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Strategies to Mitigate Supply Chain Disruptions in Small Restaurant Business

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Walden University

College of Management and Human Potential

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Aminu Hassan

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Walden University
2025

Abstract

Strategies to Mitigate Supply Chain Disruptions in Small Restaurant Businesses

by

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MS, University of Maryland, University College, 2018

BS, Federal Polytechnic Bida, 2001

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2025

Abstract

Supply chain disruptions can impact the operational capability of small restaurant businesses, thereby affecting their financial health. Some small restaurant supply chain managers lack effective strategies to manage supply chain disruptions. Grounded in Oliver and Webber's supply chain management theory, the purpose of this qualitative pragmatic inquiry was to explore strategies small restaurant supply chain managers use to manage supply chain disruptions. The participants were 10 small restaurant supply chain managers located in Baltimore who effectively mitigated the effects of at least one significant supply chain disruption. Data were collected using semistructured interviews and publicly available documents and reports. Through thematic analysis, three themes were identified: (a) employ resource and operational management, (b) apply procurement flexibility, and (c) maintain relationships and communication channels. A key recommendation for small restaurant supply chain managers is to employ proactive, relationship-driven, and flexible supply chain strategies to reduce disruptions in businesses. The implications for positive social change include the potential for small business owners and local policymakers to implement these strategies to improve supply chain resilience and reduce operational disruptions.

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Dedication

I want to give glory to Almighty God for making this research possible. To my family, particularly my wife, Kelechi Hassan, and my children, Barack, Zara, Yasmin, and Jamal, your love, patience, and understanding have been my rock throughout this process. Your support means the world to me. To my late mother, Hassana Hassan, thank you so much for raising me to understand the importance of education and helping me achieve this milestone. May you continue to have eternal rest with the Almighty.

To my friends, particularly Chris Ojiako, Suleiman Abdulkadir, Dr. Henry Oguche, and Dr. Enwezuru Ajiduah, your unwavering support and encouragement have been the driving force behind this journey. I want to take a moment to recognize my late friend, Robert Onyejekwe, who affectionately called me Dr. Aminu even before I completed this journey. Your inspiration and friendship will never be forgotten. To my mentors, your love, guidance, and belief in me have shaped this work and inspired me to push beyond my limits. To the participants, whose willingness to share their experiences and insights has enriched this study, giving it depth and meaning. To the pursuit of knowledge and understanding, may this work contribute to the ongoing conversation and inspire future research.

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Section 1: Foundation of the Study

Supply chains have become increasingly complex in the modern world. The growth of supply chains has led to their integration into most aspects of modern life, from grocery shopping to complex consumer products (Ngo et al., 2024). With this importance, however, have come significant supply chain-related dangers, especially in the form of supply chain disruptions (Sarkar et al., 2022). When supply chains are disrupted, businesses, especially small businesses, can suffer. Small firms, such as restaurants, often lack the necessary expertise to navigate supply chain disruptions effectively (Winter et al., 2023). Effective strategies for these businesses to manage supply chain disruptions are needed.

Background of the Problem

The availability of supply chains has largely been a boon for businesses, cutting costs and affording access to goods that would otherwise have been unavailable. Studies have shown that the growth of international commerce has led to increasingly widespread global supply chains for many firms (Ivanov, 2022). However, large-scale events, like the COVID-19 pandemic or its aftermath, can significantly impair global supply chains' performance (Sarkar et al., 2022). In addition, local events, such as droughts, can significantly impair a smaller but still consequential set of supply chain links (Montenegro & Young, 2020). These findings indicate that both global and local events can interfere with the smooth flow of goods across multiple tiers of supply networks. An overreliance on complex international linkages can also transform local shocks into

global supply crises. Thus, while globalization enhances business efficiency, it simultaneously magnifies systemic risk

The COVID-19 pandemic exposed the weaknesses within food supply chains, particularly for restaurants and other small- and medium-sized food businesses. Alabi and Ngwenyama (2023), using the United States and Canada as case studies, found that the pandemic caused major disruptions to the food supply chain, leading to increased food insecurity. Large businesses are typically well-positioned to weather these disruptions and often have the luxury of multiple suppliers, strong supply chain technology, and supply chain management expertise (Kulkarni et al., 2023). In contrast, small and medium enterprises (SMEs) are less well-positioned to weather supply chain shocks, which was strongly evidenced by existential supply chain issues during COVID-19 (Winter et al., 2023). This suggests that organizational size and resource endowment determine a firm's capacity to adapt under crisis conditions. At the confluence of food and SME supply chains lie small restaurants, which represent a manifestation of both.

Several areas in the existing literature point to a need to better understand small restaurant supply chains. One such opportunity is that existing literature has focused primarily on supply chains in the manufacturing sector (Gera et al., 2022). There is also a need to evaluate and improve supply chains in SMEs in the post-pandemic era (Kulkarni et al., 2023). Researchers also need to further explore supply chain resilience (Nitshe et al., 2023). Taken together, these research gaps highlighted the research problem.

Problem and Purpose

The specific business problem was that some small restaurant supply chain managers lack effective strategies to manage supply chain disruptions and reduce the associated costs. Researchers have suggested that supply chain research has not adequately addressed sectors outside of manufacturing (Gera et al., 2022). SME supply chains in the post-pandemic era are also poorly understood (Kulkarni et al., 2023). Food industry supply chains proved especially fragile during the pandemic (Alabi & Ngwenyama, 2023), highlighting the need for more effective supply chain management strategies. The pandemic also illustrated the problem in terms of SME supply chains (Winter et al., 2023). Therefore, the purpose of this qualitative pragmatic inquiry project was to identify and explore effective strategies that supply chain managers use in small restaurant businesses in Baltimore to manage supply chain disruptions and reduce the associated costs.

Population and Sampling

The population of interest was supply chain managers at small restaurants. The target participants within this population were 10 supply chain managers at small restaurants in Baltimore who have successfully managed supply chain disruptions. I focused on supply chain managers who have effectively addressed the problem to understand the strategies that they employed to share that knowledge with other supply chain managers at small restaurants who have not effectively mitigated supply chain disruptions. The sampling strategy was purposive in nature. As further detailed in Section 3, the final sample size was 10 participants, which was determined based on saturation.

Inclusion criteria included (a) being a supply chain manager, (b) managed a small restaurant in Baltimore for at least 5 years, and (c) having effectively mitigated the effects of at least one significant supply chain disruption. Participants were recruited individually.

Nature of the Study

The research methodology for this study was qualitative. Qualitative research is a descriptive and open-ended approach to research (Liamputtong, 2020). Because qualitative research is open-ended in nature, it allows a researcher to explore a central phenomenon fully (Merriam & Tisdell, 2015). Therefore, qualitative researchers use open-ended inquiry to explore new theoretical grounds (Liamputtong, 2020). The qualitative methodology was appropriate for the current study for several reasons. The current study was exploratory in nature, with the purpose of exploring strategies. This study also addressed a central phenomenon, namely, effective strategies for mitigating supply chain disruption. Additionally, I addressed an open-ended research question in the study.

The specific qualitative research design was a pragmatic inquiry. Pragmatic inquiry is a business-focused research approach that focuses on obtaining the necessary data in a straightforward fashion (Clarke & Visser, 2018). In a pragmatic research design, the researcher can tailor the research approach to the specific circumstances as needed (Ramanadhan et al., 2021). This flexibility of the pragmatic approach also makes it apt for addressing an identified research gap (Clarke & Visser, 2018). A pragmatic approach was appropriate for the current study for several reasons. I addressed a straightforward

problem where straightforward data collection was apt. I also conducted the study to address a business problem in a specific context (i.e., small restaurant businesses in Baltimore), which made the flexibility of the pragmatic approach useful. Finally, the study was tailored to address a specific gap in the literature. Therefore, the pragmatic approach was well suited for this study.

Research Question

The following qualitative research question guided the current study: What effective strategies do successful small restaurant supply chain managers in Baltimore use to mitigate supply chain disruptions and reduce the associated costs?

Interview Questions

The following interview questions were used in this project:

1. How would you describe what your work in supply chain management entails?
2. Please describe your work and how it involves supply chain management.
3. How would you describe the importance of supply chains to your restaurant?
4. When you had dealt with at least one supply chain disruption incident, what was your experience like?
5. How have supply chain disruptions affected your business?
6. When you dealt with supply chain disruption, what strategies did you employ?
7. When you dealt with supply chain disruption, what strategies were ineffective, and why were they ineffective?

8. When you dealt with supply chain disruption, what strategies were effective, and how were they effective?
9. Knowing what you do now, how, if at all, would you have approached the supply chain disruption differently?
10. Please share any other thoughts you have that are related to how you address supply chain disruptions in your small restaurant business.

Conceptual Framework

The conceptual framework for the project was Oliver and Webber's (1998) supply chain management theory (SCMT). SCMT is a broad theory that details the functions and processes of supply chain management. Overall, SCMT is a conceptual map of the process of managing supply chains, which is characterized as the tasks involved in planning, implementing, and controlling a supply chain that keeps an organization supplied with the goods or materials needed to produce its products and meet the needs of its customers. A researcher applying the SCMT offers an understanding of the supply chain process from the raw materials to the final product (Oliver & Webber, 1998).

SCMT provides a model for efficient management and a method of conducting business with supply chain partners, which results in fewer disruptions due to process standardization and communication flow (Oliver & Webber, 1998). As a conceptual framework for the current project, SCMT provided me with an overall understanding of supply chains, how they function, and what managing them entails. SCMT was an ideal conceptual framework to undergird the current project.

Operational Definitions

Demand disruption risk: The risk arising from fluctuations or inaccuracies in predicting customer demand, which can lead to insufficient inventory or stockouts (Kaur & Singh, 2021; Sharma et al., 2022). It has been observed that in the case of a disaster, when demand unexpectedly fluctuates or supplier capacity is disrupted, regular orders may not meet the demand (Kaur & Singh, 2021). The COVID-19 pandemic caused supply and demand disruptions that have resonating effects on supply chain activities and management, indicating a need to build flexibility to mitigate demand risks (McMaster et al., 2020). In the food supply chain, the excessive demand for food products during the pandemic led to increased panic buying among individuals and traders, with perishable food products witnessing more severe disruptions (Sharma et al., 2022).

Environmental disruption risk: Risks originating from external environmental factors, including natural disasters, climate change, regulatory changes, and pandemics, which disrupt supply chain operations (Parast, 2020; Shekarian & Parast, 2020; Woodward, 2019). Climate change is particularly disruptive because humans have adapted to a narrow range of environmental conditions (Verschuur et al., 2023; Woodward, 2019).

Process disruption risk: The likelihood of disruptions caused by internal operational issues, such as production failures, delays, or inefficient processes (Ozdemir et al., 2022; Parast, 2020). It is a type of operational risk that occurs when a business's internal processes, systems, people, or external events fail or are ineffective (Kaur & Singh, 2021; Parast, 2020; Parast & Subramanian, 2021). This can lead to financial,

reputational, or customer losses. Empirical findings have indicated that process disruption risks have a substantial impact on supply chain performance and are significantly related to firm performance (Parast & Subramanian, 2021).

Supply chain disruptions: Unexpected events that interrupt the normal flow of goods and services in a supply chain, potentially leading to operational delays and financial losses (Baghersad & Zobel, 2021; Barman et al., 2021; Katsaliaki et al., 2022). Supply chain disruptions may occur due to climate change, natural calamities, crises, or other human factors (Katsaliaki et al., 2022). Every organization faces different types of risks that can disrupt the organization's supply chain. Although the effects of some disruptions may be relatively easy to manage, others may have a much more significant impact on long-term performance (Baghersad & Zobel, 2021). More recently, the COVID-19 pandemic resulted in the global tragedy of human deaths and also affected economic activities, with significant disruptions in manufacturing and supply chain logistics (Barman et al., 2021). Four disruption risk drivers for a supply chain are demand disruption risk, supply disruption risk, process disruption risk, and environment disruption risk (Parast & Subramanian, 2021).

Supply chain resilience: The capacity of a supply chain to recover quickly from disruptions and maintain continuity of operations through adaptive strategies (Guo et al., 2024; Zamani et al., 2023). In some cases, the supply chain is able to move to a new, more desirable state after being disturbed (Guo et al., 2024). Businesses often develop continuity plans alongside risk management strategies to mitigate disruptions (Zamani et al., 2023). For example, the outbreak of COVID-19 has accelerated the building of

resilient supply chains (Zhao et al., 2023). Building resilience necessitates different strategies depending on the type of disruption, the position of the company within the supply chain, the effect of the disruption on the company and the supply chain, and other factors (Ozdemir et al., 2022). The COVID-19 pandemic laid bare weaknesses in global supply chains, spotlighting vulnerabilities and prompting businesses to reevaluate their strategies and invest in more resilient, adaptable networks (Stentoft & Mikkelsen, 2024).

Supply chain sustainability: The adoption of practices integrating environmental, social, and economic considerations into supply chain management to achieve long-term viability (Chatterjee & Chaudhuri, 2022; Karmaker et al., 2021). Improving supply chain sustainability is an essential part of achieving the United Nation's sustainable goals (Park & Li, 2021). Supply chain sustainability is an effective strategy for dealing with some of the contemporary challenges facing global supply chains, and it leads to enhanced competitiveness and improved financial performance (Giannakis & Papadopoulos, 2016).

Supply disruption risk: The probability and potential impact of supply chain interruptions caused by issues, such as supplier failure, transportation delays, or shortages of critical materials, which can lead to operational inefficiencies or business losses (Etemadi et al., 2021). An uninterrupted supply chain network is critical to a firm's success. Thus, to ensure the continuity of product supply, a business owner needs to consider supply chain disruptions caused by a disaster like COVID-19 that may occur at the supplier and/or the retailer's end (Shahed et al., 2021).

Assumptions, Limitations, and Delimitations

Assumptions, limitations, and delimitations serve as various limiters in a study. Each of these factors is present in all research. In the following subsections, I address the three categories of factors individually.

Assumptions

Assumptions are underlying truths that a study rests on but does not (or cannot) test or verify (Merriam & Tisdell, 2015). I made several assumptions in the current study. It was assumed that participants would provide accurate and complete answers to the interview questions. This assumption was supported by confidentiality measures. I also assumed that participants could accurately identify whether strategies they had employed to mitigate supply chain disruptions were effective. This assumption was supported by secondary data. My final assumption was that participants would have actively engaged in developing and deploying effective strategies that address supply chain disruptions when those disruptions arise.

Limitations

Limitations are the weaknesses of a study that are not within the researcher's control (Liamputtong, 2020). There were several limitations in the current study. The study was limited by the use of self-reported data. Such data are necessary for qualitative research (Merriam & Tisdell, 2015). Nonetheless, they cannot be externally verified for accuracy. The study may have also been limited by social desirability bias. Social desirability bias occurs when participants give answers they see as appropriate or acceptable rather than ones that are true (Bergen & Labonté, 2020). To mitigate social

desirability bias, I emphasized the confidentiality of the data collection process.

Additionally, the study may have been limited by self-selection bias. Self-selection bias occurs when only certain parts of the population opt to participate (Elston, 2021). To mitigate self-selection bias, efforts were made to recruit a diverse sample.

Delimitations

Delimitations refer to the boundaries of the study, and so, define its scope (Merriam & Tisdell, 2015). There were several delimitations in the current study. The study was delimited to supply chain management because of my research interest. Additionally, I delimited the study to small restaurants in alignment with the research gap. The study was also delimited to the city of Baltimore for reasons of population accessibility. Finally, I delimited the study to supply chain disruption mitigation strategies in alignment with the research gap that motivated the study.

Significance of the Study

The current study has significance for both business practice and social change.

Contribution to Business Practice

The results of this study highlighted effective strategies the participating small restaurant owners used to overcome supply chain disruptions. The business significance of the study derives from the importance of supply chain management (see Gera et al., 2022). Supply chains are vital in many businesses, but small restaurants are especially vulnerable to their disruption (Alabi & Ngwenyama, 2023). Most small- and medium-sized businesses, such as small restaurants, are not well-prepared or -equipped to deal with supply chain disruptions or is the topic well-researched (Polyviou et al., 2020).

Supply chain disruptions threaten to destroy small restaurants (Mohezar et al., 2023).

These results may help small restaurants survive periods of extensive supply chain disruption.

Implications for Social Change

The significance of the current study to social change is derived from its practical significance. The COVID-19 pandemic emphasized the societal cost of large-scale supply chain disruptions (Sarkar et al., 2022). At the same time, the pandemic negatively affected restaurants overall (Mohezar et al., 2023). As a result, many people lost their jobs. Understanding how to effectively mitigate supply chain disruptions for small restaurants can, therefore, help prevent further failures of small restaurants, preserving the social good of the restaurants as both employers and a service that many consumers find beneficial and useful.

A Review of the Professional and Academic Literature

The literature on supply chain disruptions in small restaurant businesses spans various disciplines, including supply chain management, risk mitigation, and SME operations. Key studies have emphasized the increasing vulnerability of small businesses to disruptions caused by factors, such as supplier instability, demand fluctuations, and environmental risks (Kanyepe et al., 2025; Katsaliaki et al., 2022; Lin et al., 2025; Qazi, 2025). Scholars have provided foundational insights into supply chain risk management frameworks, while recent research has focused on the unique challenges SMEs face in adapting these frameworks to their limited resources and operational scale (Hosseini Shekarabi et al., 2025; Hsieh et al., 2023). A significant body of work has highlighted the

profound impact of the COVID-19 pandemic on supply chains, causing disruptions unlike those previously witnessed (Alabi & Ngwenyama, 2023; Barman et al., 2021; Hobbs, 2021; Ozdemir et al., 2022; Sahoo & Thakur, 2023). Studies have underscored how small restaurant businesses were disproportionately affected due to their reliance on localized supply chains and limited financial reserves (Kumar et al., 2021; Marusak et al., 2021; Mohezar et al., 2023; Peterson et al., 2023). The peer-reviewed research evaluated for this literature review explored innovative solutions, such as adopting digital technologies and diversifying supplier networks, to enhance resilience (Chowdhury et al., 2022; Ivanov, 2022; Kulkarni et al., 2023; Mohezar et al., 2023; Sharma et al., 2022). While substantial progress has been made in understanding supply chain resilience and risk management, gaps remain, particularly in strategies tailored to the food and beverage sector's unique requirements. In this literature review, I synthesized these findings, linking broad theoretical frameworks to the specific challenges of small restaurant businesses and identifying areas where targeted interventions are most needed.

In this review of the literature, I offer an analysis and synthesis of the relevant literature relating to the central focus of the current research. The purpose of this qualitative pragmatic inquiry was to identify and explore effective strategies that supply chain managers use in small restaurant businesses in Baltimore to manage supply chain disruptions and reduce costs. This project's conceptual framework was grounded in the SCMT by Oliver and Webber (1998), which offers a model for efficient supply chain management and effective collaboration with supply chain partners. Supply chain management is a crucial skill for the managers of small restaurants, which make a

substantial contribution to the economy regionally and nationally (Amel et al., 2020). It is, therefore, crucial that the possible financial losses due to inadequate supply chain management be mitigated through focused strategies (Ivanov, 2022). In the literature review, I explore critical issues of supply chain disruptions in small restaurant businesses, focusing on their financial performance.

I begin by offering background information on the main features of supply chain management across industries and follow this discussion with an analysis of the literature on supply chain management in the food and beverage industry and small restaurants in particular. The next section includes a description of supply chain resilience and the four focal areas that reduce risk in supply chain management in SMEs: collaboration, SME capabilities, information systems, and cost and financing. In the next section, I focus on supply chain risk management and different types of disruptions, including financial loss and impact. In the final sections, I discuss research-based strategies used by small restaurant supply chains as well as current trends and gaps in the literature before transitioning to the next section of this project.

Literature Search Strategy

The sources for this literature review were books; scholarly, peer-reviewed journals; and government reports. A total of 118 references were used, of which 102 (86.4%) were published within the last 5 years, and 101 (85.6%) are peer reviewed. I selected keyword search terms based on the focus of the literature review and used them in different combinations to ensure adequate depth of inquiry. The keywords were *supply chain risk*, *supply chain uncertainty*, *risk mitigation*, *demand risk*, *process risk*,

environmental risk, supply chain disruptions, supply chain resilience, supply chain sustainability, financial performance impact, stock market impact, COVID-19 pandemic, global supply chain crisis food and beverage, USA supply chain management and food & beverage, USA supply chain management and SMEs, supply chain disruptions risk management, USA supply chain management and restaurants, supply chain disruption orientation, supply chain strategies SMEs, and supply chain strategies SMEs finance.

Databases included Emerald Insight, SAGE Journals, ScienceDirect, Springer, Google Scholar, EBSCO, and Business Source Complete.

