references, and 90.9% of the references have publication dates between 2014 and 2018, which is within 5 years of my anticipated graduation date of 2018. The study includes 151 articles from peer-reviewed journals (97.4%) and four books (2.6%). The keywords used were as follows: *supply chain disruption*, *supply chain technology*, *supply chain management*, *supply chain performance*, and *supply chain strategies*.

### **Global Supply Chain Management**

Supply chain leaders within logistical networks develop ideas to build relationships that help provide services to consumers. Global supply chain management includes managers, wholesalers, retailers, and leaders who incorporate various mechanisms that will contribute to improving communication among suppliers within logistical networks (Kim & Davis, 2016; Park & Kim, 2016; Soundararajan & Brown, 2016). Global supply chain management may have some barriers that affect constant communication and suppliers' desire to understand various challenges that may occur

during supply chain disruptions. For example, natural disasters such as hurricanes may affect communications on an island for 6 months and might affect the delivery of supplies to other countries. Responding to changes to meet customer demands is crucial because managers must adapt while focusing on the financial implications of the business (Kim, Choi, & Skilton, 2015). In addition to maintaining stability and adapting to operational needs, managers need to determine what strategies to use when a disruption transpires.

The development of global supply chain management within logistic networks is essential because suppliers, leaders, managers, and team members need to develop continuous procedures to mitigate supply chain disruptions. The global supply chain is becoming a significant part of logistical operations, and supply chain leaders in countries such as China, Africa, and Asia are discovering some issues that pertain to the structural dimensions within the global environment (Varzandeh et al., 2016). Some leaders do not understand the benefits of expanding their knowledge and educating individuals about supply chain disruptions. Within the hierarchal structure of organizations in some countries, leaders must combat potential issues while being proactive instead of reactive when disruptions occur.

Managers and leaders must educate themselves about supply chain disruptions because of the limited resources available when a disturbance occurs. Supply chain managers and leaders must play an active role when deciding to use different logistical strategies (Kim & Davis, 2016; Varzandeh et al. 2016; Zeng & Yen, 2017). As disruptions are unavoidable, managers must embrace programs that can help sustain productivity. Embracing programs can help individuals within businesses understand the

importance of supply chain systems (Busse, Schleper, Niu, & Wagner, 2016; Kim & Davis, 2016). Supply chain disruptions might have a financial impact on companies because of the lack of support from people to build relationships that can help convey ideas within supply chain networks. Embracing relationships within supply chain systems can help prevent disruptions (Quek & Wang, 2017; Soundararajan & Brown, 2016). Supply chain managers must continue to cultivate relationships within the logistical industry to expand their knowledge while helping each other within supply chain systems.

**Global supply chain system.** Managers who share their knowledge within the supply chain system can collaborate on ideas to combat supply chain disruptions. Leaders within supply chain systems are becoming a vital part of the organizational structure that allows supply chain network managers to work together and succeed (Varzandeh et al., 2016). The ability of managers to communicate among themselves is invaluable, as is providing relevant information and services to customers. Therefore, managers must know how to mitigate disruptions and sustain productivity while gaining commitment from leaders who support ideas within the logistical industry. Supply chain managers who work for organizations may want to establish guidelines to convey their knowledge among suppliers and vendors to create cohesion within the workplace (Soundararajan & Brown, 2016; Zeng & Yen, 2017). Managers can create added value among their organizations while integrating procedures and policies that will develop and circumvent resources within the global chain environment.

Leaders can prompt managers to assist with internal and external changes by applying procedures that will address each aspect of a business. Supply chain partners must have vital roles such as understanding each stage of development of a supply chain disruption to minimize future instabilities (Busse et al., 2016). Customer perception sometimes involves making judgments regarding internal and external changes, and some leaders seldom gain a competitive advantage in their industry because of their inability to make decisions that correspond with sustaining productivity. Mitigating costs within global supply chain networks only solves supply chain disruptions partially (Hasani & Khosrojerdi, 2016). Supply chain managers can create added value by understanding which strategies to use to mitigate supply chain disruption. In addition, some managers can combat internal and external changes by analyzing potential obstacles that might arise during a disturbance such as a natural disaster.

**Logistical hindrances.** Some managers might not understand the difference between challenges and obstacles related to supply chain disruption. For instance, some managers might not have the resources to maintain productivity, and some managers might not have the experience or education to understand the resources necessary to alter a supply chain design to help reduce cost. Likewise, a manager's challenge is ensuring the company has a diverse structure of suppliers who provide opportunities to use business operations that will meet the needs of consumers when a disruption occurs (Bensik & Nagurney, 2017; Mizgier, Wagner, & Juttner, 2015; Ocicka, 2016).

Supply chain managers may want to consider what critical factors that can assist with business operations because asking questions such as how supply chain managers

can cultivate relationships to sustain productivity during a disruption might help with managing product demand. Supply chain managers may want to exemplify new ideas and increase knowledge sharing while implementing procedures that distinguish between challenges and obstacles to predict potential issues to benefit the supply chain needs of a company.

### **Supply Chain Disruptions**

Supply chain disruptions cause stakeholders millions of dollars each year and are unpredictable. Some managers do not have the necessary experience to implement a strategy during an interruption. Equipment may malfunction and cause managers and team members to work long hours to meet the quota for the day, which leads to increased expenses such as overtime pay. Supply chain disruptions are unexpected circumstances that may occur within a logistical network that may interrupt the natural flow of business (Bode & Wagner, 2015). Some disturbances such as earthquakes may cause some managers to rethink their strategies.

There are instances when people do not understand the ramifications of supply chain disruptions within supply chain networks. Supply chain disruptions consist of risk factors related to occurrences in production inventory and supply chain systems (Ali, Rahman, Tumpa, Rifat, & Paul, 2018; Han & Shin, 2016; Paul et al., 2016). Risk factors are critical for every field of supply chain management because disruptions happen in every area of supply chain networks. Therefore, managers acquire insight about what products are affected during a disturbance and use models, scenarios, or policies to render solutions that can improve proficiency.



**Introduction of ideas.** Scenarios and policies are influential tools because managers must understand how to incorporate and adopt developmental strategies while responding to a disruption such as an earthquake or a flood. Paul et al. (2016) presented the imperfections in supply chain inventory and explained why maintaining inventory is important to prevent supply chain disruptions in organizations. However, supply chain managers can formulate models and ideas to evaluate supply chain risks that can assist with production-inventory management during disruptions while allocating resources to improve stability and planning within a company (Han & Shin, 2016; Paul et al., 2016). During some stages in supply chain disruptions, managers can incorporate solutions that can provide a comparison between cost and effect analysis about how to reduce interruptions.

Managers may seldom confide in individuals in a supply chain network. Developing strategies such as knowing when to source products to reduce transportation cost can essentially create a generate a balance scorecard during a disturbance where resources are restricted during a disruption. Supply chain managers should understand what stage of production prevents an organization from reaching optimal capacity and develop a structure to minimize supply chain disruptions and reduce productivity loss (Han & Shin, 2016; Kamalahmadi & Parast, 2017; Paul et al., 2016). However, comparing models and analyzing data might not be the only way for managers to decrease supply chain disruptions. Managers might want to have an alternative supply source that can help to reduce the impact of a catastrophic event or that can concentrate on a single sector within a business.

Some researchers have focused on models that allow leaders make joint decisions to help a company prosper and increase productivity during a disruption. Paul et al. (2016) explored a specific model known as economic production quantity (EPQ) that suppliers and leaders can use to develop procedures to reduce supply chain disruptions. Paul et al. discussed using the EPQ model to determine the different stages of how to alter the decision-making process when combating supply chain disruption. Managers who implement an EPQ model can follow step-by-step instructions to mitigate a disruption while maintaining productivity because some people do not effectively communicate information when exploring differences during a disturbance.

Therefore, sustaining production is a process where managers and leaders should understand supply chain risk and ensure significant disruptions do not affect goods and services that will further reduce profit for the organization (Clemons & Slotnick 2016; Kamalahmadi & Parast, 2017; Paul et al., 2016). Vendors seldom know what to expect when supply chain managers do not know how to fulfill inventories when a disruption occurs, and using models such as EPQ can help maximize productivity during a disruption.

**Developing standards.** Although supply chain disruptions are unavoidable, some leaders who do not have the financial capabilities to predict disruptions, therefore must develop policies and standards to address potential issues such as earthquakes, equipment breakdown, or power outages. Supply chain managers must gather resources to implement programs that will provide confidence among team members when a supply chain disruption occurs (Clemons & Slotnick, 2016; Han & Shin, 2016).

Developing communication between suppliers, leaders, and customers is a tool that people should continue to improve because understanding behavior traits often allows people to use potential strengths that will be suitable for helping each other. Schmitt et al. (2017) discussed an ordering system within supply chain networks that can coincide with customer satisfaction. Customers want to ensure managers meet their needs and may not understand the underlying issues occurring during a disruption. Customers also want to feel a sense of security, and leaders can assist with discovering strategies while implementing a support system that provides clarity among consumers.

Implementing a customer support system during a disturbance might help limit the number of complaints and improve customer loyalty. Using a simulation model such as an event simulation can examine supply chain disruptions using various scenarios within an ordering system (Schmitt et al., 2017). Schmitt et al. (2017) further explained each element of the ordering system that will allow customers to understand the development stages of supply chain disruptions.

Within Schmitt et al.'s (2017) article were concerns about specific steps involved in running a post hoc test that show the differences related to fundamental issues within ordering systems during a supply chain disruption. Developing ordering systems, implementing strategies, and creating policies only offer some solutions, but some consumers may want an exclusive brand when a disruption occurs. Therefore, some store managers may consider product substitution as a strategy because of product availability, but satisfying the needs of the consumer is an important element that can help during supply chain integration.

## **Supply Chain Integration**

Supply chain integration is an essential aspect of supply chain disruption. Customer and supplier interaction helps mitigate supply chain disruption because understanding how to limit challenges and obstacles in a supply chain system can improve supply chain integration. For example, integrating supply chain networks is a unique part of how some managers anticipate analytical differences at various levels in supply networks. Supply chain managers might not have experience integrating supply chain networks. However, supply chain managers who can formulate and communicate ideas can also help analyze differences among individuals within the supply chain system. The focus of supply chain integration is processes and procedures to help leaders maintain relationships with suppliers, managers, and consumers (Qi, Huo, Wang, & Yeung, 2017).

The relationships developed by suppliers and manufacturers affect performance measures among team members, leaders, and consumers. Stabilizing relationships can help managers differentiate themselves to gain a competitive advantage to articulate ideas without jeopardizing the supply chain system (Giri & Sarker, 2017; Qi et al., 2017). Sharing information with suppliers to retain relationships is a fundamental element of decision-making among individuals within a corporation, in addition to establishing guidelines that will develop strengths and limit weaknesses within the firm (Ataseven & Nair, 2017; Moyano-Fuentes, Sacristián-Díaz, & Garrido-Vega, 2016; Seo, Dinwoodie, & Roe, 2016). At the forefront of mitigating supply chain disruption, supply chain integration assist managers with financial performance through multiple suppliers while

embedding strategies with customer integrated practices to analyze performance within supply chain networks. Leaders within the logistical industry should understand how supply chain integration can benefit the labor force through strategic and financial development.

**Using supply chain integration.** Supply chain managers can attain a competitive advantage through integration. Creating an effective strategy involves simplifying data that may change some supply chain structures. For example, using technology such as radio-frequency identification (RFID) can improve the transportation of goods during an interruption. Moreover, supply chain managers must acknowledge each element within a company regarding productivity loss and labor enhancement that will ultimately reduce productivity loss (Bruque-Cámara, Moyano-Fuentes, & Maqueira-Marin, 2016). Some managers in firms might not have strategies integrated into everyday activities, but examining the potential benefits associated with financial performance can reveal outcomes that influence relationship performance among people.

