HOW TO MITIGATE SUPPLY CHAIN DISRUPTIONS AT SELECTED RETAILERS IN THE CAPE METROPOLE

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DECLARATION

I, Maresa Bonita Booysen, student number 206139918, declare that the content of this dissertation represents my own unaided work, and that the dissertation has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

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Signed: M.B. Booysen **Date**

ABSTRACT

Organisations and enterprises strive to produce, distribute, and offer their customers superior quality products and services. In today's interconnected and complex global business environment, companies face an increasing risk of supply chain disruptions that can negatively affect their financial health and customer loyalty. More and more retailers are improvising strategies to minimise external and catastrophic supply chain disruptions to stay operational. Retailers can get reliable advice and tactics from literature studies on supply chain risk management (SCRM) to help prevent catastrophic disasters and external supply chain disruption. However, there is limited literature to mitigate ordinary supply chain disruptions within the value chain. As a result, this research investigates specific organisations in the supply chain, the nature of disruptions, the types of ordinary disruptions, and strategies for mitigating ordinary supply chain disruptions.

The purpose of the research study is to investigate strategies for mitigating ordinary supply chain disruptions across various retailers in the Cape Metropole. To achieve success in supply chain risk management, retailers in the Cape Metropole should proactively identify and mitigate potential risks before they develop into significant disruptions.

The main objectives were to investigate strategies that can be implemented to mitigate ordinary supply chain disruptions in multiple retail stores across the Cape Metropole.

To reach the objectives of the research study, a qualitative methodology was use to gathering insights from a purposive sample of 11 supply chain experts. A semi-structured interview guide was utilised to question these experts, who included senior buyers, executive managers, logistic managers, planners, and general managers. The primary objective of the research was achieved successfully through these interviews, which provided valuable insight into the subject matter.

The findings indicated that numerous factors can lead to ordinary supply chain disruption, including raw material shortages, packaging acquiring challenges, product damage, time constraints for rework, production challenges, inadequate collaboration among internal teams, misinterpretation of supply chain management, stockouts, delivery delays, planning errors, system malfunctions, difficulties with financial and credit applications, and insufficient communication. All these concerns can exacerbate the company's existing supply chain disruptions. The collected data were analysed using ATLAS.ti software to discover significant patterns and reveal emergent themes.

The identification of these crucial factors in ordinary supply chain disruptions underscores the necessity for strategy development to assist retail managers in mitigating risks and enhancing supply chain resilience. Based on the research findings, the researcher highly recommends

that retailers prioritise implementing robust supply chain and supply chain risk management strategies. Additionally, the findings identify the need to conduct a comprehensive review of existing methods to identify areas of improvement. By restructuring current strategies, businesses can prevent frequent supply chain disruptions and ensure smoother operation.

Keywords: Disruption, mitigation, supply chain management, supply chain risk

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DEDICATION

I dedicate this research to my late father, Mr. Esau Phillips, and my mother, Bettie Phillips. Additionally, I want to dedicate this work to my son, Ralph M. Booysen Jr. I hope that my journey inspires him to pursue his dreams relentlessly and never give up.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition/Explanation
3PLs	Third-Party Logistics Service Providers
AI	Artificial Intelligence
BOM	Bill of Materials
CPUT	Cape Peninsula University of Technology
ERP	Enterprise Resource Planning
FMCG	Fast-moving consumer goods
IoT	Internet of Things
MRP	Material Requirement Planning
MTA	Make-to-Assemble
MTO	Make-to-Order
MTS	Make-to-Stock
OOS	Out-of-Stock
RRS	Risk Response Strategy
SAP	Systems Applications Products
SC	Supply Chain
SCM	Supply Chain Management
SCRM	Supply Chain Risk Management
SRM	Supplier Relationship Management
VC	Value chain

CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1. Introduction

All businesses need a value-added supply chain (SC) to improve operations, reduce costs, gain competitive advantage, and collaborate with internal and external stakeholders. Rodrigue (2017:115) supports this statement when he argues that the purpose of the SC is to add value to business operation, which could lead to the gain of competitive advantage and cost reduction. However, Diehl (2012:1) highlights that increasing competition, rising costs, and demanding customers put the SC under tremendous pressure to maintain an efficient value-added SC. Hence, loopholes can expose the SC to disruptions, delays, and interruptions. This exposure could lead to severe disruptions in SC operations and business units (Wesley, 2018:1).