Conceptual Framework

The conceptual framework for the project was Oliver and Webber's (1998) SCMT. SCMT is a broad theory that details the functions and processes of supply chain management. SCMT offers an understanding of the supply chain process from the raw materials to the final product (Oliver & Webber, 1998).

Overall, SCMT is a conceptual map of the process of managing supply chains, which is characterized as the tasks involved in planning, implementing, and controlling a supply chain that keeps an organization supplied with the goods or materials needed to produce its products and meet the needs of its customers.

SCMT affords a model for efficient management and a method of conducting business with supply chain partners, which has fewer disruptions due to process standardization and communication flow (Oliver & Webber, 1998). As a conceptual framework for the current project, SCMT provided me with an overall understanding of

supply chains, how they function, and what managing them entails. SCMT is an ideal conceptual framework to undergird the current project.

The concept of supply chain management has evolved considerably, reflecting the growing complexity of global business operations. Oliver and Webber (1998) were the first to apply the term supply chain management to what was previously known as logistics and operations management. Pounder et al. (2013) discussed different historical definitions of supply chain management, noting that its popularity increased in the 2000s. Pounder et al. noted that there are no common definitions for the concept, although it is discussed widely in the literature. Oliver and Webber originally defined supply chain management as the process of planning, implementing, and controlling the operations of the supply chain to satisfy customer requirements as efficiently as possible (Pounder et al., 2013). This original definition has been widely discussed and reworked by scholars. Pounder et al. proposed that there is agreement on the main focus areas of supply chain management, which are coordination and integration, cooperation among stakeholders, and the movement of resources to the final customer. Furthermore, Oliver and Webber emphasized the importance of strategic decision-making for effective supply chain management (Pounder et al., 2013). These evolving definitions suggest that supply chain management is not a static concept but a dynamic, context-driven discipline that adapts to organizational environments and technological change.

The SCMT has been widely discussed in the literature, and researchers have recommended areas for future research, especially in the period after the COVID-19 pandemic. Pounder et al. (2013) examined the extant literature on supply chain risk with

the specific aim of identifying emerging trends. Based on a detailed textual analysis of clusters of themed articles, Pounder et al. found that SCMT was moving in the direction of three main focus areas, namely sustainable supply chain risk management, behavioral supply chain risk management, and emergent theoretical perspectives of supply chain risk management. Pounder et al. also discussed the future directions of research in supply chain management post-COVID-19.

The wide range of topics covered in research on supply chain management underscores the importance of utilizing SCMT in empirical research. In a more practical application of SCMT, Saragih et al. (2020) investigated the relationships between operational capability, total quality management, supply chain management practices, and operational performance. These researchers provided information about the mediating effect of total quality management on the capability and performance of supply chain operations. Through a qualitative survey, their findings revealed the significant direct influence of supply chain management practices and quality management on the performance of companies. Saragih et al. demonstrated that supply chain management could support sustainable competitive advantage, and the findings reveal that sustainable competitive advantage could be achieved through supply chain management.

SCMT has been applied in varied contexts by other researchers. Some examples are the analysis of supply chain business networks to improve information flow (Sciutto, 2021), the application of new technologies and Industry 4.0 in supply chain management (Cyplik & Zwolak, 2022), and in the food industry SCMT has been applied to improve the self-sufficiency and food security in rice supply chains in Indonesia (Fristin &

Supanto, 2021). These researchers' findings demonstrated the wide applicability of SCMT in research.

Oliver and Webber's (1998) SCMT provided a model for efficient management and method of conducting business with supply chain partners, focusing on reducing disruptions through process standardization and enhanced communication flow. The application of the principles of this theory enables managers to enhance their strategies in managing the complete supply chain, from the acquisition of raw materials from suppliers to manufacturing, and ultimately making it available for consumers.

Application to the Applied Business Problem

The purpose of the current study was to explore and identify effective strategies to mitigate supply chain disruptions in small restaurant businesses. Small businesses in the food and beverage sector are particularly vulnerable to supply chain disruptions due to their reliance on local suppliers, limited financial resources, and the dynamic nature of consumer demand (Kumar et al., 2021; Marusak et al., 2021; Mohezar et al., 2023; Peterson et al., 2023). By examining existing literature, industry practices, and case studies, I aimed to develop actionable recommendations that enhance supply chain resilience, ensure operational continuity, and improve overall business performance. The findings were intended to address existing gaps in the literature and provide practical insights for stakeholders within the small restaurant industry.

Supply chain management in restaurants was the focus of the problem being addressed in this study. Researchers have noted that restaurants make a significant contribution to global and local economies and that they are core drivers of the economy

(Amel et al., 2020; Nhamo et al., 2020). Jayasekara et al. (2020) further described SMEs as the backbone of economies in both developed and developing economies. Adams et al. (2021) maintained that resilient and sustainable food supply chains are critical in the food industry and that they have a significant environmental and social impact globally.

Furthermore, SMEs in the food industry play an important role in the global food supply, and they are also key to maintaining food safety and food security (Montenegro & Young, 2020). To ensure stability in food supply chains, the *United States' Global Food Security Strategy from 2017 to 2021* was formulated to enable food security across the entire food and agriculture system (U.S. Government Accountability Office, 2022). The strategy prioritized sustainability in food production and restaurants, which impacts the food supply chain. The factors affecting the safety and security of the food supply chain are widely discussed in the literature and are addressed in the section on the food and beverage industry and restaurant supply chains,

Disruptions to the global supply chain have been of serious concern in recent years. The literature has addressed issues of the globalization of food supply chains and the dependence on imports in many countries that exacerbates disruptions, especially during unexpected events such as the COVID-19 pandemic (Ababou et al., 2023; Montenegro & Young, 2020). The COVID-19 pandemic changed the way that restaurants approach their supply chain management and had a significant effect on global supply chains (Sarkar et al., 2022). As seen in the heading on disruptors that affect supply chains, external factors have been shown to have a significant impact on internal factors governing supply chain management, and these affect the performance of the

organization in the long run. For instance, Kulkarni et al. (2023) applied the resource dependence theory to selected SMEs in India to investigate how supply chain management was affected by the COVID-19 pandemic, focusing on the three domains of the resource dependence theory. These three domains comprise internal factors, external factors, and organizational factors. In a systematic review of the literature, Montenegro and Young (2020) focused on organizational challenges for food industry supply chains during unexpected local events such as droughts, which can have a negative effect on smaller supply chains such as those in restaurants (Montenegro & Young, 2020). Mohezar et al. (2023) also focused on smaller restaurant supply chains. The same authors utilized qualitative interviews with managers of SMEs in the Malaysian restaurant industry to identify supply chain risks faced by small and SMEs in food businesses during the COVID-19 pandemic. I discuss these studies in greater detail in the section on supply chain risk management and mitigating disruptions. The literature suggested that restaurants, in particular, were significantly affected by the COVID-19 pandemic.

Various strategies were offered in the literature for supply chain management going forward to cope with the aftermath of COVID-19. Hobbs (2021) focused on resilience in supply chain management, an area also addressed by Mor et al. (2020), who investigated how resilient food supply chains can be built by utilizing technology and applying flexibility in supply chain management. Kumar et al. (2021) focused on the supply chain for perishable foodstuffs and the increased risk to different areas of operation during the pandemic. Thilmany et al. (2021) argued for effective responses by local and regional food systems to disruptions such as the pandemic and described how

these supply chains could build resilience. These findings are discussed in greater detail in the section on supply chain risk management and mitigating disruptions. Collectively, these scholars proposed that flexibility and resilience are key to effective management of safe food supply chain management in restaurants.

Researchers have found that there are unique challenges for SMEs in the food and beverage industry that stem from the nature of the operations in this sector. Supply chain management in SMEs in the food and beverage industry is uniquely challenging due to the nature of their operations. Jayasekara et al. (2020) performed a systematic literature review of articles published over 4 decades and found that SME failure was a common occurrence. SMEs failed due to a combination of factors related to resources and opportunities, such as limited access to finance, the company's size, poor competitiveness, isolation, and poor market conditions. A detailed discussion of the literature on the failure of SMEs in the restaurant sector is provided in the section on supply chain management in SMEs and small restaurants.

Several researchers have discussed the challenges faced by globalized supply chains and how managers can manage risk and mitigate disruptions in SMEs. The extent, complexity, and multilayered nature of global supply chain operations have created vulnerabilities in supply chains in SMEs, creating challenges in ensuring sustainability and economic performance. Alabi and Ngwenyama (2023) conducted a literature review of recent case studies on food security from the United States and Canada to determine the impact of the pandemic on global food supply chains. They found that disruptors, such as economic downturns, limited accessibility of food, shortage of labor, changes in

consumer demand, and delays in transportation, were some factors that influenced global supply chains and proposed a framework to address these challenges in the future. Ali and Aboelmaged (2022) used qualitative exploratory research to identify the drivers and barriers to implementing digital technology in the food and beverage industry and proposed a theoretical framework and seven propositions to meet the challenges of Supply Chain 4.0. In a similar study, Katsikouli et al. (2021) analyzed SMEs in the food and beverage industry in Denmark to determine the benefits of blockchain technology for SMEs operating in the complex network of collaboration of international food supply chains. The literature's recommendations for managers of small restaurants who need to mitigate supply chain disruptions are discussed in detail in the section on mitigation strategies in small U.S. restaurants.

Ensuring the sustainability and resilience of food supply chains is important for risk management and mitigating disruptions. Adams et al. (2021) performed a thematic analysis of literature published from 1999 to 2020 and identified eight key sustainability themes in the extant research: life cycle assessments, drivers, barriers and incentives to sustainability, waste and recycling management, food chain logistics, sustainability practices in SMEs, supplier management, partnerships and relationships and "other" sustainable supply chain management practices. Adams et al. emphasized the critical role of SMEs and food logistics in sustainable supply chain management. Ababou et al. (2023) conducted a bibliometric literature analysis between 2008 and 2022 to examine how resilient food supply chains can operate effectively despite disruptions. Five themes were identified in the research, and Ababou et al. offered suggestions for supply chain

managers to improve the resilience of food supply chains. The themes were: (a) food systems resilience and public health, (b) seafood supply chain resilience and risk management, (c) digital and sustainable food systems, (d) agri-food Industry 4.0 and sustainability, and (e) meat production and the food industry. A quantitative study using data collected from food and beverage firms enabled Al-Omouh et al. (2022) to examine different factors that could enhance supply chain sustainability during disruption, focusing on the COVID-19 period. Ngo et al. (2024) focused on factors that have transformed supply chains in recent years, for example, globalization, the COVID-19 pandemic, and the increased use of technology. The authors investigated the impact of sustainability-related risks on the supply chains of businesses in Vietnam's garment industry and found effective management to be the key factor for success. Gera et al. (2022) similarly focused on the role of top management commitment in supply chain management.

Background and Main Features of Supply Chain Management

Current trends towards globalization in all industries have had a profound effect on supply chain management. The complexity of global supply chains, influenced by globalization and multinational collaboration, higher consumer expectations, advances in information technology, outsourcing, and offshore production, has been extensively discussed in the literature (Ababou et al., 2023; Gera et al., 2022; Ngo et al., 2024; Montenegro & Young, 2020; Shekarian & Parast, 2021; Soria-Lopez et al., 2023). These authors' work is discussed in detail in this subsection.

To meet consumer demands and feed a growing global population, the current food system relies on the long food supply chain (LFSC), which has proved to offer challenges regarding food waste and sustainability, among other factors. This globalized production chain is characterized by multiple intermediaries between food producers and consumers (Soria-Lopez et al., 2023). The complexities of the LFSC have resulted in challenges in terms of providing the nutritional needs of the global population, according to Soria-Lopez et al. (2023). Soria-Lopez et al. (2023) reviewed the historical evolution of food supply systems and performed an in-depth comparative analysis of LFSCs and short food supply chains (SFSCs) to assess their sustainability in a globalized world. The review enabled the authors to focus on current and future challenges facing global and local food systems. SFSCs are characterized by a limited number of intermediaries along the supply chain and local and regional proximity between producers and consumers.

One of the proposed solutions to the challenges of the LFSC is to focus on more localized food supply chains. Soria-Lopez et al. (2023) described how environmental, economic, and social demands have resulted in the emergence of more sustainable supply chains such as the SFSC. Using shorter local and regional supply chains may offer solutions to SMEs and restaurants in meeting the needs of consumers and maintaining efficient supply chain management.

There are environmental, economic, and social advantages of SFSCs. In light of the established research that demonstrates the sustainability challenges and food waste of LFSCs, SFSCs have been emerging as an alternative in food supply chains (Cattaneo et al., 2021; Soria-Lopez et al., 2023). However, some researchers have cautioned against

major transformations and implementing more localized supply chains. Hobbs (2021) discussed the adaptation of the food system to the unprecedented supply and demand disruptions during the COVID-19 pandemic and concluded that the existing system proved remarkably adaptable. The more fragmented and diffused nature of the SFSC could, therefore, have a negative effect on the stability of established globalized food systems.

Local food production is an emergent focus in the literature. When investigating the literature on the challenges faced by food supply chains during the pandemic, Montenegro and Young (2020) noted that one of the key areas where food security challenges emerge is when industries relying on imports and exports face disruptions and challenges in obtaining local food supplies. These challenges were highlighted by the COVID-19 pandemic. Montenegro and Young used an example to support this theme, stating that in terms of grains, only 27% of the world's population has access to a supply within a radius of fewer than 100 kilometers. Globalized supply chains are vulnerable to disruption in a crisis, which is exacerbated by LFSC and offshore production. The authors suggested that shorter supply chains with fewer stakeholders and geographical proximity could streamline the flow of food from producer to retailer and consumer.

The complexity of globalized supply chains has also affected their sustainability and resilience. Shekarian and Parast (2021) and Ababou et al. (2023) focused on how resilience and disruption risk can be managed in a globalized world. Ababou et al. investigated the current trends and developments in supply chain resilience in the food industry with a comprehensive bibliometric analysis of previous literature published

between 2008 and 2023. The most widely researched factor was found to be food systems' resilience and public health, which indicates how important it is to maintain the safety of food supplies during uncertain times. Other factors were supply chain resilience and risk management, digital and sustainable food systems, the agri-food industry, and sustainability. Whereas Ababou et al. proposed that a wider range of local and regional food producers in the supply chain could ensure resilience even in times of crisis, Shekarian and Parast conducted a comprehensive literature review to assess the impact of known practices to enhance resilience which are flexibility, agility, redundancy, and collaboration on mitigating supply chain disruption. Shekarian and Parast noted that the literature identified collaboration among multinational stakeholders and flexibility as the most important factors in ensuring supply chain resilience. The findings suggest that an increased emphasis on local and regional producers and increased collaboration among stakeholders can mitigate some of the challenges of globalized food supply chains.

Other researchers have taken varying perspectives on supply chain management, but have established a positive relationship between supply chain management practices and supply chain performance. For example, Xu and Zhao (2022) and Gera et al. (2022) both investigated supply chain management practices, innovation, and the influence of top management commitment. Gera et al. performed a systematic literature review of research on the relationship between supply chain management practices and supply chain performance measures across various regions globally, including the United States. Forty-three empirical research papers published between 2018 and 2022 were selected for the authors' review. Five themes were identified in grouping the findings, namely

operational factors, economic factors, firm, production, and supply chain performance. The findings confirmed the positive influence of top management support on the performance outcomes of the firm. However, Gera et al. also noted that the effect of supply chain management practices on performance outcomes varies across industries and countries. In contrast, Xu and Zhao found no significant relationship between top management commitment and supply chain performance. In a quantitative study based on data collected from the National Logistic Corporation Food and Beverage Companies Groups in China, Xu and Zhao investigated how supply chain management practices were related to supply chain performance and customer relationship management. The effect of innovation and top management commitment was analyzed in terms of this relationship. The results showed that innovation is a significant positive predictor for supply chain performance, but that top management commitment proved insignificant for both customer relationship management and supply chain performance if innovation was not present. These findings suggest that innovation in supply chain management practices should be coupled with top management support to ensure effective performance.

There has been scant previous research focusing specifically on supply chain management in the restaurant business. As previously mentioned, Gera et al. (2022) performed a literature review to assess the relationship between supply chain management and supply chain practices. The findings revealed a disproportionate focus on the literature on supply chains in the manufacturing sector, with little attention to service industries like food, hospitality, or tourism. Gera et al. situated this review against the backdrop of an increased emphasis on sustainable supply chain management in the

past 2 decades, also pointing out how supply chain management has conceptually evolved, moving towards greater integration of supply chains and collaboration among different organizations that are linked in the system.

In the aftermath of the COVID-19 pandemic, researchers have examined how businesses across the globe responded to this unprecedented event, which also had a profound effect on supply chains (Ivanov, 2022; Kulkarni et al., 2023; Sarkar et al., 2022). The literature suggests that managerial competence and strategies to mitigate supply chain disruptions are crucial factors in enhancing the performance and sustainability of SMEs (Ali & Aboelmaged, 2022; Sahoo & Thakur, 2023; X. Song et al., 2020). Therefore, there has been an increasing focus in the literature on supply chain management and how effective management practices influence the organization's performance. The complexities and obstacles hindering the implementation of effective supply chain management practices, particularly in small restaurant businesses, including those that have emerged, are discussed in the following subsection, and the issues raised are further explored.

Challenges to Effective Supply Chain Management

Recent pressures brought about by globalization, developments in digital technology, and environmental disruptions have transformed the way that supply chains operate. Ngo et al. (2024) noted that, recently, supply chains have become increasingly complex and more vulnerable to sustainability-related risks in particular. Ngo et al. investigated the impact of such risks on suppliers, customers, and business performance in the garment industry in Vietnam. Using a sample of 254 garment companies, Ngo et al.

evaluated how effective dynamic supply chain management techniques were in mitigating the effects of sustainability-related risks on the firm's performance. The findings revealed that economic hazards could be mitigated by supplier management and supply chain integration practices, thereby confirming that effective supply chain management could benefit both businesses and the environment.

SMEs are particularly vulnerable to environmental and external factors that can disrupt supply chains and lead to imbalances and poor performance. The COVID-19 pandemic was one such disruption that had a significant effect on supply chain management performance in many industries and was therefore used as a case study by Kulkarni et al. (2023). The authors sought to determine how the effect of external factors on the internal and organizational factors resulted in different approaches to supply chain management and spurred SMEs to redefine their supply chain management strategies. Kulkarni et al. proposed that before the pandemic, studies on supply chain management in SMEs focused on relationship management to reduce risk, but during the pandemic, SMEs were faced with external factors beyond their control. Kulkarni et al. applied the resource dependence theory to describe external and internal risk factors and their influence on organizational factors in SMEs when dealing with supply chain disruptions. The findings revealed that external factors, such as supplier flexibility and business continuity, directly affected the internal factors of supply chain management, such as process coordination, process flexibility, and working environment. Other researchers have suggested strategies for rebuilding and recovering supply chains after the COVID-19 disruption. For example, Ivanov (2022) proposed addressing the concept of viability in

supply chain management, which entails the capacity of the supply chain to survive environmental disruptions through restructuring, planning for long-term performance, and redesign. Viability encompasses the agility, resilience, and sustainability of the supply chain, with supply chain designs that are adaptable for different supply-demand allocations and able to transition among different structural models in response to external pressures. The COVID-19 pandemic offered the opportunity for SMEs to evaluate their supply chain management practices and identify the lessons learned, which included remaining flexible and responsive to external disruptive factors (Kulkarni et al., 2023) and restructuring where required, which could ensure viability in supply chain management for SMEs (Ivanov, 2022).

Green supply chain management practices, lean management practices, and Industry 4.0 technology have been dominant themes in recent literature, but some variables, such as financial performance, have not been adequately researched (Gera et al., 2022). Industry 4.0 technology is increasingly under the spotlight, and Winter et al. (2023) investigated the use of technology by SMEs in supply chain management, noting that there are challenges for SMEs in adopting Industry 4.0 technology. Winter et al. examined the supply chain management practices in SMEs from the manufacturing industry in Austria and Germany to determine how SMEs could transform their information-sharing practices in multitier supply chain management in the context of Industry 4.0 technology. Winter et al. noted that one of the challenges was that SMEs have less complex planning and control systems, which do not always require complex digital systems to manage. SMEs are, therefore, faced with the challenge of integrating

into digital supplier networks in an environment where they do not routinely use digital information sharing. Winter et al. suggested that SMEs should seek supply chain partners who are more technologically advanced as a means to keep up with technological developments, such as Industry 4.0 and digital transformation. SMEs could, therefore, benefit through collaboration with more experienced and technologically advanced firms.