Individuals within a supply chain network can use dimensions such as improving customer service while addressing possibilities to coordinate managerial functions to benefit internal and external relationships. Bruque-Cámara et al. (2016) discussed the importance of sustaining relationships while seeking continuous development within supply chain integration. Therefore, leaders, managers, and team members must continue to develop supply-related relationships that focus on supply chain integration to help minimize productivity loss. Reduced inventory, rising costs, and inflated prices are obstacles supply chain managers face from an unexpected occurrence. Conforming to the

structure of a business is a challenge (Ataseven & Nair, 2017; Bruque-Cámara et al. 2016). Customers seldom care about the challenges supply chain managers encounter during a disruption.

**Incorporating supply chain integration.** Some managers might claim there are solutions to avoiding an unexpected disturbance, but managers and team members need to focus on ideas that can improve operational performance for customers. Nonetheless, supply chain integration can also help managers build a foundation that will reduce productivity loss and assist with customer integration while increasing workers' productivity (Wiengarten et al., 2016). For example, focusing on multiple strategies can influence how some managers would choose an approach as opposed to one method to mitigate supply chain disruption. Managers in logistical industries should continue to develop strategies while encouraging customer interaction among suppliers and manufacturers because having stability during a disruption can build customer loyalty and augment brand image.

Utilizing supply chain integration may allow leaders to understand why disruptions may occur along with determining a strategy that will help managers convey a plan to reduce cost and increase profit. Furthermore, minimizing supply disruptions is an enduring problem and leaders must continue to evaluate the use of supply chain integration. Some managers might augment value from a potential strategy and conclude that the dynamics suit the situation. Every situation is different, and some managers may choose a solution because of prior experience or knowledge. For instance, some managers in convenient stores might prefer to conduct business in a local area to establish

customer loyalty. Likewise, another manager might consider expanding to other regions because of previous business relationships. Each strategy is different, but might yield the same results because the goal is to satisfy the needs of consumers during a disruption.

Supply chain integration is not only a process that involves developing an alignment of operations, but it also includes the development of information that will help managers improve their process. Supply chain integration is a partnership that allows customers and suppliers to continue the innovation of products and services (Wiengarten, Humphreys, Gimenez, & McIvor, 2016). Developing and implementing policies that adhere to standards can help reduce supply chain disruptions, but ensuring continuous development and education while creating recommendations is vital to sustaining relationships with suppliers and customers.

Managers and leaders should assess a situation and determine the best course of action. Implementing a strategy that involves accommodating the development process within a company might help some people respond to changes. Supply chain managers should combine resources to advance the structure of an organization while sharing knowledge during each phase of a disturbance (Ataseven & Nair, 2017; Bruque-Cámara et al., 2016; Wiengarten et al., 2016). Even though some people might not understand the impact of a supply chain disruption, integrating ideas among individuals can help potential expansion and future development of resources. Managers and leaders within supply chain networks can employ policies and procedures to restore the decision-making process while combining resources that will help improve customer satisfaction.

## **Supply Chain Management**

Supply chain management uses goods and services within supply chain networks to help managers communicate and evaluate potential issues to minimize cost and improve productivity. Gawankar, Kamble, and Raut (2017) explained the importance of developing relationships between supply chain management practices and supply chain performance measurement. Gawankar et al. conducted a literature review regarding how people should follow procedures and strategies to obtain a competitive advantage within the logistical industry. Gawankar et al.'s literature review included traditional measures such as supply chain integration, supply chain flexibility, efficiency, quality, responsiveness to customers, and product innovation.

Moreover, some managers can collaborate within a logistical network by establishing standards that can influence the involvement of moving goods from multiple destinations to meet the needs of consumers. Managers who recognize the traditional measures and continue to develop strategies can establish relationships between suppliers to help further supply chain management practices and supply chain performance measurement. Supply chain programs can yield substantial benefits in developed countries, thereby allowing managers to understand the importance of supply chain management through a variety of applications (Avittathur & Jayaram, 2016; Laihonon & Pekkola, 2016). Ensuring continued productivity during a disturbance is essential because increasing awareness among suppliers and consumers can assist managers with maximizing internal and external processes while optimizing operational procedures that can lead to lower costs and can predict potential supply chain disruptions. However,



some managers may not understand the importance of how supply chain management practices may help improve the efficiency of a business, but knowing what factors are needed to reduce costs can help educate people within the corporate structure to reduce supply chain disruptions.

**Improving productivity.** Managers want to reduce cost and increase productivity while establishing performance measures that can help mitigate supply chain disruptions through supply chain management. Laihonen and Pekkola (2016) conducted a single case study that included semistructured interview questions regarding the perceptions of performance measurement systems. The interviewees included a sales director, a sales manager, an area sales manager, a financial director, a chief executive officer, a production director, and eight owners. Laihonen and Pekkola's data showed that supply chain information is an integral part of providing information to customers and thereby allowing suppliers to develop long-term relationships. However, the performance measurement systems are a strategy that will enable individuals to focus on the importance of improving productivity during a disruption because of leading performance indicators that establishes a baseline within a supply chain network.

Managers can identify obstacles within supply chain management such as using multiple systems to achieve the same goal that might hamper the abilities of strategic movement in a company. For instance, using outdated technology can hinder business strategies within supply chain management and not meet the needs of consumers during a disruption. Laihonen and Pekkola (2016) discussed the importance of monthly meetings among managers because people who understand performance measurement systems will

trust the decisions made by individuals within the organization. Constant communication among people within a supply chain network will sustain productivity and increase profits within supply chain systems.

Supply chain management serves to enhance the ability to satisfy the demands of customers. Ensuring global efficiency and reinforcing supply chains provide individuals with opportunities to understand the benefits of supply chain management practices. Supply chain managers at various levels seldom communicate with each other within supply chain networks to enhance organizational performance while reducing productivity loss (Avittathur & Jayaram, 2016; Fernandes, Sampaio, Sameiro, & Truong, 2017). Some managers do not have a contingency plan for natural disasters or human-made disasters because their management practices do not coincide with individual performance to affect stability while providing leadership to limit the burdens within the company. Contingency plans are essential for leaders to establish standards that can satisfy customer requirements during a disruption because supply chain managers have a vital role of providing opportunities while providing insight to solve potential issues that may occur.

**How to sustain productivity.** Supply chain configurations are an essential part of allowing consumers to voice their opinions on wanting high-quality products. However, some supply chain leaders only see the profit margins and do not think about potential hazards that may cause customers to look elsewhere. Leaders must provide consumers with the highest quality of products to help sustain productivity (Macchion, Fornasiero, &

Vinelli, 2016). Supply chain management may differ in each country, but the importance of satisfying the needs of customers during a disruption does not change.

Supply chain programs such as lean management, where managers express the importance of investing in technology, can help the development of emerging economies (Avittathur & Jayaram, 2016). Specifically, managers who utilize such programs can examine supply chain issues and strategies that will help other managers and leaders in developing countries strengthen their growth within emerging economies can stabilize a supply chain network. Supply chain managers can use other management tools such as quality management to improve customer satisfaction and supply chain technology to help increase productivity within the workplace. Managers who comprehend the potential benefits associated with supply chain management while collaborating information within supply chain networks can potentially leverage resources related to consumer demands during a disturbance.

### **Supply Chain Networks**

Managers often have an underlying problem regarding policies and procedures because individuals have different ideas about how to sustain operations related to a supply chain failure. Some consumers may not understand the underlying reasons such as transportation delay or a manufacturer recall because some leaders do not implement policies to minimize disruptions. Equipment malfunctions that cause a decline in productivity or using a different supplier in the event of a natural disaster can delay the distribution of goods to consumers. Supply chain disruptions seldom affect leaders

within firms (Ivanov, Pavlov, Pavlov, & Sokolov, 2017; Kamalahmadi & Parast, 2017; Yu, Li, & Yang, 2016).

Supply chain managers need resources such as keeping a stockpile inventory, having backup suppliers, or ordering processing tools to compete within supply chain networks because the element of success is about gaining a competitive advantage within an industry while increasing customer brand loyalty. Likewise, educating individuals about how to establish relationships with consumers will help improve the image of a company. There are instances when a person wants to collaborate with suppliers to understand why goods are not available. Some consumers might not have the patience because of time constraints or might lack information provided by supply chain system leaders. Communicating with people while pioneering systems to assist with operational capabilities can enhance consumer satisfaction to reduce potential supply chain problems.

**Leader interaction.** Some consumers are unable to rely on logistical processes because of relationships with suppliers that often lead to poor service to consumers. Moreover, the profitability of system performance regarding products and services is essential for managers seeking help from internal and external resources. Busse et al. (2016) indicated that some leaders do not understand the value of having various mechanisms such as technology that will help providers use and develop a framework to combat supply chain disruption. Hence, everyone within a supply chain network must interlock their ideas while formulating plans to help customers understand why goods and services are not available. Therefore, supply personnel must understand the ramifications

of potential supply chain disruptions because outside firms might help supply chain managers with the resources needed to resolve the issue.

Supply chain managers can resolve some issues by using a two-step model. Supply chain managers should develop a two-step model to help with decision-making processes when an issue occurs (Chen et al., 2016). The two-step model is a system in which individuals will create solutions in two phases; hence, customer interactions might depict how new ideas can substantiate the value of resources among individuals while receiving feedback from each other.

Similarly, people might not understand why some disruptions limit the abilities of suppliers to satisfy the needs of customers. Consequently, supply chain partners might seek advice from individuals who experienced a disruption to gain an understanding of how to mitigate a disturbance. Supply chain management is becoming a global issue within the supply chain network (Eskandarpour, Dejax, Miemczyk, & Oliver, 2015). Supply chain managers must continue to develop plans strategically to help combine supply chain networks with various disciplines such as strategy, logistics, and operations research.

**Developing solutions.** Managers need to provide robust solutions that can reduce potential disruptions such as having flood insurance for unexpected circumstances like a hurricane, machine breakdown, gas explosion or an earthquake. Leaders, supply chain managers, and team members need to collaborate to render solutions for issues that might occur in the future. Supply chain managers could develop a multiple-period planning horizon conducted in phases that are essential to improving a system within a company,

because the system will allow incoming supply chain managers to understand the mentality of the business (Fattahi, Govidan, & Keyvanshokoo, 2017). Likewise, managers who know the scope of a problem can use systems that coincide with the data collected. Supply chain managers need to understand various essentials such as an alternate supplier or potential strategies that can strengthen reliability for providing services to customers during a disruption.

Developing mitigation and contingency strategies will help improve productivity and reduce underlying issues such as natural disasters that can cripple an entire nation. Supply chain disruptions are affecting every area of production globally because of manmade disasters and natural disasters such as terrorist attacks, tsunamis, earthquakes, and fires (Chen et al., 2017). Building relationships within supply chain networks is essential because developing a robust foundational system helps with resiliency and collaboration among supply chain systems (Chen et al., 2017). Leaders and managers must consistently communicate and engage supply chain strategies. Planning for a supply chain disruption is sometimes not realistic because supply chain disruptions can occur at any time, and individuals must adapt while formulating opportunities that will reduce the supply chain disruptions.

Supply chain networks are evolving globally, and supply chain managers need to understand the benefits of developing logistics in supply chain networks. A stronger supply chain network can help reduce supply chain disruptions through a comparison of concepts and by providing communication. Developing a stronger supply chain network might not solve all the problems associated with supply chain disruptions, but developing

relationships and acquiring knowledge can help reduce potential problems. Kramarz and Kramarz (2015) discussed knowledge management regarding issues related to managers and leaders not understanding their role during a supply chain disruption. Some managers and leaders do not understand their part in their companies when a disturbance occurs. Likewise, team members need to assess a situation, determine the best course of action, and implement a strategy that will give consumers a sense of security.