For this reason, supply chain risk management (SCRM) studies have received significant attention worldwide and have aimed to develop approaches for the identification, assessment, analysis, and management of risk areas in SC (Pfohl et al., 2010:36; Lavastre et al., 2012:829). However, even after taking the appropriate steps for risk mitigation, inevitable disruptions can occur beyond the company or business unit's control.

Significant natural and sometimes unavoidable catastrophes have historically interrupted supply chain management (SCM). In 2012, Hurricane Sandy caused an estimated US$30-50 billion in business losses in the United States of America (USA). In 2011, earthquakes in Japan caused major SC disruptions, leading to the closure of four General Motors plants (Clemons & Slotnick, 2016:171; Nagesh, 2016:1). Furthermore, in 2018, South Africa's Department of Health linked the Tiger Brands food manufacturer-retailer group to a listeria outbreak, which disrupted the company's business operations and activities. The outbreak negatively affected their share price negatively; revenue decreased by 4%, products were recalled, and operations were suspended (Sandile, 2018:1). The outbreak negatively affected South Africa's economy and the food industry, as many retailers had to recall all targeted products linked to listeria (Sandile, 2018:1).

Sandile (2018:1) reports that the Tiger Brands group suspended operations in three value-added factories affected by listeriosis, and more than 200 South Africans lost their lives due to the listeria outbreak. In their report, the Tiger Brands group stated that the recall of products amounted to a loss of R415 million and an overall loss of approximately R5.7 billion in market capitalisation just one day after the listeria outbreak (Sandile, 2018:1). These types of catastrophic disruptions have a disastrous impact on food manufacturers and retailers' overall revenue and employment security. Furthermore, a company's brand reputation and consumer

loyalty suffer. As identified by many studies in academic articles and industry reports, these are the abnormal disruptions that organisations and SCs can face (World Economic Forum, 2016:1).

In effect, existing SCRM researchers give examples of countermeasures that companies can implement to mitigate abnormal or catastrophic SC disruptions. Aqlan and Lam (2015:79) identify SC risk modelling and mitigation. Bradley (2014:484) mentions the SCRM 5-step method, and Pfohl et al. (2010:33), Lavastre et al. (2012:829) and Agigi et al. (2016:2) discuss SC design approaches for SC resilience.

However, very few studies address how to mitigate ordinary disruptions effectively (Ward et al., 2014:142). Ordinary disruptions can be described as a shortage of raw materials, packaging Out-of-Stock (OOS) and the time framework for the rework of products, production problems, a lack of internal cross-functional collaboration, a lack of understanding of the SCM procedures and policies, and financial and credit application problems. This study investigated how retailers can effectively mitigate ordinary SC disruptions and improve business operations.

1.2. Background

The selected retailers are located in the Cape Metropole and offer a variety of products, including fast-moving consumer goods (FMCG) (Retailer X), fashion (Retailer B), transportation (Retailer A), manufacturing (Retailer Y) and wholesale (Retailer Z). The study aimed to explore and understand the ordinary supply chain disruptions encountered by various companies and investigate their impact on productivity and profitability within the selected retailers. Consequently, the researcher collaborated with these organisations to gain a deeper understanding of supply chain disruptions and the different types of disruption that can occur.

During the engagement with the selected retailers' category managers, the study established that the various disruptions that their SC departments face are ordinary disruptions that happen more frequently. SC disruptions can be associated with catastrophic events, but even the slightest ordinary disruption can impact finances. Pariazar and Sir (2018:113) argue that risk factors for SC can be due to complicated interrelations and interactions between different sets of suppliers, manufacturers or producers, distribution centres, and customers. Pariazar and Sir (2018:113) argue further that a minor interruption or ordinary disruption and the failure of one component can negatively affect the entire business network which can primarily cause an adverse chain reaction.

Ordinary disruptions could be caused by shortages of raw materials, packaging OOS, and the time framework for the rework of products, production problems, a lack of internal cross-functional collaboration, a lack of understanding of SCM procedures and policies, ramp-up

problems, and financial and credit application problems (Li et al., 2017:88). The primary objective of this investigation was, therefore, to identify mitigation methods that the selected retail businesses could implement to minimise the impact of ordinary SC disruptions.

The understudied organisations encountered several disruptions in their supply chain department, as identified by the researcher.

Retailer X disclosed during the participant interaction that sales of their house brand cleaning supplies had increased as a result of increased demand. During this period of increased demand, a huge disruption occurred in their Enterprise Resource Planning (ERP) system; the system was not set up for the increase in demand and incorrect forecast planning was implemented in the system. As a result, the company faced significant delays in the production and fulfilment of orders. This led to an OOS of the house-brand cleaning supplier.