Supply Chain Management in the Food and Beverage Industry

The food supply chain traditionally spans the process from production to consumption. A typical food supply chain encompasses farmers and marketers who supply food to food processors, wholesalers, and, finally, retailers. However, the exact structure depends on the type of product, the size of the food supply chain, and the power of supply chain members in the market (Jose & Shanmugam, 2020). Food supply chains are vulnerable to the same risks and disruptions as other globalized industries. The COVID-19 pandemic offered an opportunity for global food systems' leaders and managers to reassess the effectiveness and efficiency of their supply chains and how operations could be improved (Alabi & Ngwenyama, 2023; Montenegro & Young, 2020; Mu et al., 2021). Alabi and Ngwenyama (2023) noted the complexity and fragility of global food supply chains and examined the impact of the COVID-19 pandemic on the flow of food from producers to consumers. They emphasized that the pandemic presented opportunities to build more resilient food supply chains in the future and offered direction on approaches to designing new strategies (Alabi & Ngwenyama, 2023).

The global food system has characteristics, such as the freshness of food, quality, safety, and traceability, that make managing food supply chains very complex. Food

security implies that persons or groups of people can access food to fulfill their nutritional needs. Mu et al. (2021) emphasized the importance of ensuring food safety in food supply chains and noted that global food supply chains are often challenged by incidents that affect food safety. Montenegro and Young (2020) described the operational challenges that the food industry supply chain faced during the COVID-19 pandemic, specifically regarding food security. The authors identified five key areas that are relevant to food supply chains: food safety, production, logistics, pricing, and food systems survivability. Food supply chains, especially when countries rely on imported food supplies, can be disrupted by global crises that challenge food security. Montenegro and Young concluded that when most of a population's food supply is sourced from suppliers further afield, disruptions such as transport or other logistic constraints can hamper local availability and supply. This relates directly to the emerging debate about LFSC versus SFSC.

In terms of the food and beverage industry, and specifically restaurants, the reliance on LFSC in a globalized world is inadequate in providing a sustainable food supply. Although the current food system relies on the LFSC, there is growing evidence that shorter supply chains may be beneficial to small businesses. Soria-Lopez et al. (2023) emphasized that although the LFSC has offered both consumers and producers several advantages, it has also led to environmental impacts, such as the depletion of natural resources and huge food loss and waste (Cattaneo et al., 2021). Soria-Lopez et al. conducted a comparative analysis of LFSC and the SFSC and proposed that SFSC may be an option to overcome the limitations of LFSC in terms of the environment, logistics,

and nutrition. Through the shortening of the food chain, geographic proximity, and the elimination of intermediaries between producer and consumer, SFSC would seem a more appropriate environment for effective supply chain management in small restaurants (Soria-Lopez et al., 2023).

Sustainable supply chains for SMEs have emerged as an important aspect of recent research. Researchers focused on themes, such as waste and recycling, food chain logistics, sustainability practices in SMEs, and barriers and incentives to sustainability. In research on sustainable supply chains, Chan et al. (2020) explored what drives sustainable food security in food supply chains through a systematic literature review of papers published in the period from 1999 to 2020. According to Chan et al., there are main themes that influence the drivers and interventions practiced at each stage of the food supply chain, namely involvement in food security governance, input resource management, output management, information sharing, income, and technology. The key finding of this literature review was that quality management had a significant mediating effect on sustainable food security, which has important implications for catalyzing interventions to improve food supply chain management.

The effective use of technology and digital systems has emerged in the literature as a key element in effective supply chain management (Ivanov, 2022). In line with the emphasis placed by Chan et al. (2020) on information sharing and technology in supply chain management, Adams et al. (2021) posited that multinational companies have an important role to play in providing support in these areas. As previously suggested by Ivanov (2022), larger companies can assist by providing critical resources and

collaboration with partners across the supply chain, thereby assisting SMEs in improving their technological competence. This kind of collaboration is important in supporting SMEs such as small restaurants.

Supply Chain Management in SMEs and Small Restaurants

Small restaurant owners are challenged in both supply chain management and implementing supply chain management strategies that improve performance. SMEs operate in an extremely competitive environment and are not always attuned to the broader dynamics of market forces, technology, and competition (Bak et al., 2020; Cho et al., 2021; Swink et al., 2022; Winter et al., 2023). The vulnerabilities of SMEs in terms of performance and sustainability, and the unique challenges faced by small organizations, have been acknowledged by researchers (Jayasekara et al., 2020; Ng'ora et al., 2022). The managerial skills of owners and managers of SMEs have a significant effect on their overall performance, particularly financial management (Ng'ora et al., 2022).

Small restaurants often rely on local food systems due to the demands of consumers for fresh local produce and environmental and logistical concerns. In addition, the largest portion of the food industries in the food supply chain are SMEs, with recent studies showing that approximately 99% of all food processing industries in the European Union are SMEs (Jose & Shanmugam, 2020). Food supply chains for small restaurants, therefore, rely on a complex network of mainly SMEs, who can face some of the same challenges that the restaurants do.

By examining the complex relationships among different stakeholders within the food supply chain, researchers can offer insight into the unique position of small

restaurants. Brinkley et al. (2021) examined local food systems in Baltimore and how the interrelationships of farms, markets, and consumers change over time. This longitudinal social network analysis examined the evolution of the food systems and supply chains in Baltimore County and Chester County, Pennsylvania, over 6 years from 2012 to 2018. The key finding was that despite the increase in farmers' markets, grocery stores, farms, and restaurants, both counties experienced high turnover rates, with 80% of market connections within the network changing over the study period. Restaurants showed the highest turnover rate of the different stakeholders in the food system. The higher turnover rate of restaurants accentuates the vulnerability of SMEs and particularly small restaurants to external disruptions.

Regional Features of Supply Chain Management for Small Restaurants

There are variations among counties in the evolution of food systems among different counties, even if they are in proximity to each other. In Baltimore County, the food system was found to rely more on restaurants than in Chester County (Brinkley et al., 2021). The findings also showed that 60% of confirmed closures of food businesses in Baltimore County were restaurants, implying that greater reliance on restaurants in the food system could also lead to greater flux within the network. In Chester County, there was a more stable network of supply. Brinkley et al. (2021) suggested that the greater flux could be explained by the fact that local food systems may need to reach a certain size to compete with food supply chains that operate on a larger scale. In Baltimore, the local food system was still developing, whereas Chester County's local food system was well-established. The authors also noted that unexpected events like COVID-19 place

great financial strain on food systems and could contribute to the high rate of restaurant closures.

In terms of the regional features of supply chain management and how supply chains were impacted by the COVID-19 pandemic, Peterson et al. (2023) reported on a regional survey on agri-food supply chains in California, Florida, and the two-state region of Minnesota-Wisconsin, conducted in 2021. The findings showed uneven impact across regions, with restaurant supply chains most impacted in the Minnesota-Wisconsin region, while upstream supply chains remained relatively stable. Negative impacts were felt in California throughout the supply chain. Structural differences in regional food systems, like those observed in restaurants in Baltimore (Brinkley et al., 2021), were seen as an important factor in the varying impact on supply chains. Future planning on both regional and local levels is therefore important for food systems to be resilient to future pandemics, natural disasters, or humanmade crises (Peterson et al., 2023). These researchers concluded that interventions should be highly localized because there are variations in how food systems evolve over time in each region (Brinkley et al., 2021; Peterson et al., 2023).

Challenges Faced in Small Restaurant Supply Chain Management

The small restaurant supply chain needs to be managed in a changing and competitive environment, but there are great difficulties in fulfilling this need (Bak et al., 2020; Cho et al., 2021). Resources are obtained through transactions among different organizations in the supply network, and small restaurants should ensure that they utilize external resources effectively to ensure that they remain competitive while ensuring food

supply (Cho et al., 2021; Winter et al., 2023). For example, Winter et al. (2023) discussed how supply chain partners could be used to support SMEs in areas where they did not have the required competencies, such as digital transformation and managing the control and supply systems with digital technologies.

Furthering the discussion of the application of technology in the management of restaurant supply chains, Cho, Bonn, Giunipero, et al. (2019) described the elements that are crucial to strategic purchasing skills as technical knowledge, interpersonal skills, and managerial skills. Strategic purchasing skills are a key element of the supply chain and have a significant influence on the ultimate performance of restaurants (Johnson et al., 2010; Monczka et al., 2021; Stek & Schiele, 2021). However, contrary to the current literature on the importance of technical skill in maintaining an efficient restaurant supply chain (Adams et al., 2021; Winter et al., 2023; Xu & Zhao, 2022), Cho, Bonn, Giunipero, et al. (2019) found that technical knowledge did not have as great a positive effect on strategic purchasing as did interpersonal skills and managerial skills. In addition, their findings showed that managerial skills contributed more significantly to strategic purchasing than interpersonal skills. These findings confirm the importance of managerial skills and supply chain integration at all levels of supply chain management in restaurants.

Resilience in Supply Chain Management

It is critical to have stable and resilient food supply chains that can function effectively in the face of adverse conditions and uncertainty. Resilience is multidimensional, and a clear definition and road map for achieving supply chain

resilience is still subject to debate. Resilience in supply chains has been addressed widely in the literature, but limited attention has been given to the practice of supply chain resilience in SMEs (Ababou et al., 2023; Bak et al., 2020).

The importance of local and regional supply chains for building sustainability and resilience has been emphasized in the literature (Brinkley et al., 2021; Peterson et al., 2023; Soria-Lopez et al., 2023). For example, Thilmany et al. (2021) described the potential for local food supply chain dynamics to build resilience during disruptive events, using COVID-19 as a case study. Thilmany et al. argued that local and regional food systems showed how they could innovate during the pandemic, responding to market demand and policy changes effectively. Local and regional responses to disruption were distinct from the national approach to food supply chain disruptions because the local and regional food systems are more closely connected to supply chain partners and could be more agile in responding to changed circumstances.

For small restaurants, like the ones in Baltimore included in the current study, any critical disruption, such as an infrastructure collapse or prolonged critical infrastructure breakdown, could be catastrophic if not managed effectively. Orengo Serra and Sanchez-Jauregui (2022) investigated food supply chain resilience in the case of a critical infrastructure breakdown, focusing on Puerto Rico, which is a net food importer. Orengo Serra and Sanchez-Jauregui proposed a model to maintain food supply chain resilience and emphasized that managers should innovate, transform, adapt, and be flexible in their operational approaches.

In line with the call for flexibility and adaptability, Hobbs (2021) examined food supply chain resilience from the perspective of the changes in agrifood supply chains in Canada and the United States during the first year of the pandemic. Hobbs posited that agri-food supply chains are characterized by several important differences that need to be considered when evaluating resilience. Hobbs suggested that future increases in automation and digitization in food supply chains are very likely and noted how investments in the infrastructure and technology for online delivery have already reshaped the food retailing environment. Hobbs also emphasized that adaptability and flexibility can enhance resilience. This call for agility as a path to resilience was echoed by Ivanov (2022), who described a supply chain model that is agile enough to respond to positive changes but that can also adapt to disruptions through resilience as a viable supply chain.

In the same vein, Hecht et al. (2019) focused on the building of resilience in urban food supply chains and specifically on the factors addressed by policies in Baltimore, Maryland. Hecht et al. noted that severe disruptions may occur from natural or humanmade hazards, ranging from extreme weather, political unrest, or natural disasters. When policies are developed to address the issues, food system resilience is enhanced. The authors further noted that larger and better-resourced organizations demonstrated more resilience factors compared with smaller independent businesses. For small restaurants, this would imply that they must work more strategically to build resilient supply chains.

Some researchers have proposed that a key element in building resilience to disruptions is resilience thinking and building a company culture that is focused on resilience (Ali et al., 2017; Bak et al., 2020; Mu et al., 2021). According to Ali et al. (2017), a resilient supply chain can absorb disruptions and restore its function effectively. Ali et al. conducted an analysis and synthesis of literature and identified five capabilities that enhance supply chain resilience: the ability to anticipate disruptions, adapt to those disruptions, respond, recover, and learn. Furthermore, according to Bak et al. (2020), four key elements influence supply chain resilience, namely the role of company culture and collaboration, SMEs' capabilities, information systems, and cost and financing. Bak et al. also proposed that supply chain resilience can be enhanced by: (a) redundancy, which means carrying excess stock or maintaining excess resources to mitigate unexpected crises; (b) flexibility in, for instance, sourcing and manufacturing; (c) collaboration with supply partners; and (d) development of a risk-focused culture. Two factors, namely redundancy and collaboration, were also confirmed by Ali et al.. Furthermore, Ababou et al. (2023) identified three defining features of resilient supply chains, namely a diverse range of suppliers and distributors, efficient logistics, and robust risk management strategies.

Ali et al. (2021) examined the literature on the resilience of SMEs in other types of supply chains and those in the food industry. The authors' findings showed that the greatest proportion of risk stems from internal factors, which suggests that strong supply chain collaboration is crucial for resilience. The size of SMEs influences the levels of resilience, barriers, and risks, as does the location of the different nodes of the supply

chain. Those SMEs with consortium support were more resilient and performed better than those without such support. Also relevant to SMEs' supply chains' performance is the assertion by Ababou et al. (2023) that a key factor in improving food supply chain resilience is to increase the number of local and regional food producers and suppliers, thereby reducing the reliance on a single source of supply. This relates to the concept of Bak et al. (2020) of collaborative resilience, where SMEs do not have to rely on their limited resources alone to build resilience. However, resources can be aligned within a collaborative network of organizations within the supply chain.

Building resilience in their supply chains is crucial for companies to achieve and sustain performance in times of uncertainty. According to Laguir et al. (2022), supply chain resilience assists in enabling businesses to recover after disruption and either return to their original state or move on to a new stable state. When there is uncertainty in the environment, companies must respond with strategies that ensure their desired performance levels. The same researchers pointed out that supply chains have recently started to use data more intensively to design their strategies and that analytics are being developed for this purpose. Using a survey of 405 respondents, the authors analyzed the relationship between the analytics capability of an organization and both supply chain disruption orientation and supply chain resilience. The findings revealed a significant influence of analytics capability on both supply chain disruption orientation and supply chain resilience. The emergence of this level of technological investment in supply chain management indicates the challenges that SMEs and small restaurants may have to confront in ensuring resilience in their supply chains.

Supply Chain Risk Management and Mitigating Disruptions

Supply chain risk management encompasses various factors related to how an organization identifies, monitors, and assesses potential disruptions to the supply chain. Generally, risks to the supply chain can be divided into disruption risks, typically unplanned events or disasters that may result from natural or manmade causes, and operational risks, which are related to the coordination of supply and demand within the company (Shekarian & Parast, 2021). Mohezar et al. (2023) aimed to identify supply chain risks faced by small and SMEs in food businesses during the COVID-19 pandemic and investigate the business continuity management strategies employed by organizations during the COVID-19 pandemic. Their findings also provided evidence that showed the importance of flexibility, redundancy, and collaboration to avoid or reduce the impact of such risks. These findings are in line with the proposals by other researchers (i.e., Ali et al., 2017; Bak et al., 2020; Shekarian & Parast, 2021) and are discussed in more detail below.

SMEs are subject to different disruptions and challenges than larger organizations, and their ability to cope with disruptions is often related to their size (Ali et al., 2021; Bak et al., 2020). SMEs are particularly susceptible to disruption and also have a limited ability to recover from disruption (Bak et al., 2020). Small restaurants may, therefore, face the same challenges in accessing risk management tools as other SMEs, such as not being well-prepared to deal with disruptions, an informal culture, and noncompliance with industry regulations, and access to only a limited range of coping strategies (Bak et al., 2020). Larger firms can spend considerable time and resources on

strategic planning and sourcing, evaluating suppliers on a range of factors, and not only on price. However, SMEs often do not have strong decision-making processes in place (Bak et al., 2020). Due to their focus on limited product offerings in a niche area, SMEs are exposed to considerable disruption when there are challenges in accessing essential products. Often, such small companies lack the financial or technological resources to help them deal with these challenges (Bak et al., 2020).

The negative impact of supply chain disruptions on SMEs has been extensively addressed in the literature. Jose and Shanmugam (2020) examined supply chain issues in SMEs in the food industry. The authors identified five major themes from a literature review ranging from 2002 to 2018, thereby providing a summary of supply chain issues for the SME food sector. X. Song et al. (2020) explored the negative influence of supply chain disruptions and their effect on different stakeholders. The research comprised a comprehensive bibliometric overview and visualization of the field of supply chain disruption. Findings showed that supply chain disruption continues to rise exponentially due to various factors, which include both natural and human causes. The mitigation of these disruptions through the use of technology is also explored.

External events and natural disasters can have a devastating effect on small restaurants. Montenegro and Young (2020) examined operational disruptions faced by food industry supply chains during the COVID-19 pandemic. Montenegro and Young noted that the challenges were magnified by the globalization of food supply chains and reliance on imported food. Food supply chains could become more vulnerable to disruption when logistic constraints (such as transportation and lack of imports) limit

local availability and overall supply of essential foodstuffs. Nhamo et al. (2020) similarly noted that the restaurant industry is vulnerable to situations where human movement is limited and infrastructure is destroyed, such as natural disasters and pandemics. The closure of restaurants for sit-in meals affected most restaurants, with businesses operating at less than 20% capacity. Since the restaurant industry is one of the largest employers globally, millions of restaurant employees lost their jobs in the United States at the pandemic's peak, leading to substantial financial loss in the restaurant sector. Chowdhury et al. (2022) focused on strategies to deal with the impact of the COVID-19 pandemic in the food and beverage industry. Chowdhury et al. found that short-term impacts, such as product expiry, shortage of working capital, and limited operations of distributors, had a severe impact, but that the long-term impacts are more complex. In the longer term, companies would have to restructure supply chains and build new relationships with suppliers and distributors.

In line with Bak et al. (2020), Shekarian and Parast (2021) noted that supply chain risk management is commonly characterized in the literature by four key practices that enhance resilience, namely flexibility, agility, redundancy, and collaboration. In a comprehensive literature review, Shekarian and Parast investigated how these factors could be enhanced to mitigate the different types of supply chain disruptions, which are demand, supply, process, control, and environmental disruptions.

Dutta and Shrivastava (2020) explored how to design an optimal supply chain network for perishable products and to develop a suitable distribution plan under uncertainty. Dutta and Shrivastava explored transportation disruptions and investigated

the optimum locations for facilities and shipment decisions, and minimized total supply chain costs. The findings demonstrated the importance of strong supply chain design in planning strategies to mitigate disruptions in the supply chain. In a similar study, Kumar et al. (2021) investigated how the perishable food supply chain offered logistical, operational, financial, and health risks during the COVID-19 pandemic. The risk mitigation strategies these studies offer are valid even in non-pandemic conditions.

Different Types of Disruptions

Extreme weather conditions and natural disasters affect the annual fluctuation of crop production and the trade in agricultural products, and dependency on imports and existing infrastructure exacerbates the problem. The resilience of food supply chains in the face of natural disasters was the focus of research by Reddy et al. (2016) and Orengo Serra and Sanchez-Juaregui (2022). The complex network of current food supply chains globally has placed the stability of the global food supply at risk and made it vulnerable to disruptions due to natural disasters. According to Reddy et al., the reliance on existing and local infrastructure leads to instability of food supply chains. This instability would be exacerbated in SMEs, like small restaurants, that rely on short supply chains and local suppliers and resources.

Orengo Serra and Sanchez-Juaregui (2022) proposed a food supply resilience model for cases of natural disasters that could lead to the collapse of critical infrastructure. The food supply chain resilience model proposed by Orengo Serra and Sanchez-Juaregui describes the food product and transport flow via production, processing, distribution, and retailing, focusing on situations where there have been

collapses of infrastructure due to natural disasters. Orengo Serra and Sanchez-Jauregui proposed that the resilience of the food chain under the circumstances described is enhanced through the managerial actions taken by different stakeholders in the supply chain based on innovation, transformation, adaptation, and ensuring flexibility in operations and business models.

Davis et al. (2021) investigated the impact of environmental factors on food supply chains and discussed various economic, political, and infrastructural factors. Knowledge and understanding of these disruptions could alleviate risks associated with food shortages, price increases, and reductions in food quality. Davis et al. examined previous literature on the variable effects of the environment on the food supply chain and found that research on the shocks to food supply has previously focused primarily on maize, rice, and wheat, mainly through the lens of agricultural production and weather patterns. Davis et al. proposed a more comprehensive view of environmental variability and the links connecting food production to consumption and nutrition.