### **Supply Chain Performance**

Supply chain performance often relies on the abilities of managers to enrich and build a foundation that will determine how individuals might succeed during a disruption. However, performance measures are also an essential concept for managers to evaluate the prospects of what an organization needs to improve operational standards.

Performance measures are an integral part of an organization, and supply chain managers must assess every aspect within a company to establish and implement strategies that will avoid future disruptions (Balfaqih, Nopiah, Saibani, & Al-Nory, 2016; Birkie, Trucco, & Campos, 2017; Chang et al., 2016). Supply chain managers must convey activities such as continual communication to ensure all team members understand their role within the supply chain network. However, supply chain managers must continue to build trust among supply chain partners because of unexpected disasters by combining ideas that will help each other during a disruption.

Individuals within companies can combine ideas that will help develop standards while forming techniques within the supply chain performance system. Balfaqih et al. (2016) provided a case study of how some managers can use performance measures and

metrics to enhance supply chain performance. In addition to the 83 articles collected, Balfaqi et al. determined the four essential perspectives of performance are efficiency, flexibility, responsiveness, and food quality. Other tools used included a balanced scorecard to evaluate the performance and the internal business process. Suppliers and researchers who are looking for performance criteria to measure the effects of innovation and distribution of products and services can rely on a balanced scorecard system.

**Developing relationships.** Using a balanced scorecard system to assist with supply chain performance is an essential part of mitigating supply chain disruptions. Customers are the foundation of business, and during a supply chain disruption, constant communication is the key to success for any company. People can rely on experiences, but developing strategic relationships is also a component to help business leaders succeed. Improving quality and performance is an asset for a strategic alliance while looking at the structural foundation of business (Giri & Sarker, 2017). Consumers seldom understand the reasons for supply chain disruptions, but to optimize performance, supply chain partners must ensure performance factors are reliable, efficient, and flexible, thereby encouraging growth.

Managers who use third-party logistical services such as outsourcing goods or services want to develop standards that will have an impact on supply chain relationships. Supply chain managers must also examine relationships with suppliers to ensure they receive goods in the event of a disruption occurring. Tarafdar and Qrunfleh (2016) studied connections within a supply chain network to understand the types of behaviors associated with customer and supplier relationships. Tarafdar and Qrunfleh received 205



responses from 3,129 questionnaires with a response rate of 6.6% from supply chain professionals that included vice-presidents, senior managers, and logistical managers.

Tarafdar and Qrunfleh (2016) used a chi-square test to analyze the different responses received that included a nonresponse and common response bias method to evaluate the responses received from 205 participants. Tarafdar and Qrunfleh inquired about the significant value relating to essential aspects of developing strategies that can aid supply agility and performance. Managers must continue to develop a strategic plan by using performance tools, such as supplier management, cloud or demand forecasting that will help bridge the gap between suppliers and customers to help strengthen business operations while working towards a common goal, minimizing supply chain disruptions.

**What strategy to use.** Performance tools such as a cloud can help managers determine what is needed to embrace productivity during a disruption while sustaining a competitive advantage. The cloud can serve as a platform that contains information about areas such as supply chain planning, inventory management, and statistical analysis and can help supply chain managers focus on system processes while reducing functional and operational efficiencies. Managers must ensure each stage of the platform has individuals who can distribute a portion of knowledge among individuals in the workforce. The collaboration involved in exploring different practices to develop different analogies might be an area through which to minimize productivity loss during a disturbance.

In addition to exploring different practices, supply chain managers must develop a performance tool for evaluating procedures and implementing strategies within the

inventory system that will improve supply chain performance (Balfaqih et al., 2016; Qi et al., 2017). Supply chain managers must also consider what decisions are beneficial to a firm to improve performance. Not all ideas coincide with the values of a business because some managers might have an alternative way to enrich organizational performance. Developing procedures to reduce supply chain disruptions is a task that needs precision to meet the demands of customers while creating an environment that will enhance brand image during a disruption.

Brand image is significant in connecting supply chain networks because leaders want to have an action plan incorporated with supply chain performance. Each method might have stages where individuals can analyze data during a disruption. Ivanov, Pavlov, Dolgui, Pavlov, and Sokolov (2016) used a mathematical model for which the methodology had three stages: development, computation of the supply chain plan, and determining the significance of supply chain performance with regards to resilience. Based on the data, Ivanov et al.'s results showed how each component relates to the automotive industry, where cost indicators such as transportation cost teach managers how to increase the stability of managing supply chain performance during disruptions.

Ivanov et al. (2016) described what management could use to look at the structural changes that could lead to exponential contributions while showing the impact of supply chain performance and resilience. Supply chain resilience and performance are essential because people need to understand what information is available to provide a solution within supply chain networks. Supply chain disruption is an element that needs people to work together to sustain productivity during an occurrence. However,

developing supply chain performance in a company is beneficial for future studies because using a supply chain plan analysis can assist managers with supply chain disruptions. Therefore, managers who scrutinize supply chain plans can determine the effect of supply chain disruptions because of uncertainties such as fluctuating prices and increased demand for goods and services.

### **Supply Chain Risk Management**

Supply chain managers have a social responsibility to predict potential disruptions because risk management is becoming an essential part of analyzing future disturbances. The process of evaluating supply chain threats can help provide an overview to managers within supply chain networks while improving supplier communication that is coherent to efficient supply chain risk strategies. Managers can offer insight to leaders about how to maximize and sustain productivity when a disturbance occurs. Ho, Zheng, Yildiz, and Talluri (2015) conducted a literature review that included 224 journal articles with publication dates ranging from 2003 to 2013 in which the researchers focused on the aptitude of supply chain risk management (SCRM). Developing an infrastructure is an essential component of business because managers must take the responsibility to understand the potential risk associated with not having an operational plan to evaluate SCRM.

Business leaders who know their business is subject to earthquakes each year must ensure they have the necessary insurance to cover damages. Business leaders can either build an infrastructure that can withstand structural damage or relocate the business. Kauppi, Longoni, Caniato, and Kuula (2016) also conducted a literature review

in which they combined primary and secondary data from the 6th edition of the 2013 International Manufacturing Strategy Survey that involved 22 countries. The information collected had a significant impact on the internal and external procedures of how managers can adapt to SCRM and the statistical analysis showed how different variables such as supplier integration can provide stability while facing a combination of supply chain disruptions. The results of the study showed different communication strategies managers can use to help mitigate supply chain disruptions, along with integrating and educating individuals about practical communication skills to help with SCRM.

**The impact of SCRM.** Communication is an effective strategy to enable SCRM because managers want to ensure disruptions such as transportation cost do not have a significant effect when they occur. Leaders or managers must continue to provide ongoing SCRM to classify how to increase consumer expectations following a supply chain failure. Managers can combine resources that can help with financial cost, such as geographical knowledge, to determine how to monitor systems that can coincide with faster recovery times or how to develop contracts among suppliers to help sustain profits during a disruption. Ho et al.'s (2015) five primary risks associated with SCRM are demand risk, manufacturing risk, supply risk, manufacturing risk, and infrastructural risk. Each risk is an element for which leaders must evaluate the potential side effects that correspond to the financial status of the business.

In addition to exploring possible side effects, managers must adapt to changes that may occur because situations are different. Optimal performance enhances operational procedures within a company. Individuals might not understand the benefits of

integrating policies and procedures that might help minimize potential disruptions (Kirilmaz & Erol, 2017). Managers might not have the answers for SCRM, but integrating ideas while enhancing concepts or standards can show different outcomes.

Managers need to combine ideas while investing time to meet the demands of consumers during a disruption while focusing on improving management systems to alter SCRM. Moreover, employing managers who have prior experience and know the best strategy needed during the preliminary stages of a natural disaster is an asset for SCRM. Supply chain managers should be proactive instead of reactive (Kirilmaz & Erol, 2017; Revilla & Saenz, 2016). Supply chain managers who are not active stand the risk of increasing the cost of a disruption when it occurs. Kirilmaz and Erol's five stages of risk management are risk measurement, risk evaluation, risk mitigation, risk identification, and risk monitoring and control.

Each stage serves as an opportunity for managers to configure their strategic plan to help build an efficient supply chain management system that assists managers with operational risk when a disruption occurs. Operational risk occurs when there is a lack of communication between managers and consumers (Kirilmaz & Erol, 2017). Managers can utilize strategic tools such as a SWOT analysis to show the strengths, weakness, opportunities, and threats of SCRM within a managerial framework to assess' potential issues that may occur during a disruption.

**The impact of an effective strategy.** Providing strategies such as customer relationship management as a comprehensive tool can reinforce supply chain resiliency toward SCRM. Mentoring individuals within an establishment can be a focus of

developing supply chain resiliency. For instance, individuals may want to brainstorm about ideas to enhance supplier quality by having primary and secondary suppliers. Rao, Xiao, Goh, Zheng, and Wen (2017) discussed an evaluation system for supplier selection that consists of eight tables containing potential methods used to evaluate supplier risk. The risk level associated with suppliers tempered toward how suppliers may emulate potential disasters and interact with technology while developing relationships with consumers. Thus, formulating a plan that can help with lowering potential risk while using technology such as tracking devices or monitoring systems to verify a driver's location.

Managers must change with technology to help develop new products to meet the demands of customers (Rao et al., 2017). Kirilmaz and Erol (2017) discussed a similar process such that managers must have the competency to evaluate what strategies are necessary during a disruption with changing technology. However, Rao et al. and Kirilmaz and Erol indicated that everyone is not technology literate, and some people learn differently and might not want to educate themselves about technology innovation. Technology is an excellent tool, and if used efficiently, technology can help managers curtail productivity during a disruption and minimize supply risk by addressing potential issues that can lead to a single focal point that assists with innovative product strategies.

Supply chain risk management is a part of all businesses within logistics, regardless of size, and managers must have strategies to combat supply chain disruptions, identify the approach needed, and devise a plan to meet the needs of consumers when a disturbance occurs. Sharma and Sharma (2015) presented a Bayesian network pragmatic

tool for assessing supply chain risk data. Sharma and Sharma collected data from supply chain managers who worked in the field of logistics, quality and finance, production, and various supply entities in the automotive, textile, and aviation industries.

Sharma and Sharma (2015) used the Delphi technique to analyze the responses from questionnaires. The Bayesian network is a technique researchers use to analyze information from different sources while considering variables with real-time situations. Supply chain risk management is complex, and exploring various avenues can help identify pitfalls and can help build a foundation to increase financial performance. Future researchers could use an interactive multiple-attribute and multiple-source e-procurement system to help managers identify the stages while offering appropriate goods to customers (Rao et al., 2017). Researchers must continue to develop literature or mentoring programs to help sustain productivity and limit SCRM.

### **Supply Chain Strategies**

Strategies are becoming an influential part of everyday operations because managers must form strategic supply chain relationships. Managers who develop relationships can gain a competitive advantage that can influence change among customers. Therefore, managers must understand the benefits of implementing a procurement strategy that will help reduce cost. Managers use supply chain strategies to reduce costs while improving customer satisfaction without disrupting services (Kilubi, 2016; Zeng & Yen, 2017). However, customers want to understand the implications for introducing supply chain strategies. For instance, customers want their needs meet, and

managers should leverage their ideas about sustaining productivity to improve customer satisfaction.

The use of supply chain strategies within companies will mitigate managers and leaders lack of understanding how to mitigate supply chain disruptions while optimizing supply chain strategies and performance among team members (Kilubi, 2016).

Therefore, the organizational performance of the leaders and managers within companies must establish a foundation to solidify and abate external threats to provide stability within the businesses (Kachaner, King, & Stewart, 2016; Kilubi, 2016). Some managers might want to decipher information that can help within other areas of a business, but managers must address situations that can alter a customer's perspective about supply chain disruption.