According to Retailer X participants, this resulted in a loss of customers and revenue, which had a negative impact on the company's overall financial performance.

Supply chain managers engage in a variety of tasks and strive to accomplish the company's objectives to provide value, make a profit, and preserve the long-term sustainability and competitiveness of the business (Anghileri, 2011). Supply chain managers typically face challenges and disruptions in the value chain as they work toward achieving these goals. Retailer B faced challenges and disruptions due to production delays. In response to the increased demand, Retailer B's production could not meet the client-specified delivery date. A significant financial investment was made to install an additional production line in order to boost productivity and enhance production output in an effort to reduce the backlog and short deliveries to the client.

Although installing the extra line was recommended, it took months for it to be installed. Retailer B mentioned that the production delay negatively affected both their sales and their relationships with customers.

Supply chain management (SCM) has been defined by AFP Global Logistics (2024:1) as a complex procedure that encompasses the transportation of final products, components, and raw materials from their origin to the ultimate consumer. The structure of this chain is sophisticated and includes the activities of strategic planning, production, distribution, and procurement. Within this SCM framework, transportation plays a crucial role as the primary support system of the supply chain, ensuring the efficient and effective delivery of goods to their designated destinations (AFP Global Logistics, 2024:1). Retailer A stated that transportation is essential in the value chain, since it facilitates the movement of commercial goods between various sites and to their individual customers. According to Retailer A, in the

event of outside disturbances such as political unrest and protests on the route, trucks are unable to enter the port to load their goods on board the vessel. These external challenges facing Retailer A are outside their control and are not fundamental to the ordinary disruptions that they encounter internally. Retailer A also identified technological advancements such as GPS tracking, malfunctions in route optimisation software systems, and occasional delays in real-time visibility capabilities as some interruptions that they frequently experience. Despite the commendable and effective qualities of transportation technology systems, these systems have flaws and disruptive errors that have had a negative impact on the transportation of the supply chain. Retailer A mentioned that disruptions resulted in delayed deliveries, higher costs, and customer dissatisfaction. They are actively working to find solutions and implement strategies to minimise the impact of these technological disruptions on their operations, but has not yet found the right mitigation strategy.

The manufacturer is responsible for overseeing the production process and ensuring quality control before the products are distributed (Humphreys, 2024:1).

Furthermore, Retailer Y explained that smooth production running is critical for manufacturing quality products. They indicated that each production run represents what is called a lot, or a batch. If a production line stops, there will be an interruption in the lot/batch. Retailer Y explains that production disruptions occur when raw materials are out of stock or if there is a delivery delay, and stressed the importance of maintaining a continuous production flow to ensure consistent quality in their products. Such production interruptions can cause delays and affect the entire supply chain and as such, Retailer Y emphasised the critical need for effective communication with suppliers and distributors when faced with delays. They also stated that on previous occasions, miscommunication with raw material suppliers and with clients created huge issues and contractual problems. Therefore, this retailer emphasised the importance of being transparent and proactive in addressing any setbacks and highlighted the need for regular monitoring of production processes to quickly identify and address any potential problems before they escalate. By being vigilant and proactive, Retailer Y believes they can minimise disruptions and maintain a smooth supply chain operation. However, Retailer Y highlighted that mitigation techniques are essential to reduce risks and prevent disruptions. They understand that unforeseen challenges can still arise despite their proactive measures. Therefore, Retailer Y continues to invest in risk management strategies to further protect its supply chain operations.

Wholesalers act as intermediaries between manufacturers and retailers, helping to streamline the supply chain and reduce costs for all parties involved (Humphreys, 2024:1). Wholesalers carry out business-to-business (B2B) transactions and typically do not sell to individual consumers (Humphreys, 2024:1). Retailer Z stated that wholesalers play a crucial role in the

distribution process by purchasing goods in large quantities from manufacturers and selling them to retailers in smaller quantities. Wholesalers help retailers save money by buying in bulk and consolidating shipments from multiple manufacturers. Additionally, Retailer Z explained that wholesalers often provide value-added services such as packaging, labelling, and inventory management to further support retailers in their operations. According to Retailer Z, issues such as inventory discrepancies and erroneous labelling can still arise, disrupt the supply chain and lead to delays in product delivery.