Financial Loss and Impact

The financial challenges that SMEs face can lead to financial loss and even business failure. Various researchers have given different reasons for the poor performance of SMEs, such as inadequate financial resources (Bak et al., 2020; Mhlongo & Daya, 2023), lack of technology and the financial resources to obtain the required technology (Bak et al., 2020; Jayasekara et al., 2020; Mhlongo & Daya, 2023; Laguir et al., 2022; Soni et al., 2022), lack of access to finance and investment (Bak et al., 2020; Jayasekara et al., 2020; Mhlongo & Daya, 2023), lack of adequate financial education

(Mhlongo & Daya, 2023), and small size and limited staff (Ali et al., 2021; Bak et al., 2020). Several researchers have emphasized the connection between supply chain management in SMEs and eventual financial performance or loss. Soni et al. (2022) described SMEs as fulfilling a pivotal role in the country's economy, a statement which is supported by the report on independent restaurants by Amel et al. (2020). Therefore, the efficiency and performance of SMEs should be a high priority, although there are barriers to growth, such as the limited capital investment that is available for such businesses. Soni et al. found that SMEs can enhance their working capital and competitiveness in the market through the adoption of Industry 4.0 technologies for sustainable supply chain finance. Soni et al. proposed some of the most appropriate Industry 4.0 technologies, such as Internet of Things, cloud computing, big data, and analytics, that SMEs could adopt to enhance their supply chain and create sustainable supply chain finance. In this regard, Moretto and Caniato (2021) proposed new paradigms for supply chain finance (SCF), which was destabilized during the COVID-19 pandemic. Moretto and Caniato noted that during the 2008 financial crisis, SCF provided answers on how to face the challenges. Moretto and Caniato also proposed new directions for solutions in the SCF domain to optimize SCF for changed circumstances.

Supply chain finance (SCF) is one method whereby supply chain financial performance can be improved. Jia et al. (2020) performed a systematic literature review of 47 articles related to SCF that reflect on sustainability, practices, outcomes, and the motives for sustainable SCF. Jia et al. discussed solutions to drive supply chain enablers

through sustainable SCF and how to mitigate barriers in the supply chain, thereby improving performance.

Templar et al. (2020) offered a comprehensive explanation of supply chain finance and demonstrated the role of the strategic relationship between financial flows associated with the supply chain and the physical supply of goods and services. Supply chain practitioners should build collaboration and foster the important strategic relationship between the different supply chain and financial stakeholders within an organization, linking together treasury, banking, supply chain, systems, information technology, and key stakeholders. The flow of physical goods, information, and finance should be embedded in strong relationships and trust between supply chain partners.

Recently, emerging research has focused on the role of technologies, such as blockchain in the management, finance, logistics, and security of supply chains, with several literature reviews conducted in the past 5 years (Dutta & Shrivastava, 2020; Katsikouli et al., 2021). Although there are benefits to SMEs in the food industry in adopting this technology, there are also indications that the lack of knowledge and understanding of the workings of this technology may prevent wide-scale adoption at this stage (Katsikouli et al., 2021).

Qiao and Zhao (2023) explored the important role of supply chain risk management capabilities as pre-factors for SMEs to improve supply chain financing performance, also incorporating the effect of supply chain integration. The authors discussed the impact of supply chain risk management capabilities on supply chain financial performance, including the role of supply chain integration, aiming at

combining supply chain risk management with supply chain financing management. The findings showed that supply chain risk management capabilities have a significant impact on supply chain financing performance.

Olan et al. (2022) also investigated the use of new digital technologies in sustainable supply chain finance, specifically for the food and beverage industry. The development of multilayered, cross-country supply chain operations in the global food and drink industries has created challenges in coordinating operations between multiple suppliers. One such operation is the financial enabler for the multi-layered supply chain network. This study investigates artificial intelligence in supply chain networks. It concludes that when driven by artificial intelligence technologies, these networks could provide a sustainable financing stream for food and drink supply chains.

As seen from the above, the literature assessments varied from researchers as to how supply chain resilience can be enhanced and how SMEs could manage risks and disruptions. The strategies that small restaurant owner-managers could adopt to mitigate disruptions, manage risk, and build resilience are discussed in the next section. These strategies are based on a combination of factors mentioned by the researchers who investigated supply chain resilience in SMEs.

Mitigation Strategies in Small U.S. Restaurants

SMEs, like small restaurants, are less prepared to cope with disruptions than large corporations. Bak et al. (2020) maintained that SMEs face challenges regarding resources and the volatility of their operations. From the literature, four supply chain management strategies that deal with disruptions have emerged (Bak et al., 2020; Shekarian & Parast,

2021). Owner-managers should engage in strategies that emphasize these coping skills to improve the resilience of their supply chains and mitigate disruptions.

Collaboration

The importance of collaboration between various stakeholders and supply chain partners on different levels has been emphasized by many researchers (Ali et al., 2017; Bak et al., 2020; Shekarian & Parast, 2021). The day-to-day running of a small restaurant with a small staff component can be overwhelming and prevent owner-managers from prioritizing tasks that will lead to resilience and mitigate possible disruptions (Bak et al., 2020). Small restaurants are vulnerable to disruption due to their size and their lack of influence in collaborative relationships with supply chain partners, which could improve their visibility (Bak et al., 2020). Both Bak et al. (2020) and Shekarian and Parast (2021) view collaborative relationships with suppliers and customers and information sharing between partners as the most effective mechanisms to cope with supply, demand, control, process, and environmental disruption risks. However, Bak et al. have cautioned that a lack of employees and a weak technological system could prevent SMEs from achieving the close relationships required and that a possible solution could be SMEs outsourcing some of their key operations to increase competitiveness, thereby achieving what the researchers call collaborative resilience.

The importance of collaboration between supply chain partners has also been emphasized by Ali et al. (2017) and Polyviou et al. (2020). Polyviou et al. explored the resilience of supply chains in medium-sized manufacturing firms in the United States. Polyviou et al. questioned the factors that enabled these organizations to recover from or

avoid supply chain disruptions. The findings showed that the most important factor in enhancing resilience was social capital, which entailed geographical proximity of stakeholders and decision-makers, a small network, low hierarchy, collaborative relationships grounded in commitment and respect, and the participation of experienced, long-tenure employees. The study by Polyviou et al. is unique because it does not base its proposals for enhancing resilience on the supply chain operations of the organization but on its human resources. These proposals align with the views put forward by Ali et al. that by building social capital among supply chain partners, community stakeholders, and colleagues, stakeholders can learn from each other and support each other.

Small Restaurant Capabilities and Maintaining Flexibility and Agility

The capabilities of SMEs are limited by factors such as size, limited number of staff, and organizational culture. Often, these are family-run businesses with limited supply chain management capabilities. However, Bak et al. (2020) have pointed out that their small size also allows for flexibility and agility and the ability to respond rapidly to disruptions that may occur. SMEs also rely heavily on sometimes volatile national and local markets and may have limited access to international markets, especially in the restaurant trade, which depends on customer proximity. Shekarian and Parast (2021) emphasized the importance of flexibility in managing disruption risk. Flexibility has been frequently identified in the literature as one of the most important strategies to cope with different kinds of risk in supply chain management (Ali et al., 2017; Shekarian & Parast, 2021). Authors have highlighted various ways in which flexibility can enhance supply chain resilience and mitigate disruptions. These include flexible supply or demand

management and processes (Ali et al., 2017; Shekarian & Parast, 2021), environmental risks (Shekarian & Parast, 2021), and transportation disruptions (Ali et al., 2017). In terms of agility, Shekarian and Parast found that process and supply-base agility are most effective in dealing with demand disruptions, and mobility of resources, capacity, and workforce agility are effective in dealing with external environmental risks. Agility improves response time when disruptions occur, and owner-managers should be aware and responsive to possible disruptions to respond quickly to mitigate disruptions and evaluate contingency plans to recover from disruptions (Ali et al., 2017).

Technology and Information Systems

Building resilience in their supply chains is crucial for companies to achieve and sustain performance in times of uncertainty. According to Laguir et al. (2022), supply chain resilience is crucial in enabling businesses to recover after disruption and either return to their original state or move on to a new stable state. When there is uncertainty in the environment, companies respond with strategies that ensure their desired performance levels. Laguir et al. pointed out that supply chains have recently started to use data more intensively to design their strategies, and analytics are being developed for this purpose. Their study aimed to explain the role of dynamic capabilities that emerge from analytics compared to the traditional ways of approaching supply chain management. Using a survey of 405 respondents, the authors analyzed the relationship between the analytics capability of an organization and both supply chain disruption orientation and supply chain resilience. The findings reveal the influence of analytics capability on both supply chain disruption orientation and supply chain resilience and its impact on the degree of

operational performance of a supply chain system. The emergence of this level of technological investment in supply chain management indicates the challenges that SMEs and small restaurants may face in ensuring resilience in their supply chains.

According to Bak et al. (2020), SMEs should collaborate to develop shared knowledge and technical content to enable small companies to interact with others on working modes and react to external disruptions. Cybersecurity is an increasing concern, highlighting the need for greater integration of information systems. Small restaurants should establish secure information systems, possibly within a network of SMEs, which can mitigate possible disruptions (Bak et al., 2020). Other researchers have identified technological innovations and flexibility in approaching digitization as contributing to supply chain resilience. This approach is suggested by Mor et al. (2020), who investigated the impact of COVID-19 on food supply chains and made some predictions on the outcomes for the future. Mor et al. noted that the pandemic highlighted the importance of technology in the highly connected global environment. According to Mor et al., the key to resilient food supply chains in the future is the adoption of technological innovation and improvisation.

Ali and Aboelmaged (2022) explored the factors that influence companies to invest in the digitization of the supply chain and its related processes, which involve integrating data, technology, and automation into the supply chain. They examined the perceived drivers and barriers to implementing Supply Chain 4.0 in the food and beverage industry. The advantages of using digital technologies in supply chain

management are also outlined by other researchers (Ababou et al., 2023; Olan et al., 2022; Soni et al., 2022).

Financial Factors

Small restaurants, in line with SMEs worldwide, are challenged by budgetary constraints and a lack of investment (Ali et al., 2017; Bak et al., 2020). SMEs typically have a shortage of working capital and cannot access the funds to exploit investment opportunities if they arise (H. Song et al., 2020). Small businesses often have high-risk profiles and cannot easily access finance. Therefore, the financial burden of investing in supply chain resilience could prevent small restaurants from adopting the technologies required to support them in mitigating disruptions. External factors, such as the unstable economic cycles in national and local markets, can also make small restaurants more vulnerable. To mitigate disruptions and increase supply chain resilience, small restaurants should, therefore, if the cost-benefit trade-off allows, invest in new technologies to overcome these financial disadvantages (Bak et al., 2020).

In the United States, the food supply system has traditionally been based on vertically integrated food supply chains that rely on large-scale production, centralization of planning and control, and seek to ensure consistency of the food supply to consumers. However, during the COVID-19 pandemic, it became clear that these food supply chains were severely disrupted, and it was found that many regionalized food supply chains performed much better. Marusak et al. (2021) reported that these regional systems could adapt more rapidly to changing circumstances and respond to changes in consumer demand and delivery requirements. This research examined how regionalized food

supply chains could improve the resilience of the food system by examining seven case studies in Texas and Iowa. In line with other similar studies, it was found that collaboration among the stakeholders was a very effective strategy, and that utilization of scale-appropriate information and communication technologies also helped to facilitate collaboration and ultimately increase the resilience of the network.

Ali et al. (2021) investigated what strategies could be adopted by SMEs in the food industry to react to disruptions during the COVID-19 pandemic, and Kumar et al. (2021) examined strategies to mitigate risks in perishable food supply chains for SMEs during COVID-19. Ali et al. divided strategies into four quadrants depending on the time available to react, and proposed strategies for each quadrant. In line with the findings by Ali et al., Kumar et al. offered strategies that included collaborative management, proactive business continuity planning, and financial sustainability as the most important approaches to mitigate supply chain risks in uncertain situations. The crucial role of collaboration of different stakeholders in supply chain management, especially during times of uncertainty, was also emphasized by Polyviou et al. (2020)

Green restaurant management has become more prominent in recent years, and Shin and Cho (2022) investigated green supply chain management (GSCM) as implemented by suppliers and how these practices enabled environmental growth and awareness in SMEs in the restaurant sector. Shin and Cho aimed to understand how restaurants can achieve effective environmental performance by focusing on their business relationships with suppliers that implement GSCM. The results revealed the

significant influence of GSCM on the ethical attitudes in restaurants, which facilitated cooperative behaviors towards green suppliers.

Relationships With Stakeholders

SMEs in the restaurant business operate in an extremely competitive environment, and managers need to trust their suppliers. To be effective, restaurants rely on resources that they access through interorganizational transactions. Cho et al. (2021) investigated the criteria involved in the selection of suppliers by restaurants, citing cost, quality, and delivery as being the most critical factors. The authors stressed the importance of selecting suppliers who are capable of ensuring the quality of food products, safety, and value for restaurants. Restaurant managers should, therefore, utilize the external resources that suppliers offer to ensure long-term consistency and the sustainability of the supply chain.

Cho, Bonn, and Terrell (2019) examined the relationships between restaurant suppliers and customers and looked at how competence and goodwill trust related to contract specificity in reducing the opportunism of some suppliers. The findings showed that contract specificity, competence, and goodwill trust had a positive effect on reducing supplier opportunism, thereby enhancing the stability of the relationship and ultimately improving the performance of the restaurant.

Several researchers have discussed the importance of supply chain agility in improving operations and performance in the food industry (Ivanov, 2022; Thilmany et al., 2021), but Al-Omoush et al. (2022) also examined other aspects of supply chain management. They examined the role of intellectual capital, supply chain agility,

collaborative knowledge creation, and corporate sustainability in times of disruption, focusing on the COVID-19 pandemic period. Al-Omouh et al. posited that learning and innovation in times of crisis (i.e., intellectual capital, provide managers with new knowledge to deal with unexpected disruptions). In addition, collaboration is crucial for the survival of organizations when there are crises and is a key element of resilient supply chains, where stakeholders can move rapidly to confront challenges and pool capabilities and resources while learning from each other. The findings highlighted the important impact of intellectual capital on supply chain agility, collaborative knowledge creation, and corporate sustainability. The importance of the adaptability of supply chain management in restaurants is also emphasized by Barman et al. (2021), who examined the disruptions due to the COVID-19 pandemic and how these could be confronted in the restaurant industry.

Nitshe et al. (2023) investigated the importance of multiagent systems (MAS) to automate decision-making in logistics and supply chain networks for efficiency and the reasons why it has not been successful. The findings reveal that MAS can potentially increase logistics network resilience and enhance organizational performance due to autonomous decision-making in informational processes. Furthermore, the findings identified barriers to MAS, such as a lack of standardization, insufficient technological maturity, soaring costs, complex change management, and a lack of existing use cases.

In conclusion, Marusak et al. (2021) proposed that there were selected transportation, warehousing, and inventory management best practices utilized in conventional supply chains that could make resilient food supply chains more efficient

and improve their sustainability and viability. Logistics are very important for the success of food supply chains. Eight logistic best practices adopted by the participants in their case study research were outlined (Marusak et al., 2021). These are efficient vehicle utilization and selection, frequent and on-time deliveries, outsourced transportation, horizontal collaboration, facility location, inventory management, and improved supplier reliability.

Current Trends and Gaps in the Literature

There have been several researchers who have identified perceived gaps in the literature around supply change management, disruptions in supply chains in the food industry, and related issues. These are discussed in detail with calls for further research consolidated where appropriate. Some areas for further research are market and financial performance outcomes of supply change management practices (Gera et al., 2022), the role of food supply chains in SMEs and food logistics (Adams et al., 2021), the role of supplier selection in resilient supply chains (Cho et al., 2021), and the resilience of supply chains in the food industry (Ababou et al., 2023).

Transition

In this section, I presented a review of the literature, including an analysis of supply chain disruptions and mitigation strategies relevant to small restaurant businesses. In summary, the specific business problem was that small Baltimore restaurant supply chain managers lack effective strategies to manage supply chain disruptions and reduce the associated costs. The purpose of the current qualitative pragmatic inquiry project was to identify and explore effective strategies that supply chain managers use in small

restaurant businesses in Baltimore to manage supply chain disruptions and reduce the associated costs. In alignment, the project was guided by the research question: What strategies do successful Baltimore small restaurant supply chain managers use to mitigate supply chain disruptions and reduce the associated costs?

In the literature review, I provided a comprehensive overview of the main features of supply chain management before analyzing the relevant literature on supply chain management in the food and beverage industry. The literature also revealed the intensely competitive environment where SMEs operate and discussed the vulnerabilities of SMEs in terms of performance and sustainability, such as financial performance and the importance of effective management strategies. Mitigation strategies for small restaurant managers were proposed according to themes that emerged from the literature, including collaboration with supply chain partners, SME capabilities and flexibilities and agility, technology and information systems, financial factors, and relationships with stakeholders. These strategies can help small restaurants remain competitive and ensure a consistent supply of safe food to their consumers.

In Section 2, the research methods that were used to conduct the project will be detailed, including the research design, population and sampling, data collection procedures, and data analysis plan. In Section 3, I will present the study's findings, discuss their implications, and offer conclusions and recommendations for practice and future research.

Section 2: The Project

Section 2 begins with discussions of the project's purpose and the role of the researcher. I then describe the participants for the project as well as the research method and design. The population and sampling for the project are also addressed. The section includes discussions of ethical research considerations, along with the instruments of data collection that were used. The data collection and data organization strategies are then detailed. I conclude Section 2 by describing data analysis, reliability, and validity assurance of the project as well as and the summarizing the section and transitioning to Section 3.

Purpose Statement

The purpose of the current qualitative pragmatic inquiry project was to identify and explore effective strategies that supply chain managers use in small restaurant businesses in Baltimore to manage supply chain disruptions and reduce the associated costs.

Role of the Researcher

The role of the researcher in qualitative research is to be the instrument of data collection (Merriam & Tisdell, 2015). My role in this project was that of the data collection instrument. In this role, I engaged with the participants throughout the research process, which included contacting the participants, recruiting the participants, providing them with any information they needed about the project, and addressing any questions or concerns that participants raised after data had been collected. Beyond that, my role was to be an impartial observer. I endeavored to filter my own biases, expectations, and

preconceptions out of the research process. As a scholar and practitioner of supply chain management, I had considerable expectations and preconceptions that were born of my familiarity with the topic literature and my own experiences. To minimize the effects of these biases, I engaged in careful reflexive practice throughout the entirety of the research process. Employing reflexive practice helped me to be aware of and mitigate any effect of my biases.

Participants

The participants were 10 supply chain managers at small restaurants in Baltimore who had successfully managed supply chain disruptions. For the purposes of this project, a supply chain manager was a person who either formally holds the position of supply chain manager or who performs tasks associated with ensuring that necessary supplies are available to the business in a secondary capacity. The inclusion of those who informally hold the position was necessary because small business employees are more likely to perform multiple professional roles. Therefore, many supply chain managers in this context may not hold that title; indeed, some were expected to be the business owners themselves. In addition, the project focused specifically on supply chain managers who have effectively addressed the problem to understand the strategies that they employed and afford that knowledge to other supply chain managers at small restaurants who have not effectively mitigated supply chain disruptions. Inclusion criteria included: (a) being a supply chain manager, (b) being employed at a small restaurant in Baltimore, and (c) having effectively mitigated the effects of at least one significant supply chain disruption.

Research Method and Design

The research method and design reflect how the project was conducted. I discuss these key characteristics in the following subsections. The research method was qualitative, with a pragmatic inquiry design.

Research Method

The research methodology for this project was of the qualitative method. Qualitative research is a descriptive and open-ended approach to research (Liamputtong, 2020). The descriptive nature of qualitative inquiry derives from its open-endedness (Merriam & Tisdell, 2015). In a qualitative study, the researcher seeks to fully understand the topic through the subjective experiences of those who have dealt with the topic firsthand (Hennink et al., 2020). Understanding such experiences requires a descriptive approach, in which the participants' experiences are explored in their own words (Liamputtong, 2020). Because qualitative research is open-ended in nature, it allows a researcher to fully explore a central phenomenon (Merriam & Tisdell, 2015). In addition, the open-ended, exploratory nature of qualitative research allows qualitative researchers to explore new theoretical grounds (Liamputtong, 2020). Overall, therefore, the qualitative approach to research is ideal for exploring new topics that are not yet well understood (Hennink et al., 2020). These factors confirmed the value of using the qualitative method.

The qualitative methodology was appropriate for this project for several reasons. The current project was exploratory in nature, with its purpose being to explore strategies that aligned with the open-ended, exploratory nature of qualitative research. The current

project was also focused on the subjective experiences of the participants, using those experiences to better understand the strategies that the participants have used effectively. Additionally, the current project addressed a central phenomenon, namely strategies for mitigating supply chain disruption. Finally, the project addressed a topic about which not much is known, aligning with the aspect of qualitative research that is well-suited to exploring new ideas.