Supervisors would benefit from addressing specific situations related to supply chain disruption. Changing a customer's attitude about not receiving goods during a disruption will develop brand image and address some situations like identifying the needs of consumers during a disturbance. However, supply chain managers within a company who continuously focus on reliability and quality while addressing distinctive phases can address specific needs of customers such as capacity constraints or responding to technology changes (Kilubi, 2016). Nevertheless, managers must demonstrate the ability to implement an effective strategic supply chain program that they can use to improve and analyze all departments within a business (Kachaner et al., 2016; Kilubi, 2016).



Lee and Rha (2016) conducted a field survey that targeted 1,651 individuals to answer questions about supply chain strategies and the dynamics needed to sustain business performance and increase profit. Lee and Rha focused on the importance of maintaining supply chain strategies within a company and reducing supply chain disruptions from 316 responses. The study included two manufacturing firms in South Korea and involved a pilot survey and a nonbiased test. Supply chain managers must focus on strategies that will maintain inventories during an interference, the use of technology can help solve some of the current situations within supply chain disruptions (Lee & Rha, 2016). Issues that may occur within supply chain networks may not have a strong foundation on which to sustain productivity. Hence, managers will want to discuss programs that can help combat some issues related to supply chain disruption.

Strategic supply chain programs such as lean management and adaptability yield substantial benefits in developed countries (Avittathur & Jayaram, 2016). Ideas developed among leaders within supply chain programs might not lead to continual product development, but merging ideas with programs such as lean management might help managers and team members focus on policies and procedures. For instance, managers can use technology to help companies gain a competitive advantage. The introduction of such programs in developing countries has had an impact on growth and has led the logistical industry to transform (Avittathur & Jayaram, 2016). Supply chain managers must convey ideas to mitigate supply chain disruptions and develop strategies that will allow managers in developing countries to use technology to assist with continuous development.

Developing programs such as lean management using technology has the potential to give managers the stability to sustain development in developing countries. Therefore, allowing supply chain managers in developing countries to develop a strategic vision for their business can minimize supply chain disruptions (Avittathur & Jayaram, 2016; Kilubi, 2016; Zeng & Yen, 2017). Laying the foundation using technology is a supply chain strategy that managers can use to improve the reliability of services during a disruption. For instance, people can use two-way communication phones during a natural disaster to send signals to help distribute goods to areas that are most affected.

Supply chain managers must use infrastructure to explore opportunities that will assist each other within a supply chain network (Avittathur & Jayaram, 2016). Some managers may stress the importance of profit margins, but the distribution of goods is affected during a disruption. Therefore, managers must have strategies such as a backup supplier, diverse supply base, or stockpile inventory. Each strategy during an unexpected disaster is important, and supply chain managers in organizations must have possibilities that will minimize supply chain disruption risk (Lee & Rha, 2016; Sarkar & Kumar, 2016). There might be instances when individuals try to combat an issue by using other operational diagnostic tools to help solve a problem, but understanding the potential risk of not having an alternative supplier is a matter some managers may want to address.

Supply chain disruptions are mostly about not receiving products at a scheduled time because of unforeseen circumstances such as a natural disaster, transportation delays, product recall, or a terrorist attack. Farahani, Shavandi, and Rahmani (2017) discussed an Economic Order Quantity (EOQ) model that shows different variations of

certain parameters that supply chain managers will use to develop an idea of why disruptions occur. Farahani et al. provided scenarios within the model that facilitated the probability of consumers not receiving goods during a disturbance. When a disruption occurs, managers should still be able to deliver services to customers using available products (Farahani et al., 2017), but the element of strategy is about providing customer service, developing future research to analyze data to combat the problem, and developing solutions within the supply chain system (Farahani et al., 2017). Managers who align strategies within companies might not render solutions that will help customers; however, people must also consider educating themselves about supply chain strategy.

Researchers must consider how to contribute to unusual situations while avoiding potential risk with disruptions that may occur over time (Farahani et al., 2017; Urciuoli & Hintsa, 2016). The element of success is not a 1-day solution, and supply chain managers must connect with other suppliers by formulating a plan beneficial to the supply chain network (Farahani et al., 2017). Different elements in supply chain strategies may not always have solutions, but managers must monitor disruptions to develop solutions that may help other suppliers improve their supply chain strategy and strengthen stability within the organization.

### **Supply Chain Sustainability**

Implementing strategic goals and functional goals can influence stability within a supply chain environment. Supply chain managers seldom take the opportunity to clarify underlying issues among leaders, team members, and consumers. For instance, lack of

communication and awareness about pursuing sustainable goals to enhance the development of an organization. Supply chain sustainability is an effective strategy in which managers develop a business bottom line, thereby applying and imposing sustainable strategy to enable leaders, managers, and team members to acquire and account for cost during an unexpected occurrence (Giannakis & Papadopoulos, 2016; Kilubi, 2016). Managers might not understand the importance of implementing strategic goals and functional goals to enhance opportunities available within the industry.

Some managers are comfortable with supply chain decisions made by stakeholders, but progressing within the industry to achieve success is also essential because strategical and internal relationships influences the effectiveness within a supply chain network. Giannakis and Papadopoulos (2016) indicated that supply chain managers' responsibilities have compounded within the industry because of high expectations from customers who want goods immediately. Future researchers may provide opportunities to explore data from other industries within supply chain networks. Managers must facilitate technology such as Just in Time to help limit and maintain supply chain sustainability during a disruption.

Paul et al. (2016) discussed risk factors in product inventory and supply chain systems. Giannakis and Papadopoulos (2016) and Paul et al. (2016) formulated models and ideas to aid with production-inventory management when a disruption occurs. For instance, some managers do not understand the production process, ways to evaluate a potential disruption, supply chain risks, and ways to recover from a disruption.

The EPQ model shows how reducing supply chain disruptions in organizations leads to an increase in maximum production time. Supply chain sustainability relates to social responsibility, which may impose unethical behavior and lead to disorders in supply chain operations (Giannakis & Papadopoulos, 2016; Paul et al., 2016).

Understanding supply chain sustainability is complicated, but leaders and managers must ensure potential disruptions do not affect goods and services that can further reduce profits for an organization. Developing supply chain sustainability within a firm can help minimize disruptions in supply chain operations when supply chain managers and leaders implement policies that can improve mechanisms. Therefore, helping managers cultivate a structural foundation can help with the shortage of materials during a natural disaster such as an earthquake or any other disruption that may reduce productivity loss.

Social responsibility is an essential element that should align with a company's strategic direction to reduce and control aspirations that might coincide with product enhancement. Giannakis and Papadopoulos (2016) conducted a study that involved 30 companies located in the United Kingdom and France. Giannakis and Papadopoulos sampled the supply chain managers chosen using a snowballing technique that consisted of a survey and 600 certified senior supply chain professionals. The interview questions were structured face-to-face interviews that consisted of two managers from textile companies located in the United Kingdom and France. The data analyzed showed the potential risk of using a numerical scale from 1 to 7. Each stage explained the degree to which managers should detect vulnerability within a company when an issue occurs. The findings from the risk assessment and analysis revealed some concerns about

noncompliance with sustainability laws, greenhouse gases, pollution, and natural disasters.

Giannakis and Papadopoulous (2016) discussed the impact of maintaining sustainability during a supply chain disruption in which the element of success was increasing individuals' awareness of the effects that surround financial concerns. Identifying assessment analysis and monitoring potential risk can help individuals reduce the probability of a substantial risk occurring, and therefore avoid considerable related risk, decrease cost, and improve consumer gratification.

Leaders, managers, and team members who apply and impose sustainable strategies can maintain supply chain sustainability while presenting the importance of coordinating and implementing actions that can assist with aligning methods and policies. Wolf (2014) collected data from 1,621 organizations that showed influential factors about maintaining supply chain sustainability, the information gathered showed managers should use a proactive approach when challenging ideas to solidify supply chain sustainability. The importance of supply chain sustainability can allow some managers to cultivate opportunities that can lead to effective practices of maintaining interest in building a foundation to improve strategies within a firm.

Supply chain sustainability consists of multiple sectors that supply chain managers can use to plan, coordinate, and implement actions regarding internal resources to sustain a competitive advantage (Giannakis & Papadopoulous, 2016). Managers must identify which strategies are feasible when trying to attain sustainable goals. However, managers must understand the risk factors involved when trying to maintain relationships

during a disruption. Supply chain sustainability is not an individual concept but a team effort, and managers, team members, and leaders must continue to educate themselves about the probability of what can happen and have a plan that will sustain productivity and increase profit while enhancing performance.

### **Supply Chain Technology**

Supply chain technology has become an integral part of the global economy, and managers must understand how to diversify their actions to become a competitive force within supply chain networks. Managers have used supply chain technology to realize the benefits of implementing technology to sustain productivity during a supply chain disruption to improve brand image. Also, supply chain technology emphasizes the benefits of allowing leaders, managers, and team members to create value to help transform phases of disruptions that can increase efficiency, improve customer relationships, and reduce cost (Kwak, Seo, & Mason, 2018; Liu, Prajogo, & Oke, 2016; Qi et al., 2017). Leaders, managers, and team members use supply chain technology to select goods and services that are essential to consumers in real time while improving customer relationships. However, supply chain leaders must discuss specific aspects of diversifying their business to understand the risk involved when profits are decreasing related to a disruption. The events of a supply chain disruption can decrease sales while increasing the cost of goods or services to supplement the losses.

Although supply chain technology may improve some aspects of business, there are weakness such as managers not understanding how to use a system to mitigate cost or suppliers not having an alternate supplier. Another weakness within a supply chain

network is individuals who rely on supply chain technology too much without improving their knowledge about their job and thus not having boundaries or systems in place in case technology fails (Ocicka, 2016; Qi et al., 2017). People must continue to educate themselves about technology while trying to identify potential issues, applying previous experiences to a current situation, or reading literature about ways to use supply chain technology to reduce supply chain disruptions.

**How to improve supply chain disruption.** Supply chain technology can help promote efficiency and sustain productivity. For example, managers can implement supply chain metrics that include stockpile inventory, distribution of goods, customer service to explain disruptions, or alternative suppliers. Supply disruptions are an ongoing problem, and leaders must continue to evaluate each stage of a disruption while interacting with suppliers to strengthen the value of relationships within a community. For example, supply chain managers can communicate with people in the community, be proactive instead of reactive, or identify potential risk by discussing alternatives with suppliers, thereby building trust among team members, managers, and customers and allowing supply chain managers to improve efficiency, reduce supply chain disruptions, and increase profit. Additionally, managers and leaders can use supply chain technology to develop system synergy, flexibility, innovation, and quality while performing different functions to meet the demands of customers (Giri & Sarker, 2017; Seo et al., 2016). Customers are willing to temper their needs when disruptions occur because some customers understand that logistical systems have potential barriers. Furthermore,



business leaders must have performance measures that can alter the needs of customers and produce additional reliable resources.

Some managers use information technology (IT) to gain a competitive advantage, and others may use IT to help reduce supply chain disruptions. However, educating individuals about supply chain disruptions is an opportunity for experienced supply chain managers to mentor people who might not understand how IT can reduce supply chain disruptions. Mizgier et al. (2015) conducted a quantitative study using a model approach that included a supply chain network structure, disruption risk, the impact of hazard events on recovery times, and a loss propagation mechanism. The supply chain network structure showed the process in stages, along with an understanding of what may happen when goods are not delivered because of a disruption. The sequence of events such as constant communication and developing strategical alliances within a supply chain network must coincide with each other, thereby giving suppliers, retailers, and consumers the opportunity to understand what changes are necessary to sustain productivity when a disruption occurs.

Information and communication technology (ICT) is an important tool for developing social networking in business-to-business and small and medium enterprises. For instance, some managers think that social networking sites are not valuable for conducting business and are potential barriers to enhancing productivity because people do not optimize the value of implementing social networking sites. Although some leaders might not understand how social networking sites can improve product

distribution, consumers and competitors can develop internal and external procedures to alleviate some of the challenges that occur.