According to Retailer Z, challenges in their company still arise, such as inventory discrepancies and erroneous labelling, which disrupt the supply chain and lead to delays in product delivery. They also report inadequate communication between manufacturers and retailers, which could lead to these disruptions and lead to the delivery of incorrect products, erroneous labelling, and inaccurate order fulfilment.

1.3. Research gap in this study

The following section examines the problem statement and the gap within the SC flow.

The literature shows that researchers have already extensively investigated and published strategies and models to mitigate SC disruptions. However, their primary emphasis is often on addressing abnormal or catastrophic disruptions in the SC. Nel et al. (2018:1) have published various academic articles that shed light on the various disruptions faced by SCs. These disruptions can be attributed to internal business disturbances such as strikes, human involvement, and errors. They can also arise from external disruptions such as customs and manufacturing process delays. Additionally, new regulations and catastrophic events can further contribute to these disruptions.

Nevertheless, only a limited number of studies have comprehensively explored efficient methods of mitigating ordinary disruptions (Ward et al., 2014:142). Ordinary disruptions can be defined as a lack of primary resources, packaging materials OOS, the extent of product damage and the timeframe required for remanufacturing, difficulties in production, insufficient collaboration between different departments within a company, limited knowledge of SCM procedures and policies, and challenges in securing financial resources and credit.

Through discussions with selected experts within the retail sector, it was clear that there is a dearth of literature on how to reduce these ordinary SC disruptions in the retail sector. Thus, the study explored this research gap to discover practical approaches retailers can adopt to minimise ordinary SC disruptions and enhance their business operations. Consequently, there is a pressing need for further development in the retail SC segment to effectively manage disruptions in the Cape Metropole sector.

1.4. Problem statement

Through discussions with selected retailers, the researcher learnt that different ordinary SC disruptions are problematic within businesses, which can expose them to various types of risk factors. Pheasey (2016:67) states that SCs have inherent risks, of which disruptions can be one of the risk factors. Retailers depend significantly on their supply chain management departments to facilitate seamless business operations. The availability of a suitable product at the right time and place is essential for an effective supply chain network. Disruptions within the supply chain may hinder productivity, adversely impact business performance, and result in a decline in revenue. Retailing is the last step within the SCM process, as indicated in Figure 1.2 below, where the scope is mandatory and consistently requires changes and realignment (Subramaniam, 2009:25; Pheasey, 2016:67; Manning, 2018:153). Therefore, any disruption in the SCM process could lead to a loss of sales and profitability. It can negatively influence production, increase lead time schedule, and create a negative perception of the brand among customers and clients (O'Meara, 2022:1).

Considering the above, it is evident that SC disruption is problematic and could lead to significant risks for retailers. Retailer A recalled several ordinary disruptions within their SC that led to lost sales and client trust. Retailer X mentioned that an incorrect forecast during an increase in demand or product offering can have a negative impact on the company's financial performance. One of the many SC and production disruptions, Retailer Y stated, is that they also battle with credit application delays that lead to late deliveries from suppliers. Furthermore, Retailer B explained that a few years ago, they experienced quality problems due to a production delay that led to a decline in a particular brand, which resulted in lost sales. Retailer Z encounters issues and disruptions due to inadequate communication, leading to inaccuracies in order delivery and inventory selection. Retailer Z indicated that their mitigation plans require a revision to improve communication and implement proactive detection measures, as well as invest in technology for more efficient inventory tracking and discrepancy prevention. These selected retailers confirmed insufficient literature on mitigating ordinary SC disruptions within the retail industry. This research study, therefore, sought to establish the strategies that retailers can use to mitigate ordinary SC disruptions within the retail industry in the Cape Metropole. These selected retailers confirmed insufficient literature on mitigating ordinary SC disruptions within the retail industry. Therefore, the problem that prompted this study is the lack of effective literature of mitigation strategies guiding retailers in the Cape Metropole on how to mitigate ordinary supply chain disruptions and sustain the SC operational performance.

The next section contains the research question and objectives that served as the foundation for this investigation.

1.5. Research questions

1.5.1. Main research question

What are the strategies that retailers can use to mitigate ordinary SC disruptions within the Cape Metropole?

1.5.2. Secondary research questions

a. **What are the different types of SC disruptions that retailers in the Cape Metropole experience?**
b. **What is the impact of ordinary SC disruptions on retailers in the Cape Metropole?**

1.6. Research objectives

1.6.1. Main objective

The main objective of the study was to investigate the strategies retailers in the Cape Metropole can implement to mitigate ordinary SC disruptions.