Research Design

The specific qualitative research design of this project was a pragmatic inquiry. Pragmatic inquiry is a business-focused research approach that focuses on obtaining the necessary data in a straightforward fashion (Clarke & Visser, 2018). The pragmatic research design aligns strongly with business research because of its focus on specific, useful results (Bowen et al., 2020). Additionally, pragmatic inquiry was ideal for this study because it focuses more on practical results than theory (see Clarke & Visser, 2018). In a pragmatic research design, the researcher can tailor the research approach to the specific circumstances as needed (Ramanadhan et al., 2021). This flexibility of the pragmatic approach also makes it apt for addressing an identified research gap (Clarke & Visser, 2018). Overall, the qualitative pragmatic research design is well-suited for problem-oriented research in a practical domain of inquiry, such as business (Bowen et al., 2020). In addition, a pragmatic approach is ideal for addressing a narrowly defined research gap (Ramanadhan et al., 2021). The pragmatic inquiry design was appropriate for this study because it enabled me to focus on gaining insight into specific results of value to the study population.

A pragmatic approach was appropriate to this project for several reasons. One reason was the project addressed a straightforward problem where straightforward data collection was appropriate. The problem was a specific, narrowly defined business problem, which aligned well with the focus of a pragmatic design on addressing such a problem. The current project was also in the domain of business research, an area of study that aligned well with the overall pragmatic approach. Furthermore, the project addressed this problem in a specific context, small restaurant businesses in Baltimore, which made the flexibility of the pragmatic approach useful for focusing narrowly on the problem. Finally, the project was tailored to address a specific gap in the literature. Overall, the characteristics of the current project aligned closely with the tenets of pragmatic inquiry.

Population and Sampling

For this project, the overall population was supply chain managers at small restaurants. An overall population represents the largest group of people in which the researcher is interested (Hennink & Kaiser, 2021). A target population represents the subset of the population the researcher is interested in (Hennink & Kaiser, 2021). The target population within this project was supply chain managers at small restaurants in Baltimore who have successfully managed supply chain disruptions. Inclusion criteria included: (a) being a supply chain manager, (b) being employed at a small restaurant in Baltimore, and (c) having effectively mitigated the effects of at least one significant supply chain disruption.

In this project, the sampling strategy was purposive. Within the target population, the researcher recruits a specific sample or group of individuals using a sampling strategy (Hennink & Kaiser, 2021). Purposive sampling is a nonprobability sampling approach that involves selecting participants for the project specifically based on their ability to address the research question (Etikan et al., 2016). Purposive sampling was appropriate because the current project was focused on participants with specific, relevant experiences. Qualitative sample sizes are most appropriately determined by data saturation; data saturation represents the point at which recruiting new participants no longer contributes new data (Hennink & Kaiser, 2021). The final sample size was 10 participants, which I determined based on achieving data saturation.

Ethical Research

I adhered to ethical research practices to at every stage of the research. These included adhering to the *Belmont Report's* criteria of justice, respect for persons, and beneficence (see Miracle, 2016). Justice meant treating all participants equally and fairly. Participants' perspectives were all weighed equally, and all participants were treated the same. Respect for persons reflects interacting with the participants in a polite, respectful, and appropriate fashion. Beneficence refers to the idea that the research should benefit, or at least not harm, the participants. I took care to protect the participants and avoid causing harm.

I adhered to the Walden University Institutional Review Board (IRB) approval process, site authorization, and informed consent practices at every research stage. No data were collected without the appropriate approvals in place. After obtaining IRB

approval to proceed with this study, (IRB Approval Number 01-27-25-1027558), participants were recruited and provided with a detailed informed consent form that included: (a) the purpose of the study and its relevance; (b) a description of the research activities they had to be involved in; (c) an outline of any potential risks, discomforts, or inconveniences; (d) an explanation of the potential benefits of the study, (e) assurance of confidentiality and data protection; and (f) information on their right to withdraw from the study at any time without penalty. Before signing the consent form, participants had an opportunity to ask questions or seek clarification about any aspect of the study. I addressed these queries to ensure complete understanding. Participation was entirely voluntary, without any incentives, and no coercion was used. Participants indicated their agreement by signing the informed consent form. A copy of the signed form was provided to them for their records. I reminded participants throughout the study that they could withdraw consent at any point, even after initially agreeing to participate, without any consequences to them or their business.

Participants were free to withdraw from the project at any point prior to publication by contacting me through any preferred communication channel—email, phone, or in-person communication. My contact information was clearly provided in the informed consent form. Upon receiving a withdrawal request, I promptly acknowledged the participant's decision and provided any necessary support or clarification regarding the process. Participants also had the option to request the removal of their data from the study. Any data collected from the participant was deleted from research records unless it had already been anonymized or aggregated into a format that cannot be individually

identified. Participants were assured that there were no penalties or negative consequences for deciding to withdraw from the study, as participation was entirely voluntary. I provided a written confirmation to participants that acknowledged their withdrawal and confirmed the status of their data in the study.

Participants' confidentiality was carefully protected, with only me and approved university personnel having access to identifying information. I assigned participants codenames to help protect their confidentiality. All data are stored securely on an encrypted external drive or in a locked drawer. Materials will be preserved for 5 years following publication, then destroyed.

Data Collection Instruments

There were two sources of data for this current project. The first source was semistructured interviews, and the second was document collection. In this qualitative study, I served as the primary data collection instrument and was directly responsible for collecting, interpreting, and analyzing the data. This role included designing the data collection process, conducting interviews, observing participant behavior, and ensuring the accuracy and credibility of the collected data. My responsibilities as the primary data collection instrument also involved maintaining ethical standards throughout the research process, which included establishing rapport with participants, asking probing yet unbiased questions, and actively listening during interviews to gather in-depth and meaningful insights. Additionally, I was tasked with recognizing and mitigating potential biases that may have influenced data collection or interpretation. To enhance the

reliability and validity of the findings, strategies, such as member checking and reflexive journaling, were employed (see Busetto et al., 2020).

Semistructured Interviews

The main source of data was semistructured interviews with participants. In a semistructured interview, the researcher asks participants a series of open-ended questions in a one-on-one setting (Kallio et al., 2016). Interviews are an ideal source of qualitative data because they offer insights into the experiences and perceptions of the study participants directly (Adeoye-Olatunde & Olenik, 2021). Semistructured interviews, in particular, combine flexibility and structure (Ruslin et al., 2022). The interview protocol contains a list of preliminary questions for the participants covering the key ideas required for the study (Kallio et al., 2016). Semistructured interviews are structured in the sense that they are guided by an interview protocol.

For the current study, I followed the interview protocol found in Appendix A, which started with an introduction of the researcher/interviewer and the study. I explained the purpose of the interview and answered any questions the participants may have had. I used the 10 semistructured, open-ended interview questions to guide the discussion, focusing on the participants' experiences with supply chain disruptions, how participants dealt with the disruption, how it may have affected their business, the mitigation efforts used, how effectiveness or ineffectiveness of the strategies was measured, and how future disruptions would be dealt with based on previous experiences. Probing questions were asked while watching their nonverbal cues to gain deeper insights. At the end of the interview, I thanked participants for their time and informed

them about the follow-up session for member checking. During the member checking session, I reviewed my interpretations of the participants' responses with them to ensure accuracy and invite additional insights.

The interview protocol was reviewed by a panel of experts from Walden University. However, semistructured interviews also allow the researcher to go beyond these preliminary questions and ask follow-up, probing, or clarifying questions (Adeoye-Olatunde & Olenik, 2021). This combination of structure and flexibility makes semistructured interviews apt for collecting in-depth data (Ruslin et al., 2022).

Document Collection

The second source of data was document collection. The documents in question included publicly available documents about supply chain practices and supply chain disruptions. Each of these document types was collected from a different source, and included the *BCI Supply Chain Resilience Report*, the *Federal Trade Commission Report on Grocery Supply Chain Disruptions in America*, the U.S. Department of Agriculture *Agri-Food Supply Chain Assessment Report*, the *European Food Security Crisis Preparedness and Response Mechanism Report on the Diversity of Supply Sources for Food Supply Chains*, the World Bank's *Supply Chain Management Report*, and the *Organization for Economic Cooperation and Development Report on Keys to Resilient Supply Chains*. The selected documents presented important contextualizing information for the project.

Data Collection Technique

Data collection for the current project proceeded as follows. Before collecting any data, IRB approval was obtained for conducting the research. Once IRB approval was obtained, I used publicly available resources, such as business directories, chambers of commerce, and social media pages to identify small restaurants in the Baltimore, Maryland area. Qualified participants were identified and contacted directly using their public-facing e-mail or social media addresses. Restaurants with publicly available contact information for their supply chain managers were prioritized. These individuals were contacted via email or social media to determine their interest in participation and eligibility by asking: (a) if they have faced and successfully navigated supply chain disruptions, and (b) if they were willing to participate in the project. Willing participants were asked to provide informed consent. If a restaurant's supply chain manager was not publicly identifiable, I contacted the restaurant directly to request contact information for the appropriate individual. To help identify restaurants most likely to have met the inclusion criteria, more successful small restaurants were focused on.

The recruitment message for the project contained key information about the project, including its purpose, the confidentiality of the data collection, and what participation entailed. Supply chain managers interested in participating were asked to email me. I provided participants with informed consent forms through the electronic signature service, DocuSign. Once participants had read and accepted the informed consent form, an interview was scheduled. Interviews were physical or virtual, using Zoom, based on the participants' preference. Interviews lasted 30–60 minutes each and

were audio recorded, whether conducted virtually or in person. To ensure the reliability and validity of the data collection process, I implemented several key strategies as outlined by Busetto et al. (2020), which included reflexive journaling, member checking, and triangulation.

Member checking was conducted after the interviews, during which I met with each participant to review my interpretations of their responses. This allowed participants to confirm the accuracy of the data and provide additional insights or corrections as necessary, ensuring that their perspectives were accurately represented (see Busetto et al., 2020). Additionally, participants were asked to review their interview transcripts to verify the recorded information. This step minimized the risk of misinterpretation and enhanced the reliability of the collected data (see Braun & Clarke, 2022a, 2022b; Busetto et al., 2020). During the interviews, I used open-ended and probing questions to encourage detailed and comprehensive responses, reducing the likelihood of incomplete or ambiguous data. To further strengthen the credibility of the findings, I reviewed publicly available documents and reports on supply chain practices and supply chain disruptions to identify patterns and ensure consistency across different data sources. Throughout the research process, I maintained a reflexive journal to document my thoughts, assumptions, and potential biases. This enhanced transparency and helped mitigate the impact of researcher bias (Braun & Clarke, 2022a, 2022b; Busetto et al., 2020).

The following interview questions were used in the project:

1. How would you describe what your work in supply chain management entails?

2. Please describe your work and how it involves supply chain management.
3. How would you describe the importance of supply chains to your restaurant?
4. When you had dealt with at least one supply chain disruption incident, what was your experience like?
5. How have supply chain disruptions affected your business?
6. When you dealt with supply chain disruption, what strategies did you employ?
7. When you dealt with supply chain disruption, what strategies were ineffective, and why were they ineffective?
8. When you dealt with supply chain disruption, what strategies were effective, and how were they effective?
9. Knowing what you do now, how, if at all, would you have approached the supply chain disruption differently?
10. Please share any other thoughts you have that are related to how you address supply chain disruptions in your small restaurant business.

Data Organization Technique

Once collected, the data were transcribed using a transcription service. I reviewed and edited the transcripts for accuracy in the recordings. Then, participants were sent a copy of their transcripts to review and, if desired, submit corrections. Once transcripts were corrected or a participant had opted not to make corrections, all data were placed on an encrypted external drive for storage. Data were loaded into NVivo qualitative data analysis software for analysis. All physical data are stored in a locked cabinet accessible only to me. Materials will be preserved for 5 years following publication and then

destroyed. Electronic data, including audio recordings, transcribed interviews, and coded data files, have been securely stored on a password-protected computer and backed up on an encrypted external hard drive kept in a separate locked cabinet. The data will be retained for 5 years, after which it will be permanently destroyed in accordance with institutional ethical guidelines.

Data Analysis

Data analysis for the current project involved qualitative thematic analysis. The data analysis process was based on the six-step thematic analysis framework presented by Clarke et al. (2015). The steps were completed in a nonlinear, cyclical process, going back and forth across the procedures until no new relevant information emerged from the data. The steps were: (a) data familiarization, (b) coding, (c) preliminary theme development, (d) theme review and validation, (e) theme naming, and (f) report compilation (Clarke et al., 2015). This process was completed with the aid of NVivo 15, a qualitative data analysis software. The software was utilized to manage, organize, and store large volumes of qualitative data as well as produce reports that were helpful in developing the themes. However, I completed all coding and theme development without reliance on the automatic coding features of NVivo to produce a more in-depth approach to the analysis.

Step 1: Familiarity

The first step in thematic analysis was developing familiarity with the data (see Braun & Clarke, 2022a). Data familiarization involved understanding the structure, content, and context of the idea presented in the data (Clarke et al., 2015). Each of the 10

interview transcripts was read multiple times to gain familiarity with the information and recurring patterns in the data. The first round of reading entailed no note-taking because my focus was on being acquainted with the holistic content of the data. The subsequent rounds of reading involved highlighting texts that appeared relevant to the participants' experiences as supply chain managers. I also generated a list of high-frequency words using NVivo 15 to determine keywords within the data. Understanding the contents and highly recurring words helped in grounding the analysis to the participants' words in the latter steps of the process.

Step 2: Coding

The coding process was based on Saldaña's (2021) initial coding technique. The transcripts were imported to NVivo 15. Each line of the transcript was read closely while identifying chunks of text that appeared meaningful to the participants' experience as a supply chain manager. These meaningful chunks of text were highlighted and assigned to a code with a short descriptive label reflective of the idea within the data. For instance, a line from Participant 3's statement was: "Also, I analyze supply chain data to identify inefficiencies and implement cost-saving measures to save the restaurants money and to obviously increase our profit margins." This line of text reflected the idea that Participant 3 sought a cost-saving option while sourcing for the restaurant with the goal of saving money and increasing profit. I assigned this line to the code of seeking cost-saving options to represent the idea using the participant's words. A list of codes with sample quotes from the data is provided in Appendix B.

Step 3: Develop Themes

The third step in thematic analysis was to use the codes to develop themes. This step was guided by the recommendations of Saldaña (2021) on theme development. Preliminary themes were developed from the list of codes. The preliminary themes developed in this step were the first iteration of the project results. To establish preliminary themes, I categorized codes based on their relationship with each other as outlined by Clarke et al. (2015). For example, the code of seeking cost-saving options was one aspect of how small restaurant supply chain managers plan, allocate resources, and adapt operations to remain financially stable and responsive amidst disruption. Reviewing the list of codes revealed that ensuring the quality, having a structured plan, and having sufficient cash flow also represented a similar categorical meaning; thus, the preliminary theme of strategic planning and financial preparedness emerged. Seven preliminary themes were identified in the data. The list of codes grouped into categories is presented in the Findings section. Once themes were developed, they had to be validated in the fourth step. This process aligns with the recommendations by Clarke et al. on the creation of themes from codes.

Step 4: Review and Validate Themes

This step involved comparing each theme with the original data, ensuring it could be supported by at least one direct quote, and making a table of the quotes supporting each theme. I reviewed the preliminary themes and validated them for consistency, coherence, and frequency. Each theme was contrasted against the transcripts to find evidence that the theme was sufficiently supported by at least one relevant direct quote.

NVivo 15 has side-by-side panels that show the list of themes with frequency of recurrence in the data and coded texts under the selected theme, which made theme review efficient and accurate.

Step 5: Naming the Themes

Step 5 was naming the themes (Braun & Clarke, 2022a). The themes were compared and contrasted with each other to determine how they were related and at the same time distinct from each other. At this point, I combined the seven preliminary themes into the three final themes. The themes were assigned with descriptive names that directly answered the research question.

Step 6: Compiling the Report

The sixth and final step was compiling the report (Clarke et al., 2015). This step involved writing a detailed report of the thematic analysis, which included the methodology, coding framework, themes, and supporting quotes. In this step, I also correlated the key themes identified in the analysis with the existing literature and the conceptual framework used in the study. This involved critically examining how the themes aligned with, supported, or diverged from previous findings, including new studies published since the proposal was written. By integrating the findings with the conceptual framework, I highlighted how the results contributed to the broader understanding of supply chain management in small restaurant businesses and provided insights into the practical application of the framework. Step 6 culminated in drafting Section 3 of this project, in which I present a comprehensive analysis that connects the study's findings to both the academic literature and the theoretical underpinnings of the

research. The methodology was presented in this section, while the coding framework, themes, and supporting quotes are provided in Section 3 under Findings and Conclusions.

Reliability and Validity

Reliability

Reliability in this study was established by adopting standardized procedures for data collection and analysis, ensuring consistency and transparency across all stages of the research process. Reliability in qualitative research is dependability (Johnson et al., 2020). Dependability is how well the project can be replicated. To ensure dependability, I detailed all of the research methods by which the project was conducted so that a future researcher could replicate it. In particular, the data analysis process has been described in sufficient detail to ensure that another researcher could replicate it. A research journal was also kept throughout the research process to document observations, reflections, and decisions made during the study (see Ahmed, 2024; McGrath, 2021). This journal served as a tool to enhance reflexivity by allowing me to critically examine potential biases and assumptions, ensuring transparency and integrity in the research process (see Ahmed, 2024; Busetto et al., 2020; McGrath, 2021). Additionally, the journal helped me track the evolution of ideas and provided a record of methodological adjustments, contributing to the rigor and credibility of the study (see Ahmed, 2024; McGrath, 2021). Overall, the measures applied ensured that the results could be trusted to accurately reflect the participants' experiences.

Validity

Validity in this study was ensured by strengthening the credibility and trustworthiness of the findings. The first component of validity in qualitative research is credibility (Johnson et al., 2020). Credibility reflects the rigor and internal cohesion of the project (Merriam & Tisdell, 2015). To assure credibility, I took several steps. The project's key components, including the problem, purpose, and research question, were developed in careful alignment. Member checking was employed to ensure that the data collected reflected the participants' perspectives. I also took several confirmatory steps during the data analysis process to ensure the analysis results were accurate.

The second component of qualitative validity is transferability (Johnson et al., 2020). Transferability reflects how well the results can be transferred to other contexts. The key to assuring transferability is documenting the research process so a reader can make an informed decision about applying the results (Merriam & Tisdell, 2015). Therefore, the details of the project provided in this section and the details of the sample, findings, and limitations in Section 4 will enable transferability.

The third and final component of qualitative validity is confirmability (Johnson et al., 2020). Confirmability is the evidence that the research process was objective (Merriam & Tisdell, 2015). Three main strategies were used for confirmability. I engaged in careful reflexive practice throughout the research process, acknowledging and documenting my biases, which ensured transparency and minimized their influence on the findings. Another strategy was the use of direct quotes from the data in Section 4 to support points and illustrate key themes. I also maintained a detailed audit trail

throughout the research process. This audit trail included comprehensive records of decisions made during the study, such as how themes were developed, coding processes, methodological adjustments, and data analysis procedures. An audit trail involves maintaining an audit of all key stages and theoretical, methodological, and analytical decisions, as well as documenting how a researcher's thinking evolves throughout a research project (Carcary, 2020). By providing a clear and traceable account of the research process, the audit trail enhances the credibility and dependability of the study (Ahmed, 2024; Carcary, 2020) and allows other researchers to reproduce the study (Ahmed, 2024). These strategies ensured that the conclusions drawn genuinely reflected participants' perspectives and the realities of the research context.

Transition and Summary

In summary, the purpose of the current qualitative pragmatic inquiry project was to identify and explore effective strategies that supply chain managers in small restaurant businesses in Baltimore use to manage supply chain disruptions and reduce the associated costs. In this section, I described how the project was conducted. The research method was qualitative, with a pragmatic research design. The target population within this population was supply chain managers at small restaurants in Baltimore who have successfully managed supply chain disruptions. The sampling strategy was purposive in nature. The final sample size was 10 participants, determined based on saturation. Data were collected using semistructured interviews and document collection. Data analysis involved qualitative thematic analysis.

In the next section, Section 3, I will present the study's results, including a detailed data analysis, the themes identified through the thematic analysis, and supporting evidence from participant responses. In this section, I will correlate the findings with the literature and conceptual framework, highlighting their relevance and contribution to the research objectives. The applications of the study's findings to professional practice, implications for social change, recommendations for action and further research, and the researcher's reflections will also be discussed.

Section 3: Application to Professional Practice and Implications for Change

Introduction

Some small restaurant supply chain managers do not apply adequate strategies to manage supply chain disruptions and reduce the associated costs. Studies on supply chains are abundant in the field of manufacturing but not in the food industry (Gera et al., 2022). Particularly, the strategies of supply chain managers following the COVID-19 pandemic era are not well-understood despite the known impacts of the pandemic on the food industry and small to medium enterprises (Kulkarni et al., 2023; Winter et al., 2023). The purpose of this qualitative pragmatic inquiry project was to identify and explore effective strategies that supply chain managers use in small restaurant businesses in Baltimore to manage supply chain disruptions and reduce the associated costs. This study was guided by the following research question: What effective strategies do successful small restaurant supply chain managers in Baltimore use to mitigate supply chain disruptions and reduce the associated costs?