Moreover, leaders who adopt ICT within companies may not understand the potential for growth during the beginning stages, but over time there may be a substantial increase in productivity and operational development among individuals (Molinillo & Japutra, 2017). Leaders can develop strategies that will assist with supply collaboration because continual investment in supply chain technology can enhance product development in supply chain networks and reduce supply chain disruption.

**The importance of using technology.** Developing ICT in third-world countries is a challenge because leaders are not able to acquire funding that will help bring substantial revenue to the economy. For example, leaders in third-world countries might not have the funding to build infrastructure to help reduce supply chain disruptions such as natural disasters. Hoque, Saif, AlBar, and Bao (2016) looked at a study conducted by Mursalin and Al that involved 255 small and medium enterprises in Bangladesh. According to Hoque et al., Mursalin and Al showed the importance of implementing ICT for companies. Hoque et al. also discussed the lack of support given to businesses to improve the infrastructure in Bangladesh. However, if leaders receive the support needed to adopt ICT, corporations would flourish, but communication with each other must be a collective effort. There are a lot of instances such as poverty level or literacy for which some leaders do not believe in using technology in third-world countries, but investing resources can have a tremendous return on an investment.

Some leaders might want to develop a system while incorporating IT to allow people to understand the benefits within a company. Supply chain managers and leaders must work together internally and externally to increase productivity levels among people to assist within supply chain systems (Lui et al., 2016; Moyano-Fuentes et al., 2016; Montoya-Torres & Ortiz-Vargas, 2014; Yu, 2015). Using IT in third-world countries may help leaders to understand and educate each other about potential disruptions and to determine what strategy is useful during a disaster.

### **Transition**

The beginning of Section 1 included the problem statement, purpose statement, and nature of the study that included three research methods and designs and seven interview questions. Section 1 included a brief explanation regarding why RDT was suitable for this study and how managers can use RDT to enhance productivity, build relationships, learn to collaborate with suppliers, and share information while providing recommendations to other suppliers within the supply chain network. Section 1 also included a review of the professional and academic literature on how managers can mitigate supply chain disruptions to sustain productivity and increase profits. Section 2 includes a discussion on the role of the researcher, the targeted population, a detailed research method and design, ethical research, data analysis, and reliability and validity methods. Finally, Section 3 includes the presentation of findings, application to professional practice, implications for social change, recommendations for action and future research, reflections, and a conclusion.

## Section 2: The Project

Section 2 includes a reassertion of the purpose of the study, the role of the researcher, a description of the participants, and a discussion on the research method and design. Section 2 also includes population and sampling, ethical research, data collection instruments, and data collection techniques. Section 2 concludes with the data organization technique, data analysis, reliability, and validity.

### **Purpose Statement**

The purpose of this qualitative multiple case study was to explore strategies that successful miniconvenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits. The target population consisted of four store managers of miniconvenience stores within gas stations who successfully maintained productivity during a supply chain disruption. Each store manager generated less than \$500,000 in annual sales, had less than seven employees, and had been in business for 2 years or more located in the southeastern region of the United States. Miniconvenience store managers who can sustain profitable operations may reliably employ more workers, who may subsequently realize more wage income, self-esteem, and personal dignity.

### **Role of the Researcher**

As the researcher for this qualitative study, I analyzed strategic procedures that miniconvenience store managers use to mitigate supply chain disruption. Researchers must describe the appropriate methodology type and apply the relative concepts associated with the study (Marsh, Browne, Taylor, & Davis 2017; Saxena, 2017). I chose miniconvenience store managers who had been in business for 2 years or more located in

the southeastern region of the United States. I conducted semistructured face-to-face interviews in which each participant had six predetermined questions to answer. I used an interview protocol (see Appendix) that outlined the questions for each participant. Researchers can improve the quality and reliability of research by using interview protocols during an interview (Castillo-Montoya, 2016). The use of an interview protocol ensures each store manager answered the same question and thereby reduced any biases within the research.

To avoid any biases during the research, the study involved member checking within a follow-up interview to ensure the information received from each participant was accurate to minimize inconsistency. If responses were not precise, I asked for further clarification. Member checking is a tool used to improve validity from an individual's feedback (Roth, Theriault, Clement, & Worthington, 2016). I had limited exposure to my research topic due to previous degrees earned at Geneva College in information systems and civil engineering. However, upon entering the U.S. Army, I focused on logistical management that involves property management as a property accounting technician.

I obtained approval for my research plan from Walden University's Institutional Review Board (IRB) in addition to following specific guidelines and ethical principles set forth in the *Belmont Report* (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). I described the purpose of the research after introducing myself to each store manager before conducting interviews. To avoid any biases, my interest in global supply chain management did not influence my decision to conduct this research when interpreting each store manager's responses because I did

not inflict any knowledge upon the participants. Individuals should contemplate the structure and composition of items when conducting an interview (Park & Park, 2016). Miniconvenience store managers served as the primary source of data, and I used a recorder on my iPhone 8 and a notepad to transcribe the information received.

### **Participants**

In this qualitative multiple case study, I chose four store managers of miniconvenience stores within gas stations located in the southeastern region of the United States. Data saturation does not depend on sample size but on information received from participants (Boddy, 2016). Participant eligibility criteria were that each store manager generated annual sales of less than \$500,000, had less than seven employees, and had been in business for 2 or more years. I selected participants who had successfully maintained productivity during a supply chain disruption that occurred sometime between 2011 and 2018.

I gained access to each participant by visiting each store, introducing myself, explaining the reason for my visit, and requesting permission to conduct a face-to-face interview. I presented each participant with the six interview questions outlined on the interview protocol (see Appendix). Researchers should have a standard procedure when trying to receive information from participants (Fusch & Ness, 2015). After providing each store manager with the interview questions, I asked each manager to review the information and to provide a convenient time for an interview.

Each participant received a copy of the six interview questions, and the face-to-face interviews took place on the spot. Face-to-face relationships are an essential element

in building a rapport with individuals (Merriam & Tisdell, 2016). I followed guidelines and maintained the ethical standards of Walden University's IRB to ensure that I maintained a trusted working relationship with the four store managers. Researchers who earn the trust of individuals have the potential to provide specific information toward their findings (Paxton & Glanville, 2015). While conducting the interviews, I justified the information given by each store manager that coincided with the peer-reviewed articles I researched because the answers given by the participants contributed toward findings in the study. Qualitative research is about making data transparent to readers while deciphering information given by interviewees in their responses (Brooks & Normore, 2015).

## **Research Method and Design**

### **Research Method**

I chose a qualitative method for this study. The qualitative research method is about using structured interview questions when seeking to collect data that align with a research question (Bristowe et al., 2015). Furthermore, researchers use qualitative research methods to align topics that will establish an understanding through sharing ideas and experiences from a nonstatistical approach from a small sample (Bristowe et al., 2015; Park & Park, 2016). In this qualitative research method, I shared my limited experiences while maximizing the participants' knowledge about strategies used to mitigate supply chain disruptions, thereby establishing a foundation that embraces the values of sharing and discussing experiences about evaluating the performance measures used during a disturbance.

Yin (2014) discussed the importance of the type of research question used to obtain information from individuals. The research question was suitable for gathering information from four store managers regarding what strategies they used to reduce supply chain disruptions while sustaining productivity. I devised interview questions to facilitate open-ended answers and to provide reliability and trust between the interviewee and interviewer during the face-to-face interviews. I did not use a quantitative approach for this study because I was not considering variables to answer the research question. Quantitative research methods are suitable for comparing relationships between variables while using statistical analysis (Frels & Onwuegbuzie, 2013). Mixed-method research is a combination of qualitative and quantitative research methods, and researchers must have a clear understanding of how to use both methods (Griensven et al., 2014; Park & Park, 2016). Thus, researchers who use a mixed-method approach must integrate both methods to interpret data that include two variables that will have a cause and effect relationship. Therefore, a mixed-method approach was not appropriate for this study.

### **Research Design**

Researchers have several types of research designs to choose from when conducting a qualitative case study. Ethnographic, phenomenological, and case study research designs are some options that researchers can use when gathering information for a case study (Myers, 2013; Yin, 2014). I used a case study research design for my qualitative research. Researchers use case study design to collect data from related activities that occurred (Boblin et al., 2013). Researchers must gather, analyze, and choose a design that is appropriate for their study. Researchers should also develop



questions that align with the research question while gathering facts relevant to the study (Yin, 2014). For example, I asked six predetermined what and how questions to collect information about how each miniconvenience store manager explored strategies to minimize supply chain disruptions.

I did not select the ethnographic research design because I did not plan to observe interactions among people. Ethnographic research involves collecting data while observing people interact in cultures or communities (Gössling & Stavrinidi, 2016; Ma, 2015). My research was about exploring the strategies four store managers used to reduce supply chain disruptions in their businesses located in the southeastern region of the United States. Researchers use the phenomenological research design to exemplify individuals lived experience. Phenomenological researchers explore the variables of a person's lived experiences (Bevan, 2014; Park & Park, 2016; Skiba & Disch, 2014). The focus of the study was not to explore their experiences but to gather information from each store manager who had successfully maintained productivity during a recent supply chain disruption. While collecting information from the participants, I identified similar responses using a transcript and coded template to ensure data saturation.

I used a green or a blue label to identify similarities and patterns from each store manager's answer. The green label represented building relationships considering how each store manager cultivated productive working relationships to mitigate supply chain disruption. The blue label illustrated how each store manager communicated effectively to develop strategies beyond working relationships to reduce supply chain disruptions. Researchers can ensure data saturation has occurred when participants do not provide any

additional information during an interview (Merriam & Tisdell, 2016). Researchers can also establish data saturation has occurred in qualitative research by recognizing distinctive patterns and similarities among individuals' responses (Leoni, 2015; Saunders, Lewis, & Thornhill 2015; Yin, 2014).

### **Population and Sampling**

The sample for this qualitative multiple case study consisted of four store managers of miniconvenience stores within gas stations who successfully maintained productivity during a supply chain disruption that occurred sometime between 2011 and 2018. I used a purposive sampling method to acquire information from each store manager who had generated less than \$500,000 in annual sales, had less than seven employees, and had been in business for 2 years or more located in the southeastern region of the United States. I used a purposive sampling method because of participants' knowledge about the research topic. Purposive sampling takes place when researchers understand the objective of the research and select a target group conducive to answering the research question (Apostolopoulos & Liargovas, 2016; Barratt, Ferris, & Lenton, 2015). The criteria for choosing each participant were store managers who had successfully sustained productivity while reducing supply chain disruptions.

A researcher must choose the number of participants based on who is able to provide answers that will align with the research question. Yin (2014) indicated that a reasonable sample size for a case study is between three and five participants. I visited each participant, introduced myself, explained the reason for my visit, and requested permission to conduct a face-to-face interview. Four store managers agreed to answer the

six predetermined questions. Each participant had the chance to arrange a time and to choose the place to conduct the interview. Participants who select the interview setting can relax and provide in-depth responses to questions (Nelson, 2016). I interviewed four store managers face to face and wrote their responses on a notepad while recording the responses on an iPhone 8 to validate each answer.

After I completed each interview, I transcribed the information onto a transcript and coding template to compare similar answers and used two labels, green and blue. I used a green label to signify relationship building that showed how the four managers cultivated productive working relationships to mitigate supply chain disruption. A blue label indicated the store manager developed strategies while communicating effectively beyond working relationships to reduce supply chain disruptions. Data saturation occurs when participants provide no additional information (Boddy, 2016; Leoni, 2015). I gave each store manager a copy of the transcript after I transcribed the data, and each manager had the opportunity to add additional information that aligned with the research question.

### **Ethical Research**

I applied to Walden University's IRB for approval to conduct a qualitative multiple case study of four miniconvenience store managers who experienced supply chain disruptions. I visited each store manager, introduced myself, and explained the purpose of the visit and the nature of the study. If a store manager was not available, I asked when the manager might be available. I followed the guidelines and maintained ethical standards while collecting data from each participant.