1.6.2. Secondary research objectives

i. **To identify the different types of SC disruptions that retailers in the Cape Metropole experience; and**
ii. **To determine the impact of ordinary SC disruptions on retailers in the Cape Metropole.**

1.7. Justification of the study

This study investigated how selected Cape Metropole retailers can mitigate ordinary SC disruptions in their businesses, and identified the appropriate strategies that retailers can implement to mitigate ordinary SC disruptions. Reducing ordinary SC disruptions is anticipated to contribute to efficient and effective business operations, create competitive advantage, and improve business performance and cost effectiveness.

The research study also contributes to the body of knowledge by identifying existing delays and disruptions that have not yet been fully covered in the literature and need to be fully identified by the retail industry.

This study theoretically enhances the existing knowledge in supply chain management by identifying ordinary supply chain disruptions that have not been fully addressed in the literature, especially in the retail industry in the Cape Metropole. This study will elucidate the reasons for

these disruptions, enhance the academic perspective of ordinary supply chain disruptions, and execute mitigation techniques.

The practical component of this study provides valuable guidance to retail supply chain managers by identifying appropriate solutions to mitigate ordinary supply chain disruptions. These insights can assist retailers in improving the efficiency of their supply chain operations, ensuring business continuity, and fostering resilience against future disruptions.

This study was conducted to partially fulfil the requirements for a Master of Retail Business Management degree from the Cape Peninsula University of Technology.

1.8. Research methodology and design

The following section addresses the research methodology and design of this study.

1.8.1. Introduction

Research methodology refers to the scientific and systematic approach used in a study to acquire information on a specified research subject, as well as to enhance understanding via research design, sampling, data collecting, and analysis of the gathered data (Kothari, 2004:10). Furthermore, Kothari (2004:20) defines research methodology not only as research methods, but also as the logic behind the methods that one uses in setting up one's research study.

To determine how to mitigate ordinary SC disruptions within selected retailers, the researcher adopted the Saunders et al. (2015:122) research onion, which provided the framework of this research study.

1.8.2. Research framework

As stated above, Kothari (2004:20) explains that research methodology is not only a research method but is the logic behind the methods employed in a research study. Saunders et al. (2015:122) identify the research framework as the research onion. The researcher used the Saunders et al. (2015:122) research onion that represents a conceptual model that illustrates the different layers or aspects of the research process. The research onion has six layers: research philosophy, research approach, methodological choices, research strategy, time horizon considerations, and techniques and procedures for data collection and analysis. Each layer played an essential role in the research process, and the researcher had to carefully analysis each layer to guarantee the quality and validity of the research. Chapter 3 describes the detailed structure of the research onion.

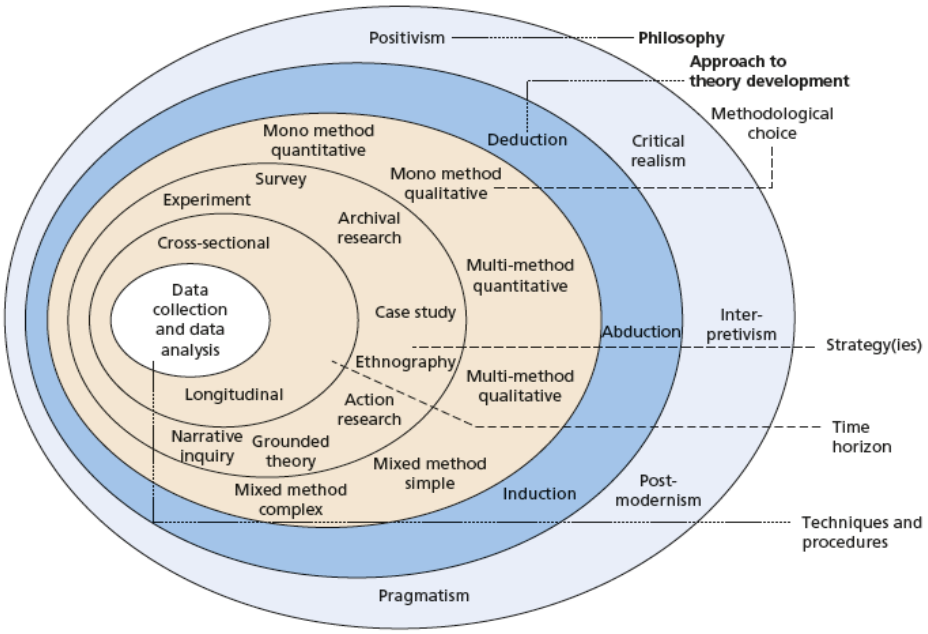


Figure 1.1. The Research Onion

Source: Saunders et al. (2015:122)

1.8.3. Techniques and procedures

1.8.3.1 Population

According to Sekaran (2012:265), the research population encompasses the complete set of individuals, occurrences, or phenomena that interest the researcher for investigation.