This section contains the findings and conclusions of the study. In the first section, I report the themes and the context from which the themes emerged. The recommendations and implications of this study for professional practice, social change, and future research are also provided in this section.

Presentation of the Findings

The findings of this study were developed from the interview data collected from 10 small restaurant supply chain managers in Baltimore. To understand the context of the study, a description of the sample is first provided. The participants varied in age, years

of experience in the food industry, restaurant size, and approximate annual income of the restaurant. The age range of the participants was from 36 to 70 years, with an average age of approximately 49 years. Their experience in the food industry was extensive, ranging from 8 to 45 years, which indicated that all the participants had relevant experiences before, during, and after the COVID-19 pandemic era. The participants managed restaurants with sizes ranging from four to 75 employees. The participants reported an approximate annual income of the restaurant ranging from \$650,000 to \$9,000,000. Some participants held various roles, including owners and general managers, in addition to being supply chain managers. The participants' descriptive information is summarized in Table 1.

Table 1

Participants' Descriptive Information

Participant	Age	Years of experience in the food industry	No. of employees	Approximate annual income
1	44	9	4	\$650,000–\$700,000
2	62	38	Not specified	\$7,000,000–\$9,000,000
3	47	8	27	\$3,500,000–\$4,000,000
4	41	17	75	Not specified
5	54	15	12	\$1,000,000–\$1,200,000
6	40	25	18	\$2,000,000
7	47	10	14	Over \$1,000,000
8	45	14	7	\$3,000,000
9	70	45	40	\$3,500,000–\$4,000,000
10	36	13	6	\$4,800,000

The interview data were analyzed using the steps recommended by Clarke et al. (2015). The process involved six nonlinear, cyclical steps, which were: data familiarization, coding, preliminary theme development, theme review and validation,

theme naming, and report compilation (Clarke et al., 2015). Three final themes emerged from the analysis: small restaurant supply chain managers engage in resource and operational management, small restaurant supply chain managers apply flexibility in procurement, and small restaurant supply chain managers maintain relationship and communication. The codes, preliminary themes, and final themes are presented in the following subsections.

Theme 1: Small Restaurant Supply Chain Managers Engage in Resource and Operational Management

All 10 participants described their experiences as supply chain managers as involving taking care of the resources and operations of the restaurant. The participants noted that their strategies focused on maintaining stability and profitability in the face of disruptions. This focus entailed customer-facing strategies, inventory and demand management, and strategic planning with financial preparedness to face supply chain disruptions. As an overview of the theme, the supporting codes and preliminary themes are presented in Table 2.

Table 2*Engaging in Resource and Operational Management*

Codes	Preliminary themes	Themes
<ul style="list-style-type: none"> • building relationship with customers • building reputation of quality food • free Wi-Fi for customers • having good staff • marketing • offering deliveries to move inventory • retaining price 	Customer-facing strategies	Small restaurant supply chain managers engage in resource and operational management
<ul style="list-style-type: none"> • challenges - delays • challenges - time consuming • considering demands and busy seasons • doing regular audits • using a system to track inventory 	Inventory and demand management	
<ul style="list-style-type: none"> • be informed and updated • challenges - buying at higher cost • challenges - COVID-19 slow recovery • challenges - not enough government subsidy • decision of the owner • ensuring the quality • having structured plan • having sufficient cashflow • outcomes - affected profit margin negatively • outcomes - increased profit margin • outcomes - raise prices • outcomes - retain selling price • seeking cost-saving options 	Strategic planning and financial preparedness	

The participants reported that mitigating supply chain disruption began with strategic planning and financial preparedness. The participants recounted their experiences of external factors that drove the prices of goods to fluctuate, which then prompted them to be prepared in case another external event happened. The recent external factors described by the participants included the COVID-19 pandemic, the Russia-Ukraine war, and the tariffs on imported goods implemented by President Donald Trump. For instance, Participant 1 described, “Lately, the tariffs have made things more

expensive to bring in. For example, items like cabbage and peppers, which we use a lot, mostly come from Canada, and the tariffs on those have really impacted the cost.” One strategy to mitigate the disruption was to be responsive. Participant 3 stated, “We just have to raise our prices. That’s the only way to stay in business.” Similarly, Participant 8 revealed, “We are passing the costs to the customer because of the disruption. We were buying this at a higher cost, and then at that point, we couldn’t just absorb the whole cost...which for us felt ineffective.” These findings were aligned with the conclusions of Kulkarni et al. (2023), in which external factors led SMEs to redefine their strategies. The reactive strategy of raising prices for short-term survival also reflects the limited financial buffers often faced by SMEs (see Bak et al., 2020; Mhlongo & Daya, 2023).

Instead of being reactive, most of the participants found proactive strategies to be more effective. The participants shared that instead of waiting for a disruptive event to happen, they tuned to the news and gathered information about current affairs that might affect the prices of goods so they could increase their stocks or search for new suppliers before prices rise. For instance, Participant 2 shared:

We watch the news and talk to the salespeople. They tell me things like, “Right now, Trump is doing something with Mexico, Canada, or China,” and that the prices will go up. So we buy more of the items we use, like hot tequila, while the price is still lower, and then we store it.

Anticipating disruptions is central to supply chain resilience (Ali et al., 2017). The participants’ practices were practical applications that directly support the ability to

manage supply, a core function of supply chain management theory (Oliver & Webber, 1998).

Another proactive approach was to have a careful financial management strategy. Participant 7 shared the practice of outlining and organizing one's cost structure and maintaining a well-defined strategy for managing costs. Participant 7 stressed:

I would say you need to have your cost structure well-detailed and your strategy has to be tidy when it comes to your cost structure. Once the cost structure is in place, then it becomes super easy. In fact, lemme do a bit of diving for this one. It's like you have to have well-planned demand, your supply, your fulfillment, your production must be intelligently managed.

Participant 7's approach to financial management included understanding factors like food spoilage and waste being factored into the cost structure. Participant 7 also advocated for preparedness in handling external factors affecting the restaurant's finances: "I'm big on being proactive and I feel to a large extent a business that is able to be strategically proactive will have more muscle to handle things that is beyond their control by cost control now." According to Participant 6, maintaining financial stability involved relying on the business's cash flow. As the owner of the restaurant, Participant 6 used funds from their personal savings to bridge the gap in the restaurant's cash flow. Participant 6 explained, "I had to get from my pocket, my savings, pay the people or pay. But it's always there to have some extra saving for this situation." Meanwhile, Participant 2 shared that financial preparedness involved saving on the costs of daily operations. Participant 2 elaborated that they cut their expenses by doing the tasks they can instead of

hiring someone to complete them: “I go myself or ask my driver to go to the store, so we don’t have to pay delivery, we don’t have to pay stuff.” Researchers identified that economic factors indeed influenced the supply chain (Gera et al., 2022). The emphasis on robust cost control and personal financial injections for cash flow management confirms the literature on the limited financial resources and access to finance for SMEs, leading to reliance on internal ingenuity and owner commitment for survival (see Bak et al., 2020; Ivanov, 2022; Mhlongo & Daya, 2023; Jayasekara et al., 2020).

The participants shared that they also often engaged in market research in search of competitive pricing and product quality. Participant 6 cited leveraging online resources:

Well, there is always searching on the internet. On a website there is searching couple things like what is the business needs. We have to go on a website to see where we can find better product. Who has the social media is very important too. So it’s helping us a lot.

According to the participants, seeking cost-saving options entailed vigilance in choosing suppliers. Participant 6 noted a situation of ending a partnership with a supplier due to unreasonable pricing despite higher commissions for the supplier. Participant 10 described their practice of continuous sourcing and networking despite having working partnerships with various suppliers. Participant 10 justified, “Number one thing I always say is sourcing is a big key. No matter how much relationship you have with one company, you always have to keep looking around for different suppliers of the same products.” Participant 8 summarized a proactive approach: “Effective supply chain will

help us negotiate our prices, it'll help us reduce our waste and also optimize inventory.”

Planning and controlling are core concepts in SCMT. The findings contributed to the literature on practical application in small businesses for cost-effectiveness and competitive advantage (see Adams et al., 2021; Oliver & Webber, 1998). While Adams et al. (2021) identified supplier management as a theme contributing to sustainable supply chain management, these findings showed how small restaurant managers actively leverage ongoing supplier evaluation and negotiation to directly impact their restaurant's financial standing as well as to gain an advantage in securing favorable prices.

The participants also noted that their practices in managing their resources and operations involved handling the restaurant's inventory and seasonal demands. The participants detailed their methods for tracking stock, forecasting needs, and conducting regular audits to mitigate disruptions and control costs. A highly recurring perception among the participants was the use of systems to track inventory. Some participants described the advantage of using technology to be proactive in managing their inventory.

Participant 7 elaborated:

One of the things we do in our business is we have a very robust order management system. And by the way, order management system does not only cater to the product, there is a supply side for the product, but there is an extensive need for things like ingredients, things like supply, things like utensils, things like packaging and all those good stuff. The moments, those things start depleting beyond the threshold we've set for them. The system triggers action items for us.

Participant 4 reported the use of a less sophisticated technology but still got the work done. Participant 4 specified, “I have workbook sheets on QuickBooks and stuff that I go through and work through as far as numbers of what we need to order from week to week and things of that nature.” The participants reasoned that having a system in place provided adequate lead time to address potential supply shortages. Participant 8 noted:

We used technology to enhance our supply chain visibility and efficiency, which is crucial so that we can have real time tracking of our inventories and so that we can forecast and then with that we’re able to reduce waste and that led to a lot of cost of savings.

The ability to track inventory and forecast provides the visibility and efficiency needed for reducing waste and achieving cost savings (Shekarian & Parast, 2021).

Literature on planning, implementing, and controlling as concepts within SCMT entailed a growing emphasis on using data and analytics for strategic supply chain design (Laguir et al., 2022), similar to the participants’ use of inventory tracking.

According to the participants, resource and operation management also involved doing regular audits of their inventory. Participant 3 stated, “We obviously implemented a regular audit and continuous improvement of the systems. So we do weekly cost reviews and obviously we reevaluate our suppliers as well.” The participants disclosed that a systematic checking of their inventory helps identify inefficiencies and refine procurement strategies. Participant 6 explained that auditing their inventory regularly, particularly before ordering stocks, increased accuracy and cost-effectiveness. Participant

6 noted, “So 1 day before I had to do my inventory what I need, so whatever, what I need. So, I had to order with each of them.”

The participants articulated that they did not just track inventory, but also the historical data on customer demands and busy seasons in the restaurant. One strategy was to avoid overstocking and food waste by ordering based on demand forecasting in real-time. Participant 3 shared, “Basically what it means that I reduce the excessive stocks by ordering based on real-time demand rather than overstocking.” Participant 2 revealed their forecasting strategy to include considerations for upcoming events and weather. Participant 2 elucidated, “If his busy week, not busy week. If it’s Mother’s Day week, usually I order twice. If it is 1st of January, I do less...I check the weather. If it’s snow this week, it is not very busy.” Participant 7 described that with the addition of delivery services, they added a small buffer to their demand forecast, as accurate predictions were not entirely possible. Participant 7 shared, “We always try to either add a percentage, a 15% or 20% ratio to be able to accommodate for some of these changes in online demand whereby you are doing food deliveries and...then you have events.” Participant 10 reported reviewing the restaurant’s historical data for long-term planning. Participant 10 explained, “Knowing how much you sell at a certain period of time can let you project how much you’ll need for a longer period.” Similarly, Participant 9 mentioned preparing for slow seasons by setting aside funds during busy periods. Participant 9 expressed:

The busy times will be late from, let’s say from March all the way to October. You’re saving some money on the side, you put some money on the side and you’re getting ready for the slow season that starts after Christmas.

The participants' insights highlighted the proactive and data-driven approach small restaurant managers adopt to align their inventory with anticipated customer needs and seasonal fluctuations. When the participants offered a home delivery option during the pandemic or catered to seasonal demands, they demonstrated quick adaptation to the situation, which showed their application of the concepts of agility and flexibility within the SCMT (see Hobbs, 2021; Ivanov, 2022; Shekarian & Parast, 2021).

The last category under the participants' practices of resource and operation management was to employ customer-facing strategies. The participants shared that they gauged their customers' dining behaviors and adapted to them. One adaptive approach was to offer delivery options during the COVID-19 pandemic lockdown. Participant 5 described how their restaurant pivoted to home deliveries during widespread shutdowns to continue serving their customers:

Well at that point in time, it was a total shutdown for most restaurants and most people in the restaurant food entertainment industry. So in order for us to keep meeting with the needs of our customers that were reaching out to us, we reverted back to running the restaurant from home and delivering the meals to people's dogs. So that was able to keep us going at that point in time.

Participant 2 detailed the financial benefits of their delivery service, indicating significant revenue generated from this channel: "Sundays we do like \$2,000, \$3,000 delivery carry out. Friday, Saturday we do at least 200, 300 order checks." When facing customers, the participants noted that an effective approach was to provide quality food and service. Participant 7 reported prioritizing quality service to enhance customer

loyalty: “I like to say to anyone who’s running a business to focus more on delivering quality service first and not necessarily build your plan on market on certainties.”

Participant 10 had similar beliefs in maintaining the quality of their food: “I think the relationship with customers is more important than just, hey, we’re going to give you the cheapest price.” In instances of supply chain disruptions when restaurants may not be able to deliver the same quality of food and service, some participants stated that they communicated their issues and solutions to their customers. Participant 8 explained, “When there are disruptions and challenges, if you’re able to communicate this effectively with your staff and your customers, it helps achieve customer satisfaction. You have to let a customer know why certain dishes are unavailable.”

Link Between Theme 1 and the Conceptual Framework

Theme 1 aligns with Oliver and Webber’s (1998) SCMT, which emphasizes the efficient coordination of materials, information, and financial flows to meet customer requirements. The finding that small restaurant supply chain managers actively engage in resource and operational management reflects SCMT’s principle of integrating supply chain functions to optimize performance. Within small restaurants, this integration manifests in the careful allocation of limited resources, coordination with suppliers, and real-time adjustments in operations to maintain service continuity. Although SCMT was originally conceptualized for large-scale enterprises, its core tenets, which include planning, implementation, and control of supply chain activities, are equally relevant to smaller entities. The theme demonstrates that even in resource-constrained environments, managers employ strategic and operational decision-making to sustain efficiency.

Link Between Theme 1 and the Existing Literature

Theme 1 corroborates existing literature that highlights the centrality of operational efficiency and resource management in sustaining small business performance. Kulkarni et al. (2023) and Winter et al. (2023) emphasized that SMEs rely heavily on efficient resource utilization and operational coordination to mitigate disruptions within their supply chains. Similarly, Alabi and Ngwenyama (2023) observed that operational agility and supplier relationship management are crucial determinants of supply chain resilience among food-related SMEs. The current finding extends this literature by illustrating how small restaurant managers apply these principles in practice by balancing procurement, inventory, and production demands within volatile market conditions. Publicly available documents, such as the World Bank's (2023) supply chain management report and the Organisation for Economic Co-operation and Development's (2024) report on keys to resilient supply chains, corroborate this finding in the sections on inventory management and embracing sustainability practices. This alignment with prior research reinforces the notion that operational and resource management competencies are pivotal for maintaining competitiveness and resilience in the post-pandemic supply chain environment.

Theme 2: Small Restaurant Supply Chain Managers Apply Flexibility in Procurement

All 10 participants noted that as supply chain managers, they applied flexible approaches to their resources to mitigate supply chain disruptions and reduce costs. The participants described demonstrating flexibility both in their procurement strategies and

in adapting their menus to accommodate supply chain challenges. The codes and preliminary themes supporting this theme are shown in Table 3.

Table 3

Applying Flexibility in Procurement

Codes	Preliminary themes	Themes
<ul style="list-style-type: none"> • bulk buying to increase stocks • buying from different vendors • challenges - perishables • challenges - shortage • challenges - small storage • imported • outcomes - simplified sourcing • sourcing from local vendors 	Inventory and procurement flexibility	Small restaurant supply chain managers apply flexibility in procurement
<ul style="list-style-type: none"> • adjusting the menu • buying alternative items • challenges - different quality • challenges - diverse customers • having menu items made of local ingredients 	Menu and product adaptation	

The participants reported demonstrating inventory and procurement flexibility, particularly in diversifying their vendor base, strategically sourcing locally, and feasible bulk purchasing. The participants described their strategy to include buying from different vendors to enable consistent supply and competitive pricing. Participant 4 shared, “When the vendors are out of items, we always have managed to find another vendor to get it through or something similar, to continue to have us continue to do what we do here and move forward.” The participants stated that they made sure they knew where to buy their supplies before they ran out of stock. Participant 10 noted, “Supply chain, I mean we getting products and things from various suppliers. We have so many accidents that come in, so we need a lot of different suppliers to supply those products.”

Being flexible in working with different suppliers allowed the participants to adapt quickly when primary suppliers faced issues. Participant 2 disclosed, “Right now I have a problem with the bread. We used to get them from France and the company who deliver the soft stuff, but they cannot deliver. So now I’m looking for another company.”

Participant 6 reported encountering a similar experience with egg shortage. Diversifying suppliers aligns with the literature on resilience (Ali et al., 2017; Bak et al., 2020; Shekarian & Parast, 2021; Mohezar et al., 2023). From the SCMT perspective, working with multiple vendors shows flexibility in which managers exhibit proactive planning to adjust their procurement with the control function aimed at ensuring continuous supply (Oliver & Webber, 1998).

According to the participants, flexibility in sourcing suppliers also involved tapping into local vendors. The participants stated that local suppliers reduced their dependency on distant vendors and mitigated transportation challenges, reducing the cost of procurement. Participant 8 elaborated the benefits of local partnerships: “We put in place local partnership forming strong connection with local farmers and producers and that supported the efficiency of our businesses and reduced dependency on distant suppliers.” Local suppliers helped address supply chain disruptions, as Participant 1 justified, “So once a tariff hits, they will stop coming. So you got to source them from local farmers just to fill the void. You’re going to spend more for it locally, but you have no choice.” Participant 3 noted that sourcing locally saved on costs: “I source local so I make sure most of our produce come from locally suppliers, so that reduces our transportation costs immensely.” However, the participants also reiterated that supply

chain managers needed to be flexible and not rely solely on local suppliers, especially for specialty or out-of-season items. Participant 1 expressed a concern about seasonal availability: “I mean it worked well for now because, so it happened in a time when the local farmers do have the goods, but if it happens in a time when they don’t have it, we have nowhere to go.” Participant 5 described applying a “hybrid network” of local distributors with international freight forwarders. Participant 5 explained, “At certain times there are certain ingredients that the local distributors on how so we have to rely on the international freight forwarders to get some of those ingredients for us.”

The participants also took measures to check the feasibility of bulk buying to help with the flexibility of their sourcing. The participants explained that bulk buying helped prepare for anticipated price increases or supply scarcities. Participant 10 illustrated how they capitalized on price drops for certain products:

Most products usually do have their seasons of, should I say price crashing if you can, I guess they’ll call it analytics. If you can look at your chart and see, okay, over the last 5 years this product always drops by \$2, \$3 in June, July, August. Some people can buy enough quantity and keep, because most products, once it’s frozen, the shelf life is usually about 6 months to a year.

The participants’ practice of stocking in anticipation of disruption can be an expansion of the concept of redundancy strategy discussed in the literature for enhancing supply chain resilience (Ali et al., 2017; Bak et al., 2020). In literature, the redundancy strategy is often limited to storage capacity and perishability concerns in small restaurants, and does not include discussions of other disruptions such as increased tariffs

(Bak et al., 2020). From the SCMT perspective, bulk buying is part of effective supply planning. Additionally, the planning function was fulfilled by the participants when they analyzed past trends and anticipated future needs (Oliver & Webber, 1998).

The participants described that their practices also included adapting their menu items and buying alternative goods to replace out-of-stock items. Participant 3 disclosed a strategy of designing dishes that minimized reliance on expensive or hard-to-find ingredients: “We started designing dishes in the restrooms without some of the major supplies or ingredient that has increased the prices or that we are finding it difficult to get.” According to the participants, adapting allowed them to control costs without compromising their offerings. Participant 9 elaborated:

The only thing during the COVID and after the COVID, we limited a little bit the menu. If we took all the expensive items out, items like lobster tail for instance, you make no profit on lobster tail. So you take these items out and you give items of things that people are using on regular basis. So we try this way to save some money and to survive through the crisis.