Researchers must comply with the rules, policies, and regulations established to protect individuals during research and outlined by IRBs (Artal & Rubenfeld, 2017). Researchers have an ethical obligation toward participants when collecting data during an interview (Singhal & Bhola, 2017; Yin, 2014). I obtained an IRB approval notification before gathering data from the store managers. Institutional review boards require researchers to acquire approval before collecting data from participants (Zhang, 2017). I introduced myself, created a sense of trust, and developed a rapport with each participant.

There was no obligation for participants to provide information, and participants had the right to withdraw from the study by sending an e-mail within 24 to 48 hours from the first day I introduced myself to an e-mail address provided. Managers who did not want to participate in the study received no restitution. Participants do not have to provide information for a case study (Janghorban, Roudsari, & Taghipour, 2014). Incentives were not offered to individuals who shared information for the study. The responses from each participant are on a password-protected Apple iPad, and hard copies of the documents, consent forms, and findings will remain locked in a password-protected safe for 5 years from the date of each interview.

I will go to a shredding company and shred each participant's information at the 5-year mark. The identity of each store manager and the names of the miniconvenience stores were protected by using the alphanumeric codes A1 through A4. Researchers must protect individuals and ensure they follow proper ethical guidelines (Murray, 2014). Ethical conduct is the responsibility of everyone involved in research because each

person has similar interests throughout the research process. The Walden IRB approval number for this study is 08-02-18-0670544 and expires on August 1, 2019.

### **Data Collection Instruments**

In the qualitative multiple case study, I was the primary data collector. Researchers should be the foundation when gathering data from interviewees in qualitative case studies (Mojtahed, Nunes, Martins, & Peng, 2014; Yin, 2014). Face-to-face interviews took place with semistructured, open-ended questions to invite conversation during the interview process. Each store manager chose the location and the designated time for the interview. I used a notepad to write the responses from each participant. I had six predetermined interview questions to explore what strategies miniconvenience store managers use to mitigate supply chain disruptions, sustain productivity, and increase profits. Researchers must have a format regarding the material presented to participants. The study involved following an interview protocol (see Appendix) that was developed to provide consistence while conducting interviews.

I transferred each store manager's response to a transcript and coded template after each interview. Researchers who collect data from interview questions compare the responses from their research population with a coding process to find patterns within participants' responses (Saunders et al., 2015; Yin, 2014). I used a green label in the transcript review to identify building relationships regarding how the four managers cultivated productive working relationships to mitigate supply chain disruption. A blue label indicated how the store managers communicated effectively while developing strategies beyond working relationships to reduce supply chain disruptions.

After the completion of each interview, I reviewed each green-label response to determine consistency, similarities, and trustworthiness of the data collected from each store manager. The reliability of participants' responses increases when they give similar answers to an interview question (Morse, 2015; Özkan, Zelal, & Ali, 2016). I determined the validity of the data through member checking, audio recordings, and notes from each store managers interview. Leung (2015) indicated that validity is a significant tool used to analyze data from participants. I used a transcript and coded template to sustain the reliability, accuracy, and validity of the research.

### **Data Collection Technique**

After I obtained IRB approval from Walden University, I visited the miniconvenience store of each participant, introduced myself, and provided a brief statement about the study. Researchers should provide an avenue of communication to build cohesion with interviewee (Nguyen, 2014). After the introduction, I described the interview process and provided an interview protocol that included six predetermined questions that aligned with the research question to gain insight from each store manager about strategies used to mitigate supply chain disruption (see Appendix). Four store managers agreed to participate in a face-to-face interview after the introduction. Face-to-face interviews are appropriate for collecting data in qualitative case studies because of personal interactions with interviewees (Mojtahed et al., 2014).

Researchers should allow participants to choose a location for an interview that is comfortable to them (Nelson, 2016). Individuals who select a place to conduct face-to-face interviews develop a sense of security and can relax while providing information.

One advantage of face-to-face interviews is that researchers can stimulate in-depth communications with interviewees and can witness participants' nonverbal expressions. Nonverbal expressions during face-to-face interviews serve as an opportunity for researchers to determine the reliability of responses using the body language of a participant (Onwuegbuzie & Byers, 2014). I used a notepad to write down the responses received from each interviewee.

One disadvantage of face-to-face interviews is that interviews can be time-consuming due to the use of open-ended questions. Researchers can use closed-ended questions to reduce the amount of time during an interview. However, closed-ended questions will limit the amount of information collected during an interview (Wiseman & Harris, 2015). I set a 60-minute time limit and a 45-minute alarm for each interview to signify that 15 minutes were remaining. At the 45-minute mark, I asked the store managers if they would like to add any additional information. One store manager did not have any additional information to add. I conducted a transcript review with each store manager to verify the accuracy of the information written on the notepad. I compiled the data from each participant and transferred the information to a transcript and coded template to highlight similar responses. When researchers do not receive any new information, data saturation has occurred (Fusch & Ness, 2015). I did not conduct a pilot study.

### **Data Organization Technique**

As the primary instrument for conducting the research, I used a notepad to record the responses from each store manager. Researchers could use several ways to collect

data when conducting a qualitative case study (Udtha, Nomie, Yu, & Sanner, 2015). I recorded each conversation on an iPhone 8 that had a timer to track the length of each interview. Researchers should use significant resources to gather data (Yin, 2014). Furthermore, researchers can use various organization techniques to collect data for a case study. Researchers must input the data received from participants correctly to conduct proper analysis. Data collection and data analysis are the foundation for any study, and researchers must transcribe data efficiently without any mistakes (Green & Salkind, 2017). After each interview, I organized the interview notes on to a transcript and coded template which was then transferred onto a password-protected Apple iPad to protect the identity of each participant.

I informed each participant that all hard copies of the documents and findings, as well as any personal information, will be locked in a password-protected safe for 5 years from the date of each interview. I protected the identity of each store manager and the names of the miniconvenience stores using alphanumeric codes A1 through A4. Researchers must stimulate confidence in participants during and after an interview (Murray, 2014). I will use backup systems such as Apple's iCloud storage to maintain the protection of each store manager's information within the 5-year period. At the 5-year mark, I will delete each store manager's data from the iCloud storage and shred all hard copies of documents to warrant the participant's confidentiality.

### **Data Analysis**

The purpose of this qualitative multiple case study was to explore strategies that successful miniconvenience store managers use to mitigate supply chain disruptions,



sustain productivity, and increase profits. I used six predetermined questions to explore the strategies four store managers used to alleviate supply chain disruption. Researchers should use predetermined questions that align with a research question to conduct an analysis during a case study (Yin, 2014). Researchers should also recognize similar themes from responses when collecting data from participants during an interview. I used methodological triangulation to gather data from participants during an interview, peer-reviewed articles, observations, and theories to understand their circumstances during a supply chain disruption. Researchers use methodological triangulation to analyze and develop a foundation that will provide relevant information to findings (Johnson et al., 2017). I used transcript analysis and member checking to review and look for similar themes that store managers use to reduce supply chain disruptions, sustain productivity, and increase profits.

I reviewed the transcript and coded template for similar themes and conducted a follow-up interview to complete member checking, where I provided each participant with a summary of the results. Yin's (2014) five-step analysis follows a sequential process that includes (a) assembling the data, (b) dispersing the information, (c) rebuilding the data, (d) evaluating the data, and (e) analyzing the data. I used the fourth and fifth step within the transcript and coded template, along with mind mapping, to interpret similar answers from each store manager associated with the research question. The use of mind mapping illustrated how each participant used strategies to reduce supply chain disruptions. Mind mapping is a tool used to analyze data and show relationships between strategies incorporated from the main idea (Rosciano, 2015). The

transcript and coded template and the mind mapping are tools used together to organize the data and look for the emerging themes to enhance the reliability of the data.

Using a method to analyze key themes and using a theory that is homogenous with exploring strategies of miniconvenience store managers to reduce supply chain disruption was vital to the study. I identified key themes and similarities from the responses from each store manager that related to reducing supply chain disruptions. I chose RDT, developed by Pfeffer and Salancik and introduced in 1978, because the decisions managers make from seeking external resources affect behaviors within organizations. The focus of RDT is on how people interact with each other to attain understanding while implementing ideas to achieve a common purpose (Esfabodi et al., 2016; Wolf, 2014). Disruptions are unavoidable, devastating, and complex and can cause lost revenue and productivity. Identifying complexity within supply chain systems to provide an alternate strategy that can reduce supply chain disruptions is important (Marley, Ward, & Hill, 2014).

## **Reliability and Validity**

### **Reliability**

Researchers must use certain aspects of analyzing data to address reliability, dependability, credibility, transferability, confirmability, and data saturation. Reliability refers to the ability of researchers to produce similar findings from data used previously (Leung, 2015; Saunders et al., 2015). Dependability refers to how researchers will analyze changes within a study from data collected from participants (Kihn & Ihantola,

2015). I used a case study protocol that included interview questions and data collection procedures (see appendix).

Researchers use the case study protocol for member checking and for ensuring reliability and dependability within a study (Yin, 2014). To conduct member checking, I gave each store manager a copy of the transcribed interview to verify the data provided during the interview. Participants had the opportunity to review their responses and correct any data that were incorrect. When conducting an interview, individuals need the opportunity to assess their responses and to disagree with an answer transcribed incorrectly (Morse, 2015). Therefore, researchers can develop credibility by allowing individuals to read their answers before publishing the research.

### **Validity**

Researchers can improve the credibility of a qualitative study through open communication, thereby utilizing qualitative research methods such as in-depth interviews within a research. Kornbluh (2015) posited that researchers should develop a strategy that will generate an understanding with interviewees during an interview. Researchers who can acknowledge information during an interview will improve credibility with interviewees because communication from the interviewer can stimulate ideas from prior experiences. I conducted member checking from data given by each store manager and after synthesizing the data using a transcript and coded template to review similar responses. Creditability refers to researchers becoming familiar with a research topic while acquiring knowledge that could develop trustworthiness among participants (Kihn & Ihantola, 2015).

Researchers can use acquired knowledge to present findings and allow readers to facilitate discussions related to similar case studies. However, researchers must give a valid assessment of a study because inaccurate information can lead to invalid results (Burchett, Mayhew, Lavis, & Dobrow, 2013). I provide the findings of the study to assimilate and apply information the readers glean from other relevant studies. Kihn and Ihantola (2016) indicated that researchers can validate transferability with outcomes related to similar situations. I listened to each store manager share information about prior experiences while reading peer reviewed articles and looked for evolving themes from the responses provided during the interview.

Some managers within the supply industry seldom collaborate on strategies to reduce supply chain disruptions. Likewise, some peer reviewed articles about supply chain disruptions might not include similar conclusions, such as having an alternate supplier, providing information to suppliers that can alter response times, or being receptive to a supply chain network design. I demonstrated confirmability by analyzing the data offered by each store manager while verifying company documents, follow-up member checking interviews, listening to audio recordings, and reading peer-reviewed articles related to supply chain disruption. Eriksson (2015) stated that confirmability is assessed by qualitative researchers collaborating with other areas of a research to ensure consistency between findings and data collected from participants.

Regarding confirmability, I used a green label to classify building relationships and signify data saturation. Each store manager answered six predetermined questions (see Appendix) during the interview. I transcribed the responses of each store manager

on a notepad along and recorded the interviews on an iPhone 8 to capture the entire interview process. After each interview, I transferred the responses onto a transcript and coded template and labeled each similar answer with a green label. Researchers reach data saturation when there are no new data in participants' responses (Fusch & Ness, 2015; Saunders et al., 2015). Data saturation was reached when I received no new information from reviewing company documents, consistent responses during each interview, follow-up member checking, and themes recognized in the data.