The target population for this research study was retail businesses, organisations in the Cape Metropole.

1.8.3.2 Sampling

The process that allows a researcher to collect information from individuals and events is known as sampling (Sekaran, 2012:264). Sekaran (2012: 266) defines sampling as the elements drawn from the population. There are two types of sampling designs: probability and nonprobability sampling. Sekaran (2012:269) defines probability sampling as when each member of the population has a known chance of being selected as a participant in the study. random sampling, systematic sampling, stratified random sampling, cluster sampling, area sampling, and double sampling are all types of probability sampling (Sekaran, 2012:269).

When each member of the population does not have a known chance of being chosen as a sample, it is referred to as nonprobability sampling. Such can be convenience sampling, purposive sampling, judgment sampling, and quota sampling (Sekaran, 2012:269).

This study utilised a nonprobability, purposive sampling technique. The sample consisted of 11 experts with experience in SCM and in the value chain (VC), who work in SC departments. The sample was limited to retail businesses within the Cape Town Metropole area.

These experts were chosen based on their experience and knowledge in retail SCM. Furthermore, eight organisations were selected to provide a different perspective of ordinary SCM disruptions to evaluate responses through different lenses.

In their study, Bugert and Lasch (2018:304) used probability and systematic sampling because their objective was to test the effectiveness of responsive pricing in the face of SC disruption. This method was selected due to the expertise of potential participants in the field of SC, making them the most suitable candidates to identify the answer to the research question. Purposive sampling was the most appropriate for this study, as participants were experts and representatives of SCs and VCs, ensuring the validity of the sample.

1.9. Data analysis and interpretation

According to Sekaran (2012:301), the researcher should analyse the data after collecting it from the specified population. Before conducting data analysis, it was necessary to perform preliminary steps and validate proposed ideas, as stated by Sekaran (2012:301) and Creswell (2014:196). Creswell (2014:196) distinguishes three processes appropriate for qualitative methods: Step 1 is to organise and prepare your data for analysis; Step 2 is to check the credibility by reviewing or re-examining all the data acquired; and Step 3 is to code all the data. Data were analysed using ATLAS.ti software, which applied the coding technique.

1.10. Delimitation and limitation

1.10.1. Delimitation of the study

Delimitation refers to the boundaries of a research study, outlining the aspects not to be covered during the investigation (Simon & Goes, 2013:3; Leedy & Ormrod, 2014:43). Delimitation defines the boundaries and choices that a researcher makes when developing their study plan, which is entirely within their control (Simon & Goes, 2013:3). By setting these limits, the researcher can better focus the research efforts on the topics most relevant to the study, while avoiding extraneous information that might otherwise be distracting. Essentially, delimitation is a crucial aspect of any research study, as it helps to ensure that the scope of the research is manageable, relevant and focused on the critical issues at hand (Simon & Goes, 2013:3).

The retailers' geographic location was the primary focus of the investigation, which was conducted in the Cape Metropole.

The researcher was aware that there were international retailers who could have added to this study. However, due to the study's timeframe and the cost implications, these international companies could not be included.

1.10.2. Limitations of the study

Research reports typically contain limitations in their final section, as stated by Sekaran (2012:346). These limitations may include sampling issues outside the researcher's control, unanswered questions, participants who withheld necessary documentation, unattended interviewees, and biased responses from participants. Time, resources, and access to the population were factors beyond the researchers' control and constituted the primary limitation of the study.

One main limitation of this research was the challenge of scheduling appointments with participants, such as buyers and SC managers/executive managers. It took more than a year for the researcher to identify the right person for the interview. The second limitation was getting face-to-face interviews; due to COVID-19, all participants were unwilling to meet face-to-face. Scheduling interviews with participants was very challenging and time consuming because the participants kept rescheduling the interviews, even though virtual interviews were scheduled to comply with the necessary COVID-19 restrictions. The researcher conducted virtual interviews instead of visiting the organisations in person to avoid worsening existing challenges. As a result, this method reduced potential COVID-19 risks, simplified the interview process, and minimised interruptions, leading to more efficient interviews. Primary information was gathered during the interviews, while additional data was exchanged by email.