Additionally, Participant 9 recommended reviewing the menu regularly to remove unpopular items: “Everything starts from the menu. You check your menu. If you see the items you have on the menu, they’re not selling, clean them up...make it leaner so you don’t have to pay so much money.” Participant 5 similarly expressed the value of flexibility in the menu in which customers can have alternative choices to their unavailable orders. Utilizing an adaptive menu and willingness to use alternative ingredients show the participants’ capabilities to be flexible and agile, which are both

needed for supply chain resilience (see Ivanov, 2022; Shekarian & Parast, 2021). The participants exemplified a practical application of responding and adapting to disruptions, which are foundational to SCMT (see Ali et al., 2017; Oliver & Webber, 1998).

The participants stated that they adapted their menu to offer locally available produce and livestock to reduce reliance on distant or unstable supply chains. Participant 3 shared:

Local suppliers is key... You cannot be a local small restaurant and be ordering good beef from Japan and the logistics coupled with the time and everything, the cost of the product. That's a big issue for a small restaurant. So just stick with what you know, stick with what's local, you'll be successful.

If ingredients became unavailable or difficult to obtain, the participants disclosed that they sourced substitute or alternative items. For instance, Participant 8 described, "If chicken prices spike, for instance, due to supply issues, we look for an alternative that can help control that cost and then use that alternative. Instead of us using chicken, we could use Turkey or something." Participant 4 also described resorting to similar products when specific items were unavailable: "Sometimes we ran out of products because the supply chain doesn't have it or we can't get it from anywhere else. So we've had to not make that product for the time being and then offer people something." Participant 2 cited having to find "different things" when their usual supplies were short.

Link Between Theme 2 and the Conceptual Framework

Theme 2 aligns with Oliver and Webber's (1998) SCMT, which underscores the need for adaptive coordination and responsive decision-making across the supply chain to

achieve efficiency and customer satisfaction. Flexibility in procurement represents a strategic operational behavior that reflects the SCMT principle of integrating supply chain activities to respond to dynamic market conditions. In small restaurant settings, this flexibility is achieved through diversifying suppliers, local sourcing, and adjusting purchasing decisions in response to price fluctuations or supply shortages. The U.S. Department of Agriculture (2022) report on agri-food supply chain assessment emphasizes procurement flexibility and supplier diversification as strategies to mitigate disruptions. This was echoed by the European Food Security Crisis Preparedness and Response Mechanism (2023) report on the diversity of supply sources for food supply chains. By exercising such adaptability, managers effectively operationalize SCMT's emphasis on strategic control of procurement and resource flows, ensuring that the supply chain remains resilient in the face of uncertainty.

Link Between Theme 2 and the Existing Literature

This finding aligns with the existing literature emphasizing procurement flexibility as a critical component of supply chain resilience. Kulkarni et al. (2023) and Nitshe et al. (2023) highlighted that procurement adaptability enables SMEs to mitigate supply disruptions and maintain operational stability during crises such as the COVID-19 pandemic. Similarly, Gera et al. (2022) noted that flexible supplier relationships enhance responsiveness and reduce dependency on single sources of supply. The current theme extends these insights by demonstrating how small restaurant managers apply flexible procurement not only as a crisis-response mechanism but as a continuous strategic approach to managing volatility in food prices and availability. This supports the broader

argument within the literature that procurement flexibility contributes to long-term supply chain sustainability and competitive advantage, particularly for small enterprises in dynamic market environments.

Theme 3: Small Restaurant Supply Chain Managers Maintain Relationship and Communication

All 10 participants described that they, as supply chain managers, mitigated supply chain disruptions through maintaining relationships and communication with their suppliers, employees, and customers. Building and maintaining a relationship, especially with suppliers, created stronger means of obtaining the resources they needed for their restaurant's operation, as well as concessions that they might need when facing difficult times. The participants also stated that employees and customers kept their business afloat. In terms of communication, the participants reported the need for a clear and coordinated approach. The codes and preliminary themes supporting this theme are presented in Table 4.

Table 4

Maintaining Relationship and Communication

Codes	Preliminary themes	Themes
<ul style="list-style-type: none"> • communicating clearly • coordinating 	Communication and coordination	Small restaurant supply chain managers maintain relationship and communication
<ul style="list-style-type: none"> • building network • building relationship with suppliers • having credibility • helping each other • keeping in touch with suppliers • negotiating long-term contracts 	Supplier relationship management	

The participants described that building relationships involved creating local networks, fostering mutual trust, and leveraging these connections, especially during difficult times. Participant 5 expressed, “It still boils down to relationships. It’s relationships, relationships, right, the stronger supply relationships.” The participants reported that businesses in their area formed a network to enhance their collective buying power and provide mutual support. Participant 3 mentioned being part of a “group purchasing organization,” which they explained entailed local restaurants making a collective bulk order to reduce the price. Participant 5 described a similar concept with “buying groups.” Participant 8 described this as collaborative purchasing:

As small businesses, we had to engage in collaboration whereby we achieve economics of scale, so small companies will come together and then we purchase from a particular supplier and that will help our bargaining power and make our suppliers more favorable and price efficient.

Collaboration and network-building are also aligned with the SCMT. Oliver and Webber (1998) recommended cooperation and coordination among stakeholders for efficient supply chain management. Working with stakeholders was also highly recommended for SMEs with limited individual resources (Ali et al., 2017; Bak et al., 2020; Polyviou et al., 2020; Shekarian & Parast, 2021). When small restaurants form group purchasing organizations or local partnerships, collaboration is put into practice. Collaboration promotes a smooth flow of materials, information, and finances because involved parties share resources, improve their buying power, and deal with supply

problems more effectively (Bak et al., 2020). The collaborating stakeholders then reflect teamwork and shared resilience, termed by Bak et al. (2020) as “collaborative resilience.”

As local business owners became familiar with each other, they also built their relationship and became ready to help each other. Participant 9 specified, “In case the extreme case, we can go to the next restaurant and get something from there. And they do also the same thing for us... we exchange products with the other diners that are affiliated with us.” For suppliers, the participants shared that their relationship allowed them to receive and give help during difficult times. Participant 6 noted that many suppliers were willing to assist: “Yeah, many of them, they try to find a way to help too. So they say, okay, you know what, I will get it for you, but it’s going to cost you a little bit more. Not a problem.” The participants shared that mutual support with suppliers extended to financial flexibility. The participants noted that their relationship with their suppliers established them as credible customers and granted them concessions in payment structures during challenging periods. Participant 9 stated, “For the past 4 years, we have credibility with major suppliers.” Participant 9 continued that credibility allowed them to negotiate flexible payment terms: “ I don’t have the \$10,000 today because you’ve been very slow. Is there any way we can break it down in 3 weeks? So that’s what we do, breaking up the payments.” Participant 6 also described that their suppliers often extended payment times or allowed split invoices: “They give us times to do payments in case we cannot make any payments... You help me. I will help you.” Mutual trust and support also encompassed their relationship with employees. As Participant 2 elaborated, “Pay them employees, pay employee pay the company they deliver for you.”

The participants additionally shared that they established clear communication and coordination with their internal and external stakeholders to mitigate supply chain disruption. Participant 3 articulated the importance of communication and coordination:

Communication is key. It's not just in the restaurant business in life in general, but particularly in the restaurant business. Communication is key because you need to communicate one, a clear pricing negotiation with a supplier. So you don't want a situation where you agree a cost with a supplier and it makes you supply, it gives you an invoice, and what you've seen in the invoice is clearly different from what you guys discussed about.

A clear and coordinated communication is fundamental to the process standardization and communication flow in SCMT (Oliver & Webber, 1998). Keeping information flowing smoothly among involved stakeholders contributes to supply chain resilience (Bak et al., 2020; Shekarian & Parast, 2021).

The participants stated the influences of communication on pricing and order accuracy. The participants specified that they should be precise on what was agreed upon and what was delivered. Participant 4 disclosed that internal communication among them and their staff clarified the stocks they needed:

Just to make sure that your management staff, however many you have, your supervisors, everybody's on the same page, they know what they need, they come to you and it's just the communication key. Again, just making sure everybody communicates.

Participant 7 also spoke about internal communication for identifying needed stocks, but added the layer that technology brought, as their inventory management system created a structure in which they and their staff based their communication on: “If you have a very good eventually order management system, a very important part of that is the communication, right? Communication whereby you are able to send out necessary order to your supply chain people.” In SCMT, the functions of planning, execution, and control need to be aligned across the supply chain to increase resilience (Oliver & Webber, 1998). The participants’ use of inventory systems and clear staff communication created channels for coordinating tasks, preventing misunderstandings, and ensuring that the stakeholders were united. Recent developments in SCMT revealed that the use of technology tools, innovation, and digital systems enhanced supply chain management and resilience (Ali & Aboelmaged, 2022; Mor et al., 2020).

Link Between Theme 3 and the Conceptual Framework

Theme 3 reflects Oliver and Webber’s (1998) SCMT, which emphasizes coordination, collaboration, and information flow among stakeholders as critical determinants of supply chain efficiency. Relationship and communication management are central to the SCMT framework, as they facilitate synchronization between suppliers, managers, and customers. In the context of small restaurants, maintaining strong relationships and open communication channels enables supply chain managers to anticipate disruptions, negotiate favorable terms, and foster trust with vendors. This theme demonstrates the practical application of SCMT’s integration principle, wherein effective communication serves as both a control mechanism and a relational strategy that

enhances reliability across the supply chain. By cultivating interpersonal trust and transparent information exchange, small restaurant managers operationalize SCMT's theoretical emphasis on cooperative interdependence, ensuring that even with limited resources, supply continuity and service quality are sustained.

Link Between Theme 3 and the Existing Literature

Theme 3 aligns with and extends existing literature underscoring the importance of relational and communicative competencies in supply chain management. Winter et al. (2023) and Alabi and Ngwenyama (2023) highlighted that strong supplier relationships and communication networks improve resilience, reduce uncertainty, and promote mutual responsiveness in small business operations. Kulkarni et al. (2023) also emphasized that effective information sharing enhances coordination efficiency, while Gera et al. (2022) linked relationship management to trust-based collaboration that minimizes transactional friction. Bak et al. (2020) and Shekarian and Parast (2021) noted that keeping information flowing smoothly among involved stakeholders contributes to supply chain resilience. This is corroborated by the Federal Trade Commission (2024) report on grocery supply chain disruptions in the United States and the BCI (2023) supply chain resilience report. The current study reinforces these findings by showing that small restaurant managers not only rely on formal communication mechanisms but also leverage informal, trust-based interactions to sustain dependable partnerships. This insight contributes to the growing understanding that in resource-limited contexts, relationship management and communication serve as strategic tools for achieving supply chain stability, responsiveness, and adaptability in line with established literature.

Summary of Findings

Ten small restaurant supply chain managers in Baltimore were recruited and interviewed for this study to elicit their responses to questions designed to address the research purpose of identifying effective strategies that supply chain managers use in small restaurant businesses in Baltimore to manage supply chain disruptions and reduce the associated costs. The interview data were analyzed thematically, which resulted in three themes: (a) small restaurant supply chain managers engage in resource and operational management, (b) small restaurant supply chain managers apply flexibility in procurement, and (c) small restaurant supply chain managers maintain relationships and communication.

The findings revealed that resource and operational management involved proactive strategic planning and financial preparedness. The participants shared that they monitored external factors impacting prices, saved costs through efficient operations, and maintained the financial stability of the restaurant. According to the participants, they were rigorous in managing their inventory and customer demand. They used a systematic approach, and sometimes, technology, to track stocks. They also forecast needs based on historical data and seasonal patterns, and conduct regular audits to prevent waste. The participants applied customer-facing strategies, including offering delivery options, prioritizing quality, and transparently communicating supply challenges to customers, to maintain or increase their profit margin.

The findings also showed that flexibility in procurement was crucial to supply chain management. The participants practiced inventory and procurement flexibility

through diversifying vendors, strategically sourcing from local suppliers while maintaining international connections for specialized items, and judiciously bulk buying. They also created adaptable menus and bought alternative products to minimize reliance on expensive or scarce ingredients. The participants noted the use of locally available produce and actively sourcing alternative items when primary ingredients were unavailable.

Lastly, the findings revealed the participants' experience of maintaining relationships and communication with their internal and external stakeholders. The participants engaged in supplier relationship management in which they built extensive networks with other businesses for collective buying power and mutual support. They also fostered mutual trust and support with suppliers to leverage flexible payment terms during difficult times. Clear communication and coordination increased the accuracy of orders, helped in managing expectations, and maintained operational efficiency.

Applications to Professional Practice

The participants in this study reported that two fundamental approaches to mitigating the disruptions of supply chains in small restaurants are strategic and financial preparedness. The participants reported on external factors that influenced the prices of goods, such as the COVID-19 pandemic, the Russia-Ukraine war, and the recent implementation of tariffs on imported goods. For supply chain managers in small restaurants, disruptions and unexpected price fluctuations could destroy the business (Mohezar et al., 2023). Supply chain management covers a wide range of topics, and the application of SCMT in this study enhanced the depth of the findings. Saragih et al.

(2020) examined how SCMT could be utilized to trace relationships between operational capability, total quality management, supply chain management practices, and operational performance.

Total quality management is a mediating factor in the evaluation of the performance of supply chain operations, and Saragih et al. (2020) showed that the business performance of companies and competitive advantage is directly affected by the supply chain management practices and quality management. Chan et al. (2020) further showed that quality management had significant mediating effect on sustainable food security, which suggests that the interventions of supply chain managers to improve resilience and sustainability have a far-reaching impact. When supply chain managers face challenges and disruptions, their response to these challenges directly affects the business success of their companies. The findings in this study offer concrete strategies, as proposed by small restaurant supply chain managers, that can overcome or mitigate supply chain disruptions and ensure that their businesses survive extended periods of supply chain disruption. These strategies and skills are vital in the intensely competitive environment of SMEs and small restaurant businesses, which affects their performance and sustainability.

Resource and Operational Management

The findings in this study highlighted the need to be proactive and prepared for unexpected external events. The redefinition of strategies by supply chain managers in SMEs is aligned with the conclusions of Kulkarni et al. (2023). The limited financial buffers that SMEs face (Bak et al., 2020; Mhlongo & Daya, 2023) are reflected in the

proposed strategy of raising prices for short-term survival. Since being proactive and anticipating disruptions is the foundation of supply chain resilience (Ali et al., 2017), the practical applications proposed supported the ability to manage supply, which is a core function of SCMT (Oliver & Webber, 1998).

The participants shared that they monitored external factors impacting prices, saved costs through efficient operations, and maintained the financial stability of the restaurant. According to the participants, they were rigorous in managing their inventory and customer demand. They used a systematic approach, and sometimes, technology, to track inventory and costs. Customer-facing strategies included offering delivery options, maintaining communication about supply chain challenges and availability, and financial preparedness through proactive budgeting to enable the business to absorb shocks. Adams et al (2021) identified supplier management as supporting sustainable supply chain management, and the findings in the current study demonstrate that managers actively leverage a continuous engagement to evaluate and negotiate with suppliers, which increases competitiveness in terms of cost of supplies and impacts the financial standing of the business.

Through financial preparedness and proactive inventory management, the participants could engage in effective, scalable practices that reduce waste and save costs (see Shekarian & Parast, 2021). These proactive strategies enabled the business to maintain or increase profit margins and are reflective of SCMT dimensions of planning and control (Oliver & Webber, 1998). The literature confirms the importance of control of inventory and cash flow for business resilience, financial sustainability, and proactive

planning for business continuity (Kumar et al., 2021). The proactive approach to financial management could mitigate some of the financial barriers faced by SMEs and small restaurants in particular, such as a lack of investment and budgetary constraints that negatively affect business operations (Ali et al., 2017; Bak et al., 2020; Song H. et al., 2020). The findings and recommendations align with previous research on practical applications in SMEs to enhance cost-effectiveness and competitive advantage (Adams et al., 2021; Oliver & Webber, 1998).

Flexibility in Procurement

The literature has highlighted the importance of flexibility in managing the disruption risk in supply chain management (Shekarian & Parast, 2021). The different risks in supply chain management, especially in the food industry, are unpredictable and multivariate. Flexibility is widely regarded as one of the most important strategies to cope with different kinds of risk in supply chain management (Ali et al., 2017; Shekarian & Parast, 2021). Previous research has identified different kinds of disruptions that require flexibility to enhance supply chain resilience and ensure business stability, including flexible supply or demand management and processes (Ali et al., 2017; Shekarian & Parast, 2021) as well as managing environmental risks (Shekarian & Parast, 2021), and transportation disruptions (Ali et al., 2017). Shekarian and Parast (2021) identified elements of agility that were regarded as most effective in dealing with demand and disruptions, namely process and supply-based agility. More related to this study, external risks are best mitigated through strategies that are characterized by mobility of resources, capacity, and workforce agility. The findings in the current study confirmed the

importance of agility, which improves response time and enables managers to respond rapidly to unexpected disruptions (see Ali et al., 2017). Agility is closely aligned to flexibility, which emerged as a dominant theme in this study.

A crucial strategy proposed by small restaurant owners was flexibility in procurement, which the participants regarded as crucial to supply chain management. Proposals included sourcing from a diversity of vendors, strategically sourcing from local suppliers while maintaining international connections for specialized items, and judiciously bulk buying. The flexibility in sourcing suppliers also included finding local vendors that reduce their dependency on remote suppliers and alleviate transport challenges, with a positive effect on costs.

The use of flexible menus was proposed to minimize reliance on expensive or scarce ingredients that were unavailable due to supply chain disruptions. Actively adapting to the unavailability of primary ingredients and using locally available produce supported a flexible approach to procurement. The participants further proposed that flexibility is maintained by offering locally available produce and livestock to mitigate instability in the supply chain when using distant suppliers.

Bulk buying maintained flexibility in their sourcing and helped them to prepare for anticipated price increases or scarcities due to unexpected external events. These proposals around adapting menus demonstrate the participants' flexibility and agility in working out practical solutions to supply chain disruptions, as detailed in the literature (Ivanov, 2022; Oliver & Webber, 1998; Shekarian & Parast, 2021).

The literature on resilience is aligned with the practice of diversifying suppliers (Ali et al., 2017; Bak et al., 2020; Shekarian & Parast, 2021; Mohezar et al., 2023). This also attests to managers' proactive planning to adjust procurement to the SCMT control function aimed at ensuring uninterrupted supply (Oliver & Webber, 1998). The practice of stocking up to mitigate future disruptions is aligned with the concept of redundancy that has been shown to enhance supply chain resilience (Ali et al., 2017; Bak et al., 2020). This study has expanded on discussions of redundancy strategies in the literature by including mitigation of external disruptions, like increased tariffs in the discussion, and not only focusing on storage capacity or perishability concerns in small restaurants (Bak et al., 2020). Bulk buying is also related to analyzing past trends and anticipated future needs and aligned to the SCMT perspective of effective supply planning, responding, and adapting to disruptions (Ali et al., 2017; Oliver & Webber, 1998). The supply chain risks faced by SMEs in food businesses during the COVID-19 pandemic provide evidence of how business continuity management strategies were employed by organizations during the pandemic (Mohezar et al., 2023). Researchers have emphasized the importance of flexibility, redundancy, and collaboration to avoid or reduce the impact of such risks (Ali et al., 2017; Bak et al., 2020; Mohezar et al., 2023; Shekarian & Parast, 2021). Further risk mitigation strategies proposed in the literature include designing optimal supply chain networks for perishable products (Dutta & Shrivastava, 2020), coupled with developing a suitable distribution plan under uncertainty. Strong supply chain design emerged in the literature as the most important approach when planning strategies to mitigate disruptions in the supply chain. Perishable food supply

chains are vulnerable to logistical, operational, financial, and health risks, especially during times of uncertainty like the COVID-19 pandemic (Kumar et al., 2021). In advocating proactive strategies and flexibility, the recommendations for practice in this study are aligned with these risk mitigation factors.

The participants detailed their methods for tracking stock, forecasting needs, and conducting regular audits to mitigate disruptions and control costs. The findings also expanded on previous studies in focusing on using digital systems to track inventory, which enabled managers to be more proactive and flexible. The previous literature on planning, implementing, and controlling as concepts within SCMT demonstrated a growing awareness of the use of data and analytics for strategic supply chain design (Laguir et al., 2022), but SMEs and small restaurants have not engaged fully with available technology due to a variety of constraints.

Communication and Relationship Management

The findings in this study support the importance of relationship and communication management as articulated in several previous studies (Brinkley et al., 2021; Cho et al., 2019). Participants proposed maintaining relationships and communication with suppliers, employees, and customers to mitigate supply chain disruptions. Building relationships with suppliers was a means of obtaining scarce resources in difficult times and obtaining concessions when needed. Building relationships involved creating local networks, fostering mutual trust, and leveraging connections in difficult periods. They emphasized the importance of trust-based supplier relationships with local businesses that allow for flexible credit arrangements and cost

concessions, product sharing, and crisis support. The crucial role of relationship management is supported in the literature (Polyviou et al., 2020).