### **Transition and Summary**

In Section 2, I provided the criteria for choosing each participant for the study. I also described my role as the researcher and an explanation of how I conducted interviews to collect information. The section also contained the fundamental aspects of maintaining ethical standards with each participant while retaining their confidentiality. In Section 3, I provide the results of the study and offer recommendations, implications for social change, and the conclusion.

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

#### **Introduction**

The purpose of this qualitative multiple case study was to explore strategies that successful miniconvenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits. Managers must understand the importance of providing information that will develop a framework toward minimizing supply chain disruptions (Srinivasan & Tew, 2017). Constant communication between managers and suppliers can assist with a structure while improving the process of delivering goods during a supply disruption. Managers must be proactive instead of reactive when an interruption occurs (Ali et al., 2018).

I conducted semistructured, face-to-face interviews with four store managers of miniconvenience stores within gas stations who have successfully maintained productivity during a recent supply chain disruption. My data analysis included a transcript and coded template, company documents, interview notes, and strategies used to decrease supply chain disruptions. The analysis of data indicated that miniconvenience store managers who participated in the study effectively used strategies to mitigate supply chain disruptions through constant communication with vendors, collaborating with their customers, and developing a culture where team members are aware of changes in policies and procedures while sustaining productivity during a disruption.

### **Presentation of the Findings**

I used a qualitative research methodology and a case study design for this research study. I conducted semistructured, face-to-face interviews with four store managers of miniconvenience stores within gas stations who had successfully maintained productivity during a recent supply chain disruption to answer the overarching research question: What strategies do miniconvenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits? The semistructured interviews occurred at each store manager's location and did not exceed 60 minutes, and member-checking discussions did not last longer than 30 minutes.

The conceptual framework for the research study was RDT by Pfeffer and Salancik (1978). Managers within organizations must continually develop systems and procedures that will help sustain strategies while communicating and developing relationships with vendors when disruptions occur (Esfabodi et al., 2016). I used a purposive sampling approach to gather information from each store manager regarding the strategies used to mitigate supply chain disruptions. I visited 13 miniconvenience stores within gas stations located in the southeastern region of the United States to schedule an interview, but the four store managers I interviewed wanted to conduct face-to-face interviews the same day. After each meeting, I scheduled a follow-up interview with each store manager to verify the responses. I also reviewed company documents to validate responses received from each store manager. I transferred the interview notes onto a transcript and coded template and highlighted similar responses to signify data saturation.

I validated each store manager's responses through member checking, which involved all interviewees verifying their responses and encompassing their feedback within the study. After each follow-up interview was complete, the focus turned toward developing themes that pertained to the research question and the conceptual framework. The findings from the data collected from each store manager included two themes. I used a green label for building relationships and a blue label for effective communication strategies implemented by each store manager. The conceptual framework identified the building relationships (green label) and effective communication (blue label) that each store manager used to reduce supply chain disruption. For example, store managers must continue to establish business relationships with vendors and customers while ensuring customer satisfaction is enhanced when an interruption occurs.

Constant communication with customers and vendors is an essential tool that develops business relationships while adhering to policies and standards to help rectify issues that may occur during a disruption. Collaborating and interacting with suppliers is an important way to examine the relationships between vendors and managers (Zhou, Chong, Zhen, & Bao, 2018). Store managers must stress to their vendors the importance of customer satisfaction because integrating business relationships within an organization can allude to developing procedures that can build strategies to assist with performance standards and limit supply chain disruption.

I used a blue label to link effective communication strategies store managers used as a theme associated with the literature review. Responses from each store manager revealed the importance of stockpiling inventory; ensuring vendors deliver the correct



product; and scheduling daily, weekly, or monthly meetings with team members and vendors to establish cohesion within the organization. Managers must contemplate using a new approach that can improve communication between vendors and themselves. For example, if some managers can research historical data to determine which products increase profit during a season throughout the year, stockpiling inventory is justified. However, transportation delays can limit the delivery of goods and therefore increase customer dissatisfaction because of the lack of implementing strategies and procedures (Cui, Zhao, Li, Parsafard, & An, 2016).

### **Theme 1: Building Relationships**

Theme 1 applied to data reflecting the importance of building relationships to help minimize supply disruptions based on responses to Interview Questions 2, 3, 4, and 5. The four participants indicated that store managers must maintain relationships with their suppliers to sustain productivity and increase profits during an interruption. Store managers A1 and A4 each noted that sustaining a business relationship with multiple suppliers can assist with maintaining stockpile inventory for unexpected disruptions. Establishing an alternate supplier is important because managers must understand the severity of the supply chain disruption (Zhen et al., 2016). An alternate supplier can mitigate supply chain disruptions because the causes of disruptions can be as varied as transportation delays, machine malfunctions, inaccurate planning, or flash floods.

Store manager A3 noted that miniconvenience store managers must ensure suppliers have various capacities to cope with specific elements that may occur during a disturbance. Individuals should have systems in place while collaborating between

supply partners to assist with maintaining inventory levels for unexpected disruptions (Golini & Kalchschmidt, 2015). Disruptive events can occur at any moment, and store managers must understand through supply chain management that developing modern supply chain trends such as inventory and demand planning or technology integration can help maintain inventory levels within stores.

**Subtheme 1: Why are building relationships important.** Store manager A2 specified that understanding the stages of production can improve store managers' ability to maintain a steady business relationship with vendors. Managers must continue to invest in relationships that will assist with customer satisfaction while performing analysis that will ensure customers benefit from relationships between managers and suppliers (Sampson & Money, 2015). Therefore, identifying procedures to maintain good suppliers is vital because developing lasting relationships will give supply chain managers a competitive advantage (Wiengarten et al., 2016). Developing steady business relationships will only improve customer loyalty and have a direct impact concerning product availability that will limit the risk of supply chain disruption. Managers who determine the quality of products presented by suppliers can develop strategies that can influence the outcome of maintaining policies and procedures that will anticipate potential disruptions (Broome & Quirk, 2015; Clemons & Slotnick, 2016).

Miniconvience store managers can decrease the effect of supply chain disruptions by interacting with vendors to determine the need for an alternate supplier or derived solutions to main stockpile inventory. The RDT principle used within Theme 1 was related to managers building relationships when responding to a supply chain disruption.

Carbonara and Pellegrino (2018) indicated that managers must have a strategic plan to help reduce the after-effect when a disruption occurs. Managers must also provide solutions where team members, leaders, and vendors can work together to retain productivity during a disruption. Developing continuous relationships with consumers will continue to have a tremendous influence among patrons within the industry (Kache & Seuring, 2017; Rao et al., 2017).

Another essential factor to consider is networking and building relationships that can withstand a potential supply chain risk. Maintaining quality relationships and having a long-term plan can contribute to restoring services quickly while ensuring the appropriate inventory levels are maintained (Fernandes et al., 2017; Schmitt et al., 2017). Applying the RDT principles to Theme 1, the outcome of the data was also related to having business relationships between vendors and suppliers. Managers must have solutions towards a recovery process that can lessen the impact of a supply chain disruption (Carbonara & Pellegrino, 2018). Each participant response showed how external resources such as not having an alternate supplier and maintaining a business relationship between vendors and managers can have a significant impact on profits while affecting the behavior among team members within the business.

### **Theme 2: Effective Communication**

Theme 2 applied to data reflecting the significance of effective communication that each store manager used successfully to sustain productivity during a disruption based on responses to Interview Questions 2, 3, 4, and 5. The four participants indicated that effective communication involves conveying information to individuals while

relying on systems that help retain product availability. Store managers A1 and A3 stated, “To prepare for an unexpected disruption, it is important to have high levels of inventory. It may be costly, but ensuring your customers’ needs are met also gains a competitive advantage.” Procedures that involve more than one supplier can minimize cost and help improve longevity with clients and suppliers (Zhen et al., 2016). Theme 2 related to RDT in that managers must consistently facilitate information while deciding what strategy is necessary during a disruption.

Managers use procedures within a long-term strategy to maintain stability while increasing the effects of supply chain integration among suppliers (Reefke & Sundaram, 2017). Store manager A2 stated that store managers must have policies and procedures with vendors because consumers depend on product availability during a disruption. Consequently, managers must continue to evaluate their suppliers when receiving products during an interruption (Rao et al., 2017). Store manager A3 indicated that some suppliers do not understand the consequences when the vendor delivers the incorrect product because some wholesalers do not communicate with in-store customers daily. However, managers must constantly communicate with their suppliers to ensure goods and services are available for the customers.

**Subtheme 1: How can strategies be effectively communicated.** Store managers A1, A3, and A4 indicated that managers must be flexible when interruptions occur within the flow of business operations because having a business strategy that limits customer complaints is crucial. For instance, having a 6-month inventory may restrict product substitution during a disruption. However, A1 stated, “If you do not have a product,

there is no product substitution. There is no need to retain large quantities of a product because if the item does not sell, you must sell at a reduced price.” Vos, Scheffler, Schiele, and Horn (2016) indicated that having a network of suppliers when sharing information with customers can help to develop decision making within a business environment.

In applying RDT to Theme 2, the outcome of the data was related to how managers can communicate effectively while employing strategies to reduce supply chain disruption, sustain productivity and increasing profits. Managers who share strategies while ensuring an alternate supplier is available or exploring a workflow system such as Production Flow Schema (PFS) when a disturbance occurs can limit the difficulty of a situation to help educate team members about supply chain disruption (Blos, da Silva, & Wee, 2018). Managing product demand was a strategy that the participants used by looking at historical data to diversify product availability within the store.

**Subtheme 2: Strategy.** Looking at the scope of the problem while using a strategy can be cost effective, but managers must decide at what stage to implement a strategy. Individuals who have related interest can share strategies that can augment the growth of a business (Ramdani, Primiana, Kaltum, & Azis, 2018). Each manager were owners of their miniconvenience store and sold similar products to their customers. Therefore, having the same alternate supplier or implementing a cost effective strategy can help mitigate supply chain disruption. The computation of the cost difference must be annotated carefully while analyzing various selections that will embark upon the products chosen to maintain customer satisfaction and sustain productivity (Behzadi,

Justin O' Sullivan, Olsen, Scrimgeour, & Zhang, 2017). Managing product demand, having alternate suppliers, or stockpile inventory can be used together or solely to limit supply chain disruptions.

Theme 1 and 2 also align with the findings of Birkie et al. (2017) where having alternate methods can limit the potential effects during a supply chain disruption. Furthermore, disruptions are prompted by unforeseen circumstances that can be limited with establishing guidelines, developing relationships, constant communication, and using a system that works. Farahani et al. (2017) developed an inventory-location model that was used to mitigate supply chain disruption by means of product substitution as a strategy in businesses. Product substitution is often used when a product is not available and can help stabilize a sudden increase for a product while maintaining customer loyalty. However, product availability is an essential aspect for meeting market demands that can also improve supplier efficiency while keeping cost low, building relationships, and effectively communicating strategies presented by each convenience store manager during the interviews coincides with RDT for this study.

### **Applications to Professional Practice**

The focus of this qualitative multiple case study was to explore strategies that successful convenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits. Supply chain interruptions happen unexpectedly, and managers must decide if investing in a supply chain strategy will limit the supply chain risk or enhance business performance within the organization (Nooraie & Parast, 2016). For instance, disruptions can be an oil spill, a manufacturer recall,

terrorist attacks, or flooding that can cause a tremendous financial burden within a company. For example, Shanghai Petroleum Natural Gas had a 178-day disruption in October 2000 that resulted in a US\$8,447,990 million economic loss (Zhen et al., 2016).