The third barrier was financial; additional funds were required to acquire the appropriate equipment such as a laptop with which to conduct and implement the research. To alleviate this constraint, the researcher financed herself by securing private loans. This allowed her to purchase the necessary tools and complete the research without delay. Additionally, she explored alternative funding sources to cover any unexpected expenses that arose during the project.

1.11. Chapter outline

The study consists of five chapters as outlined below.

Chapter 1 introduces the reader to the research problem. This chapter serves as the introduction, providing the context, problem statement, research questions, justification for the study, research purpose, and objectives. The study methodology, data analysis, and interpretation are also described, highlighting the limitations and delimitations of the study.

Chapter 2 contains a review of the literature relevant to this research study. It also provides an in-depth review of SC disruptions, and aimed to provide an understanding and perspective of SCM and its challenges.

Chapter 3 contains a discussion of the research methodology and design strategy. Furthermore, the research approach is described. The sampling techniques, population, research framework, and data collection methods are also discussed in this chapter. Here, the ethical considerations and the validity and reliability are disclosed.

Chapter 4 details an analysis of the data that was collected for the study. The chapter also presents an interpretation of the data and a discussion of the results and findings of the research study.

Chapter 5 is the conclusion of the study. In this chapter, the researcher provides conclusions and recommendations that emanate from it. The theoretical and practical implications, as well as directions for further studies are also provided here.

Figure 1.1: Research outline

1.12. Chapter summary

This chapter introduced the research and provided the background that underpinned the study. The chapter also discussed the research problem and highlighted the research question and the research objectives. It was clarified that the value-added supply chain (SC) is essential for organisations to optimise operations, minimise costs, secure a competitive edge, and engage

with stakeholders. Furthermore, escalating competition, rising costs, and exacting customers exert strain on supply chains, making them susceptible to disruptions and delays.

The background highlights and analyses supply chain disruptions experienced by various retailers in the Cape Metropole, focussing on fast-moving consumer goods (FMCG), fashion, transportation, manufacturing, and wholesalers. The researcher found that these companies were not prepared for ordinary disruptions; all of them faced challenges to recover from supply chain disruption impacts on their operations. Raw material shortages, packaging OOS, production issues, a lack of internal cross-functional collaboration, a lack of understanding of SCM procedures and policies, ramp-up issues, and financial and credit application issues are all ordinary issues that cause disruptions.

Retailer X experienced several disruptions in their supply chain department, such as a massive disruption in their Enterprise Resource Planning (ERP) system due to incorrect forecast planning. This leads to significant delays in production and fulfilment of orders that result in a loss of customers and revenue. In turn, the loss of revenue negatively impacts the company's overall financial performance.

Retailer B faced production delays due to increased demand, leading to a significant financial investment to install an additional production line. Despite the addition, the delay negatively affected sales and customer relationships.

Transportation clearly plays a crucial role in the SCM framework. It ensures efficient and effective delivery of goods. Retailer A, a company in the value chain, faces challenges such as external disruptions like technological advancements, errors in the GPS tracking, and route optimisation software system errors that have caused disruptions. Such external disruptions lead to delayed deliveries, higher costs and customer dissatisfaction. Retailer A is working on solutions to minimise these disruptions.

Manufacturers oversee the production process and ensure quality control. They emphasise the importance of maintaining a continuous production flow to ensure consistent quality, and emphasise the need for effective communication with suppliers and distributors, transparency, and proactive addressing of setbacks. Retailer Y believes in investing in risk management strategies to safeguard their supply chain operations.

Wholesalers act as intermediaries between manufacturers and retailers, helping to streamline the supply chain and reduce costs. They play a crucial role in the distribution process, but issues such as inventory discrepancies and erroneous labelling can still disrupt the supply chain and lead to delays in product delivery.

The researcher discovered that ordinary SC disruptions pose significant risks to businesses, particularly in the retail industry. Retailers rely heavily on their Supply Chain Management (SCM) departments for smooth operations, because any disruption can lead to loss of sales, profitability, production delays, and negative brand perception. This research study aimed to identify strategies for retailers to mitigate SC disruptions in the Cape Metropole retail industry. Therefore, the study explores strategies for Cape Metropole retailers to reduce ordinary SC disruptions, aiming to improve business efficiency, competitiveness and cost effectiveness. It also identifies existing delays and disruptions, contributes to the literature, and fulfils the requirements for a Master of Retail Business Management degree at Cape Peninsula University of Technology.