Participants noted strategies like forming group purchasing organizations or local partnerships that promote a smooth flow of materials, information, and finances. Small restaurants can share resources, improve their buying power, and deal with supply problems more effectively (Bak et al., 2020). Participants mentioned that local partnerships between suppliers, farmers, and producers can help them to confront the challenges of, for instance, higher tariffs. The focus on local networks reduces the dependency on distant suppliers and enhances business efficiency. This focus is aligned with the move away from vertically integrated supply chains relying on large-scale production and centralization towards regional and local systems as reported in the literature (Marusak et al., 2021). Collaboration among stakeholders, including the sharing of scale-appropriate technologies, could improve the resilience of the network. Templar et al. (2020) posited that supply chain practitioners should build collaboration networks that are embedded in strong relationships of trust between supply chain partners. The strategic relationship between supply chain and financial stakeholders within the organization should underpin the flow of physical goods, information, and finance throughout the supply chain. These proposals in the literature are confirmed in the strong focus on collaboration in this study.

Recommendations for Managers, Owners, and Industry

Menu and supplier flexibility, inventory systems, and relational capital are key recommendations that could be implemented by SME owners. Strategies recommended

for small restaurant owners included developing flexible resourcing strategies that include organized cost structures and inventory systems to plan proactively for changes and disruptions in terms of prices and demand. Communication with local suppliers and trust-based relationships can facilitate financial concessions and logistical support. Gaps in financial planning can be directly addressed by strategies, such as cash flow safeguarding, vendor diversification, and cost forecasting. The notion of using low-tech tools and informal business clusters to leverage resources is aligned with SCMT and the literature (Winter et al., 2023; Xu & Zhao, 2022). The findings and practitioner accounts are realistic and context-appropriate, supporting the discussions in the extant literature (Hobbs, 2021; Laguir et al., 2022; Mor et al., 2020). Supply chain managers should focus on obtaining the basic technological tools to assist in being proactive and flexible in financial and inventory management (Bak et al., 2020).

For supply chain managers, participants proposed regular menu and inventory audits and reviewing operational costs based on current demand and supply. Group purchasing and informal collaboration nearby businesses are further strategies, supported by real-time inventory tracking using simple digital systems, and training of staff to use the systems. These mitigation strategies align with the themes that emerged from the literature, namely collaboration and building relationships with stakeholders and supply chain partners, SME capabilities and flexibilities and agility, technology and information systems, financial factors, and relationships with stakeholders (Bak et al., 2020).

The participants in this study proposed strategies for resource and operational management that involved proactive strategic planning and financial preparedness. These

recommendations included being proactive and monitoring external factors that could affect their ability to source stock. A systematic approach was recommended, using technology if available, to forecast needs and conduct audits. These measures underscore the crucial informal interpersonal dynamics that drive successful SMEs. This informal trust-based networking in SMEs is an oft-ignored factor that was discussed by participants in this study.

Implications for Social Change

Maintaining resilient food supply chains has a significant effect on the food industry globally, and disruptions can have environmental and social impacts across the world. Research has noted the impact of restaurants on global and local economies (Amel et al., 2020; Nhamo et al., 2020). SMEs have been described as the backbone of developing and developed economies (Jayasekara et al., 2020). SMEs in the food industry are acknowledged as the foundation of global food supplies and crucial for food safety and food security (Montenegro & Young, 2020). Small restaurants also play an important role in the economic and social well-being of communities (Adams et al., 2021).

The practical applicability of this research has significant implications for social change. Disruptions to supply chains are globally acknowledged as having a profound social impact. For instance, the aftermath of the COVID-19 pandemic has highlighted the significant impact of widespread supply chain disruptions on the fabric of society (Sarkar et al., 2022). Restaurants across the world suffered negative effects during the pandemic (Mohezar et al., 2023), resulting in large-scale job losses. When these businesses fail,

society is impacted in many ways. Ensuring that the effects of supply chain disruptions are mitigated to ensure that small restaurants stay in business is beneficial for employers, employees, communities, and society as a whole.

Recommendations by participants in this study were not only aimed at benefiting the individual businesses. By alleviating the effects of supply chain disruptions through ensuring business viability and continuity, small business owners are empowered to work towards the resilience of local economies, thus eventually affecting economies regionally, nationally, and internationally. The community impact of keeping small businesses alive has been noted in the literature (Alabi & Ngwenyama, 2023; Stentoft & Mikkelsen, 2024). Apart from job protection, effective supply chain management can foster collaborative community approaches that support business continuity not only for the small restaurant owners but also for other businesses in the community.

Effective management of the sustainable supply of food to communities enhances food security and sustainability and can be supported through local sourcing. Disruptions in supply chains have varying effects on localized supply chains, possibly due to structural differences in regional food systems that are evolving over time (Brinkley et al., 2021; Peterson et al., 2023; Soria-Lopez et al., 2023). Although the findings in this study suggest that localized networks and strategies are ideal, Peterson et al. (2023) cautioned that future planning should take place at both regional and local levels to enable food systems to deal with challenges like pandemics, natural disasters, or humanmade crises. Local and regional responses to food supply chain disruptions are different to national strategies, due to the closer proximity of stakeholders and the

potential for greater agility and flexibility in local food networks (Thilmany et al, 2021). During the COVID-19 pandemic, restaurant supply chain managers had the opportunity to build resilience and innovate to find ways to respond effectively to market demands and policy changes (Thilmany et al., 2021). The participants' experiences in this process are valuable as they model practical approaches in real-life situations.

Practical recommendations for more efficient supply chain management, as detailed above, not only empower small restaurant owners but also promote economic equity and foster community collaboration. The focus on sourcing local ingredients and forming local supplier networks further enhances the sustainability and resilience of the supply chain (Ababou et al., 2023). Ultimately, this enables SMEs in the restaurant business to grow sustainably and stay resilient against supply chain disruptions.

SMEs and small restaurants are limited in their capabilities due to their small size, limited number of staff, and informal organizational culture. However, their small size also enables greater flexibility and agility in responding to disruptions as they occur (Bak et al., 2020). The limited exposure of SMEs to international markets results in strong reliance on more volatile local and national markets, but localized operations are a benefit to the restaurant trade that relies on customer proximity. The increased focus in this study on local and regional producers and collaboration with local suppliers and all stakeholders in coordinated networks can have a positive impact on mitigating disruptions in globalized food supply chains. These findings align with the research on resilience and disruption risk and how to manage these factors in a globalized world (Ababou et al., 2023; Shekarian & Parast, 2021). Collaboration among multinational

stakeholders and flexibility have been identified as important factors in ensuring supply chain resilience internationally (Shekarian & Parast, 2021). The findings in this study suggest that small restaurant supply chain managers in Baltimore are applying the appropriate principles to ensure that they maintain these strategies in their businesses.

Recommendations for Action

This study has made contributions to the academic understanding and professional practice of supply chain management in the SME context that can be used to create a roadmap for more sustainable and adaptable local businesses. In terms of the industry, the participants in this study called for more training in SCMT, collaboration in the form of cooperatives, and policy support for supply chain managers. Developing strategic purchasing skills that include technical knowledge, interpersonal skills, and managerial skills is key to successful supply chain management (Cho, Bonn, Giunipero, et al., 2019). When managers develop these skills, their greater expertise and knowledge have an impact on the ultimate performance of restaurants (Johnson et al., 2010; Monczka et al., 2021; Stek & Schiele, 2021). Apart from the technical skills necessary to maintain efficient restaurant supply chains (Adams et al., 2021; Winter et al., 2023; Xu & Zhao, 2022), Cho, Bonn, Giunipero, et al. (2019) posited that managerial skills were the most important factor in applying strategic purchasing in SMEs.

My recommendations for industry associations and organizations include offering workshops on SCMT concepts that are adapted to the food service sector and facilitating the creation of group buying cooperatives for small businesses. The results of this study support these aims and could be disseminated via restaurant trade conferences, small

business development centers, food industry seminars, and webinars. Furthermore, articles based on the results could be published in hospitality and supply chain trade journals. The proposals in this study will support improvements at a systemic level and collective action, addressing some of the traditional limitations faced by SMEs. The study could also assist supply chain managers in small restaurants mitigate the challenges of continuous disruptions and sustaining the viability of their businesses.

Recommendations for Further Research

Several researchers have identified gaps in the literature around supply change management and issues related to disruptions in supply chains in the food industry. It is recognized that most restaurants, like many SMEs, are not sufficiently equipped or prepared to deal with disruptions in the supply chain. The literature has also identified this topic as under researched (Polyviou et al., 2020). Some areas for further research identified in the literature include market and financial performance outcomes of SCM practices (Gera et al., 2022), the role of food supply chains in SMEs and food logistics (Adams et al., 2021), the role of supplier selection in resilient supply chains (Cho et al., 2021), and the resilience of supply chains in the food industry (Ababou et al., 2023).

The findings in this study have raised numerous issues that could benefit from further research. Quantitative studies could be conducted on the direct impact of the specific disruption mitigation strategies discussed in the study (e.g., multivendor sourcing, local sourcing percentage, investment in inventory management systems) on cost reduction, waste reduction, and profitability for a larger sample of small restaurants. The study could be broadened to compare the effectiveness of disruption mitigation

strategies across different types of small businesses (e.g., cafes versus fine dining versus casual eateries) or in different geographic locations to identify context-specific nuances. Further comparison of the effectiveness of disruption mitigation strategies across different types of disruptions (e.g., inflation, natural disasters, political shifts) encountered by small restaurants could also enrich the body of knowledge on this topic. Longitudinal studies to track the effect over longer periods of time of implementing the strategies proposed in this study and how they impact restaurant resilience and growth over several years could also be conducted. Additionally, the use of data systems emerged as a strong recommendation in this study, and further investigation of why and how SMEs adopt or resist inventory and ordering technologies could offer insights into the impact of technologies on small business resilience. Further studies that broaden the scope of the research and formalize informal practice could also investigate how local and national policies (e.g., government subsidies, local sourcing incentives) can further support small restaurants in building resilient supply chains.

In addressing the limitations of this study, the potential for future research has also been identified. This study was limited in sample size, and future research could involve a larger and more diverse sample of small restaurants, also extending beyond Baltimore, to increase generalizability. Conducting a mixed-method study in the future could also build on the rich qualitative data provided in this study. Future mixed-method research could complement the qualitative insights with statistical analysis of outcomes.

Reflections

Reflecting on the research process, I have come to understand the importance of engaging with industry practitioners and stakeholders to gain a nuanced understanding of the challenges and opportunities in supply chain management, specifically in SMEs. The interviews conducted as part of this study have provided rich insights into the experiences and perspectives of small restaurant owners and managers. Throughout this study, I have gained a deeper understanding of the complexities and challenges faced by small restaurants in Baltimore in managing their supply chains, particularly in the face of disruptions. Additionally, the research has provided valuable insights into the strategies employed by small restaurant businesses to mitigate supply chain disruptions.

Conclusion

The business significance of supply chain management is underscored by several researchers (e.g., Gera et al., 2022), but the strategies of supply chain managers to cope with the COVID-19 pandemic and its impact on the food industry and SMEs have been under researched (Kulkarni et al., 2023; Winter et al., 2023). The consequences of supply chain disruption have a significant negative effect on especially small businesses, where there is often not adequate expertise or preparation to navigate supply chain disruptions (Polyviou et al., 2020; Winter et al., 2023). This study filled a gap in business practice by demonstrating that small restaurant supply chain managers in Baltimore were critical to building resilience through flexible sourcing, proactive financial management, and strong relational networks. The study has contributed to the academic understanding and professional practice of supply chain management in the SME context, which can be used

to create a roadmap for more sustainable and adaptable local businesses. In this study, I offered practical, real-world applications for the improvement of business outcomes in small restaurants in Baltimore. Although it contributed to the knowledge on formal SCMT models, the findings of this study emphasized the use of local, informal networks and tacit skills in small restaurants. These informal practices are often a mainstay for small restaurant managers, and they substitute for systems that may be beyond their reach financially and logistically. The study, therefore, makes a strong contribution to SME-specific supply chain literature and addresses under researched areas, like the service industries in SME contexts. The proposals in this study encompass practical and low-cost strategies that are easily adaptable to all SMEs and which align with the principles of flexibility and redundancy as actionable principles from SCMT. The study highlighted the role of interpersonal skills and local networks in business resilience, factors that can sometimes be overlooked in SCMT literature. The findings also demonstrate the importance of flexible, collaborative, and informal interpersonal dynamics that are often underreported, making the contribution of this study unique.

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Appendix A: Interview Protocol

Interview Protocol	
<p>Introduce the interview and set the stage. Introduce myself and the purpose of the interview thereby setting the stage.</p>	<p>Thank you for taking the time to speak with me today. My name is Aminu Hassan, and I'm a Doctoral candidate at Walden University.</p> <p>This interview is part of my doctoral research on small restaurant supply chain managers and strategies to manage supply chain disruptions and reduce the associated cost. The purpose of this study is to identify and explore effective strategies that supply chain managers use in small restaurant businesses in Baltimore to manage supply chain disruptions and reduce the associated costs.</p> <p>Thank you for signing and returning the consent form. I want to assure you that everything we discuss today will be kept strictly confidential. Your name and any identifying information will not be shared in any reports or publications. Your responses will be anonymized and aggregated with others to protect your privacy. As you've already consented, please be aware that this interview will be audio-recorded. You can decline to answer any question or stop the interview at any time. Should you withdraw from the study, please know that any data from this interview will be destroyed and not used in the study.</p> <p>After the interview, I'll send you a copy of the transcribed interview. Please review it for accuracy and return it to me via email within 5 days. The recording will only be used for research purposes and will be deleted once the study is complete.</p>

	Do you have any questions for me before we begin?
<p>Watch for nonverbal cues. Paraphrase the participant response. Ask follow-up probing questions to get more in depth</p>	<p>Interview Questions:</p> <ol style="list-style-type: none"> 1. How would you describe what your work in supply chain management entails? 2. Please describe your work and how it involves supply chain management. 3. How would you describe the importance of supply chains to your restaurant? 4. When you had dealt with at least one supply chain disruption incident, what was your experience like? 5. How have supply chain disruptions affected your business? 6. When you dealt with supply chain disruption, what strategies did you employ? 7. When you dealt with supply chain disruption, what strategies were ineffective, and why were they ineffective? 8. When you dealt with supply chain disruption, what strategies were effective, and how were they effective? 9. Knowing what you do now, how, if at all, would you have approached the supply chain disruption differently? 10. Please share any other thoughts you have that are related to how you address supply chain disruptions in your small restaurant business.

<p>Wrap up the interview thanking participant.</p>	<p>We're nearing the end of our conversation. Is there anything else you'd like to add about your experiences as safety experts in the heavy equipment service industry that we haven't covered?</p> <p>Are there any questions you have for me at this point?</p> <p>Thank you again for your time and valuable insights. Your participation is greatly appreciated.</p>
<p>Schedule a follow-up interview to perform member checking with the participant.</p>	<p>I will send you a copy of the interview transcript in a few days for you to ensure the correctness of the interview.</p> <p>Thank you, and please enjoy the rest of your day.</p>

Appendix B: Codebook

Codes	Sample Quotes	Preliminary Themes	Themes
building relationship with customers	So I think the relationship with customers is more important than just, hey, we're going to give you the cheapest price.	Customer-facing strategies	Small restaurant supply chain managers engage in resource and operational management
building reputation of quality food	I like to say to anyone who's running a business to focus more on delivering quality service first and not necessarily build your plan on market on certainties.		
free Wi-Fi for customers	But now, having Wi-Fi right here helps a lot—we offer it to customers too. If someone wants to connect, it really makes a difference. People can communicate and say, 'Hey, I'm here at [restaurant], having a good breakfast,' or maybe coffee or dinner.		
having good staff	Good staff helps, good staffing helps		
offering deliveries to move inventory	I think number one, I would say our resilience by introducing home deliveries or food that helped us sustain business.		
retaining price	I hold my price. So that is helping me to keep my customers.		
challenges - delays	Delay is the biggest, biggest problem.	Inventory and demand management	
challenges - time consuming	Right now I was short, I have to go to the restaurant store, buy a white pepper and it takes me one hour. So I left one hour.		
considering demands and busy seasons	Basically what it means that I reduce the excessive stocks by ordering based on real-time demand rather than overstocking.		
doing regular audits	We obviously implemented a regular audit and continuous improvement of the systems. So we do weekly cost reviews and obviously we reevaluate our suppliers as well.		
using a system to track inventory	One of the things we do in our business is we have a very robust, robust order management system. And by the way, order management system does not only cater to the product, there is a supply side for the product, but there is an extensive need for things like ingredients, things like supply, things like utensils, things like packaging and all those good stuff.		
be informed and updated	Keep their ears on the ground so they could know what's going on around them.	Strategic planning and financial preparedness	
challenges - buying at higher cost	We used to pay \$4 a pound. Now it's \$28 a pound for lobster.		
challenges - COVID-19 slow recovery	We have slowly recovered everything, but it was very, very bad.		

Codes	Sample Quotes	Preliminary Themes	Themes
challenges - not enough government subsidy	We lost a lot of money on Covid. The government helped but it wasn't enough.		
decision of the owner	I think it's up to the manager and the owner though.		
ensuring the quality	I have to make sure that whatever is coming in comes at the lowest prices and also top quality.		
having structured plan	I would say you need to have your cost structure well detailed and your strategy has to be tidy when it comes to your cost structure.		
having sufficient cashflow	Sufficient cashflow, bank loans.		
outcomes - affected profit margin negatively	We didn't make nothing enough to pay the employees on that part.		
outcomes - increased profit margin	We've seen a steady 25% increase in perfect margin for the first quarter.		
outcomes - raise prices	We were buying this at a higher cost and then at that point we couldn't just absorb the whole cost. So we had to pass some of the cost to the customers, which for us we felt was ineffective.		
outcomes - retain selling price	Our prices were the same.		
seeking cost-saving options	So basically my responsibilities includes sourcing, high quality ingredients at very, very competitive prices, negotiating contracts with suppliers, also monitoring inventory levels and then ensuring compliance with food safety regulations.		
bulk buying to increase stocks	Then we talked about what I may call an emergency stock. Having an emergency stock in case it does a supply chain disruption.	Inventory and procurement flexibility	Small restaurant supply chain managers apply flexibility in procurement
buying from different vendors	So what I did is I had to call different suppliers, companies to find where I can get some eggs		
challenges - perishables	I know we're dealing with you are overstocking perishables, and this led to waste and then expiration of certain goods within our stock.		
challenges - shortage	When Covid happened... Everything was a shortage, everything.		
challenges - small storage	So we know we have small storage space, so we got to be on top of inventory.		
imported	It's not really complicated. Most of our raw materials, like spices, they are imported.		
outcomes - simplified sourcing	It makes things simplified and linear in a way. You just go here, you get whatever you need.		
sourcing from local vendors	So one thing we had to do was to quickly reach out to suppliers, including local fishermen around and wholesalers to secure substitute.		
adjusting the menu	Develop flexibility in your menu that can adopt to ingredients availability.	Menu and product adaptation	
buying alternative items	Try as much as possible and look for substitute for seafood.		

Codes	Sample Quotes	Preliminary Themes	Themes
challenges - different quality	My main role is to make sure that the items coming on time and also quality items because a lot of people can have items, but the quality are not up to par.		
challenges - diverse customers	So it's kind of a little bit, it was hard from the beginning, but after that to deal with customers, different customers.		
having menu items made of local ingredients	So if you partner with local suppliers that have local supplies, you don't have to rely on international flyer ordering salmon from Alaska or King Car from Alaska.		
communicating clearly	Communication is key because you need to communicate one, a clear pricing negotiation with a supplier.	Communication and coordination	Small restaurant supply chain managers maintain relationship and communication
coordinating	Just to make sure that your management staff, however many you have, your supervisors, everybody's on the same page.		
building network	Build network, networking.	Supplier relationship management	
building relationship with suppliers	It still boils down to relationships. It's relationships, relationships, right, the stronger supply relationships.		
having credibility	But for me, what I say, I'm always on time to pay here to pay. I don't have no problem to pay because that is my business to.		
helping each other	You help me. I will help you. Because they make commission too on this, on all these sales.		
keeping in touch with suppliers	So one thing I try to do is I create relationships outside business with my suppliers. I might see them post about their child's birthday, Hey, happy birthday to your kid, which lets the person becomes closer to you outside just a business person and they give you inside information about certain things that are happening.		
negotiating long-term contracts	So basically my strategy is that I negotiate long-term contracts with suppliers for our staple ingredients to lock in better prices.		