The findings from this research study may contribute to the understanding that miniconvenience store managers applied strategies such as reviewing historical data, stockpile inventory, having alternate suppliers, and communicating with vendors to mitigate supply chain disruption. The research derived from this study maybe significant for exploring what strategies managers use to sustain productivity and increase profits when a disturbance occurs. Sometimes supply chain disruptions are not preventable, even if managers have sufficient warnings to limit an occurrence (Clemons & Slotnick, 2016). Store managers must make decisions to implement strategies to minimize the impact of a disruption, and knowing how to maximize resources to increase a company's stability is essential. The four participants indicated that reviewing historical data, stockpiling inventory, having alternate suppliers, and communicating with vendors were effective strategies that assisted with supply chain disruptions. However, store managers who understand the importance of sustaining productivity while increasing profits can help other managers located in the southeastern region of the United States with developing policies, procedures, and training methods to use resources to minimize the impact of disruptions.

### **Implications for Social Change**

The implications for a positive social change regarding what strategies miniconvenience store managers used to mitigate supply chain disruptions indicate how

managers can develop and focus on standards that can improve the overall quality of life among team members, customers, and vendors. Investing in long-lasting relationships is an essential and necessary asset that corresponds with sharing knowledge and leads to vendors, managers, and customers working together to achieve a common goal.

Mitigating supply chain disruption together develops cohesiveness whereby consumers, team members, store managers, and suppliers can directly impact each other's needs while bringing about changes that are favorable to everyone within the community. Store managers who understand the beneficial aspects of communicating can determine the various stages of supply chain disruption such as disruption diagnosis, disruption recognition, or developing responses. Without having procedures and policies, managers are not able to facilitate how and when to react to a disturbance. Social change comes from building and developing a work environment that is conducive to sustaining productivity while allocating resources to avoid further disruptions.

### **Recommendations for Action**

The results from this research indicated that miniconvenience store managers could use strategies successfully to mitigate supply disruption while sustaining productivity and increasing profits. Disruptions have a dramatic effect that pertains to demand and supply because the lack of goods leads to reduced earnings within organizations (Paul et al., 2016). Miniconvenience store managers can apply the findings from this study to implement strategies that can curtail the impact of supply chain disruptions. Participants interviewed in this study adopted strategies to lessen supply chain disruptions in miniconvenience stores within gas stations. An association exists



between the findings and the following recommendations for action:

1. Miniconvenience store managers should continuously cultivate a business relationship with suppliers to reduce the impact of a supply chain disruption through weekly or monthly meetings.
2. Miniconvenience store managers must communicate with team members to ensure information is disseminated to customers to retain customer loyalty when a product is not available.
3. Miniconvenience store managers should develop policies and procedures that have specific steps to follow that can help reduce supply chain disruptions.
4. Miniconvenience store managers should have a stockpile inventory that can help minimize the impact of a supply chain disruption when a product is not available instead of using product substitution that can reduce profits.
5. Miniconvenience store managers should review historical data when placing an order to limit supply chain disruption and maintain customer loyalty.

I will share the findings from this study through methods such as supply chain forums, providing a copy to each participant, and seeking publication in peer-reviewed journals such as the *Journal of Industrial and Management Optimization*, *Journal of Operations and Supply Chain Management*, and *European Journal of Operational Research*.

### **Recommendations for Further Research**

In this qualitative multiple case study, I explored what strategies miniconvenience store managers within gas stations used and how they used those strategies to mitigate supply chain disruptions while sustaining productivity and increasing profits. Some

managers do not understand the consequences of their actions because globalization within supply disruption is developing expeditiously and must use technology to help minimize some issues that may occur during a disruption (Mizgier et al., 2015). Future researchers can expand on the findings of this study by sharing strategies to effectively grow their business.

Customers want quality and managers must provide services or have products available. Ramdani et al. (2018) stated that business owners must invest tremendously to enrich a customer's experience. A customer creates added value within a business and for business owners, increase sales and customer loyalty can improve team members morale and increase profits. Kamalahmadi and Parast (2017) conducted a quantitative case study that involved six suppliers in three regions. Similar items were sold and two suppliers provided services to each region. Kamalahmadi and Parast (2017) collected data that included transportation cost, disruption probability, fixed cost, and suppliers while using a general model solution to obtain results. The data showed how not having an alternate supplier or a strategy can have a tremendous impact on sales while decreasing profits. In contrast, having an alternate supplier, managing product demand by reviewing historical data, or product substitution are some strategies store managers can use to sustain productivity and increase profits during a disturbance.

Another recommendation for this study could involve managers, team members, and vendors understanding the supply chain risk associated when customers feel a lack of satisfaction. Participants might have limited experience about supply chain disruption and do not understand the benefits of having an alternate supplier, but continuous

education in schools or work groups about supply chain disruption can help individuals determine when and how to use strategies when an interruption occurs. Kramarz and Kramarz (2015) discussed knowledge management regarding problems associated with managers and leaders not understanding their role during a supply chain disruption. Managers and leaders who do not understand their role within companies when a disturbance occurs should assess a situation and determine the best course of action along with implementing a strategy that will give consumers a sense of security. As supply chain disruptions are unavoidable, it is vital for managers to implement cost-effective strategies that will assist with the development of a strong foundation that will reduce cost and improve business performance (Mizgier et al., 2015; Ocicka, 2016).

An additional recommendation for further research could be to focus on identifying other methods that managers can use to minimize the impact of a supply chain disruption. Miniconvenience store managers within gas stations can develop marketing strategies such as documenting procedures to follow during a disturbance, having contingency plans to pinpoint areas that need improvement, or maintaining open lines of communication with vendors where managers can contact their representatives immediately to fill a product order. Finally, further research could help store managers reduce supply chain weaknesses that can increase the commitment of vendors, team members, and managers toward mitigating supply chain disruptions.

### **Reflections**

The focus of this qualitative multiple case study was exploring what strategies miniconvenience store managers used to mitigate supply chain disruption, and attaining a

Doctor of Business Administration (DBA) in global supply chain management was my scholastic objective. Walden University faculty provided the necessary tools such as online forums, time management techniques, and library assistance to complete a research study. When I attended the two residencies and presented my research topic, I was told to be more specific with the target population because the research topic did not include the word *miniconvenience*. I am a property accounting technician in the U.S. Army, and I had no professional experience or prior knowledge about supply chain disruption. I wanted to acquire knowledge that would enhance my research skills while conducting research and minimizing any biases that might have affected the study.

I visited 13 miniconvenience stores and had the opportunity to interview four store managers on the same day who shared their knowledge and experiences about strategies used to mitigate supply chain disruptions. I followed an interview protocol (see Appendix) in which I asked six predetermined questions and received responses from each store manager that contributed toward the findings of the research. The replies provided by each store manager were unexpectedly similar.

After conducting the analysis using a transcript and coded template, two themes emerged: building relationships while minimizing supply disruptions and the strategies each store manager used to sustain productivity during a disruption. I would like to share the findings from this study with each store manager. I am optimistic that the findings are valuable and accurately depict how miniconvenience store managers can successfully minimize the impact of a supply chain disruption while sustaining productivity and increasing profits.

## Conclusion

The findings from this qualitative multiple case study indicated that miniconvenience store managers within gas stations can successfully use strategies to mitigate supply chain disruptions while sustaining productivity and increasing profits. Supply chain disruptions are not entirely unavoidable. The participants indicated the importance of ensuring customers remain relevant, despite when and how a supply disruption might occur. The responses obtained from each store manager led to an answer to the research question, which was as follows: What strategies do miniconvenience store managers use to mitigate supply chain disruptions to sustain productivity and increase profits? Managers within supply chain networks must continue to develop partnerships that will help mitigate supply chain disruptions and create standards that will continue to enhance productivity among store managers and their companies (Kim & Davis, 2016; Zeng & Yen, 2017). Miniconvenience store managers must continue to devise solutions that will contribute to reducing supply chain disruptions because change will always occur, and managers who are proactive instead of reactive will establish customer loyalty and brand image.

Managers must continue to understand the scope of the problem and ensure people educate themselves about the effects of supply chain disruptions. Managers must also continue to share information while building long-lasting relationships that can help sustain productivity and increase profits (Han, Wang, & Naim, 2017). I recommend miniconvenience store managers within gas stations use the findings from this multiple case study to increase their awareness about strategies to mitigate supply chain

disruptions while sustaining productivity, provide customer satisfaction, and improve the overall aspect of business performance, such as team member engagement and developing strategical plans to minimize the effects of supply chain disruptions.

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## Appendix: Interview Protocol

What I will do	What I will say – script
Introduce the interview and set the stage	<p>Good morning, I would like to say thank you very much for agreeing to offer data for the study. I will ask six interview questions to gather information about what strategies some managers use to mitigate supply chain disruptions to sustain productivity and increase profits. I anticipate the interview being 60 minutes. I will also have a timer set at 45 minutes to signal 15 minutes remaining and during that time I will ask for any additional information that you will like to add and schedule a follow up interview to review the transcribed notes. Now, I will like to gain your permission to record the interview with my iPhone 8, to ensure the information provided is correct. If at any moment during the interview you will like to discontinue the interview please let me know. All responses and data will be kept on a password-protected Apple iPad, along with hard copies of the documents and findings, all of which will be locked in a password-protected safe for 5 years from the date of each interview. At the 5-year mark I will go to a shredding company and shred all your information along with deleting all your data from my iPad. Do you have any questions you would like to ask before we begin? If not, can we begin the interview?</p>
<ul style="list-style-type: none"> <li>• Watch for non-verbal queues</li> <li>• Paraphrase as needed</li> <li>• Ask follow-up probing questions to get more indepth</li> </ul>	<ol style="list-style-type: none"> <li>1. What product shortages have you experienced during a supply chain disruption at your miniconvenience store?</li> <li>2. What strategies do you use to prevent supply chain disruptions?</li> <li>3. How did you increase profits during supply chain disruptions?</li> </ol>

	4. How do you determine the most effective strategies for avoiding future supply chain disruptions?
	5. What strategies have you used to cultivate effective working relationships with suppliers to sustain productivity? 6. What additional information as a manager would you like to add regarding strategies you've developed and employed to mitigate supply chain disruptions to sustain productivity and increase profits?
Wrap up interview thanking participant	Script: Thank you very much for your participation. I would like to ensure you that all your information will remain confidential and upon the 5-year mark from the date of the interview I will destroy all data provided during the interview.
Schedule follow-up member checking interview	Script: After I transfer the notes and listen to the recording from the interview I would like to schedule a follow-up interview. The follow up interview is to provide you the opportunity to review information provided and certify that all your responses are accurate. Would you accept? If you do, can we schedule a time tomorrow that is convenient for you?
<b>Follow-up Member Checking Interview</b>	
Introduce follow-up interview and set the stage	Script: Thank you very much for meeting with me so we can review your responses from the interview. I will provide you a copy of the transcript and I would like you to review each response for accuracy. If I misinterpreted any information please provide me with the correct response.
Share a copy of the succinct synthesis for each individual question	Script: While you review each response please let me know if there is any additional information. Also, please let me know if I captured all the information accurately after each question.

<p>Bring in probing questions related to other information that you may have found – note the information must be related so that you are probing and adhering to the IRB approval.</p>	<p>1. What product shortages have you experienced during a supply chain disruption at your miniconvenience store? <i>Succinct synthesis of information on answers provided by participant</i></p>
<p>Walk through each question, read the interpretation and ask:</p> <p>Did I miss anything? Or, What would you like to add?</p>	<p>2. What strategies do you use to prevent supply chain disruptions? <i>Succinct synthesis of information on answers provided by participant</i></p>
	<p>3. How did you increase profits during supply chain disruptions? <i>Succinct synthesis of information on answers provided by participant</i></p>
	<p>4. How do you determine the most effective strategies for avoiding future supply chain disruptions? <i>Succinct synthesis of information on answers provided by participant</i></p>
	<p>5. What strategies have you used to cultivate effective working relationships with suppliers to sustain productivity? <i>Succinct synthesis of information on answers provided by participant</i></p>
	<p>6. What additional information as a manager would you like to add regarding strategies you've developed and employed to mitigate supply chain disruptions to sustain productivity and increase profits? <i>Succinct synthesis of information on answers provided by participant</i></p>