The next chapter provides a comprehensive literature review of SCM, SCRM, and SC disruptions to provide a solid theoretical foundation for the study.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

In the preceding chapter, the study was introduced and contextualised. This chapter comprises an examination of the critical literature pertinent to the investigation. The chapter covers five sections. The first segment provides insight into retail business management. The second segment covers SCM and its importance to retailers. The third segment outlines SC disruptions, and the fourth section describes SCRM. The fifth segment is the conceptual framework that explains the research path and to ground these theoretical constructs. The final segment summarises the chapter.

2.2. Theoretical Framework

Hassan (2023:1) defines a theoretical framework as the concepts, theories, ideas, and assumptions that underpin the comprehension of a certain study subject. A theoretical framework elucidates the interconnections among various factors, highlights deficiencies in current knowledge, and directs the formulation of research inquiries and procedures (Hassan, 2023:1). Furthermore, Salomao (2023:1) explains that the theoretical framework serves as a guide for researchers to help them make sense of their research findings and draw meaningful conclusions. By providing a structure for understanding the relationships between variables and concepts, a theoretical framework can also assist in the development of hypotheses and the design of research methodologies (Salomao, 2023:1). The researcher considered a theoretical framework that would be appropriate to contextualise this study and implemented it to address ordinary supply chain disruption factors that affect retailers in the Cape Metropole.

2.2.1. Supply Chain Risk Management (SCRM) Theory

MatchPlat Market (2022:1) defines supply chain risks (SCR) as disruptions that occur in all organisations, regardless of their size and sector. The MatchPlat Market Analysis (2022:1) indicated that the scarcity of raw materials and the persistent increase in their costs may result in supply chain disruptions and business risks. Additionally, supply chain risk (SCR) can be defined as the failure of a reliable supplier, logistical issues, and errors in the completion of customs clearance documentation (MatchPlat Market Analysis, 2022:1). Furthermore, MatchPlat Market Analysis (2022:1) characterised SCR as a potential disruption within a company's supply chain that hinders the delivery of a good or service. The occurrence is typically abrupt and unexpected and is often capable of halting the industrial process.

In the SCR described above, it is evident that organisations require optimal supply chain risk management strategies to mitigate supply chain interruptions. Murmann (2023:1) delineated

supply chain risk management as the process of identifying, evaluating, and reducing risks along the supply chain to enable its seamless operation. Effective supply chain risk management is essential to maintain business continuity and ensure customer satisfaction. Furthermore, Murmann (2023:1) adds that SCRM includes handling supplier risk, logistical errors, compliance, and external factors. For the purpose of this study, to achieve success in supply chain risk management, retailers within the Cape Metropole could proactively identify and address potential risks before they escalate into major disruptions. Disregarding these risks may result in financial losses and reputational harm and eventually affect overall corporate performance. Consequently, it is imperative for the researcher to focus on the continuous evaluation and revision of risk assessments, the implementation of appropriate controls and the provision of adequate training for all employees on risk identification and risk management practices, which would help mitigate the effects of disruptions in Cape Metropole retail operations. In addition, regular monitoring and reporting on the effectiveness of risk management strategies could be performed to ensure that any new risks are quickly identified and addressed. By staying proactive and vigilant in managing potential risks, Cape Metropole retail operations can maintain a competitive edge in the market and protect their financial well-being. Ultimately, a strong focus on risk management will help protect the reputation of the company and build trust with customers, suppliers, and other stakeholders.

2.2.2. Resource-Based View (RBV) Theory

Resource-Based View (RBV) initially emerged in the 1980s as a strategy to gain a competitive advantage. Wernerfelt (1984:171) recalls that the Theory of Firm Growth laid the groundwork for RBV. In the 1990s, Jay Barney's contributions were crucial in developing resource-based theory (RBT), which later became the primary approach in strategic management and planning for sustained competitive advantage. Barney (1991:99) defines a resource-based view (RBV) as a strategy that focusses on the importance of organisational resources and capabilities for gaining a competitive advantage and enhancing performance. Technology, the reputation of a brand, human capital, and expertise are examples of tangible and intangible assets that are included in the classification of organisational resources and capabilities and the internal skills and knowledge of employees (Gupta, 2023:1).

Furthermore, to remain relevant in the ever-changing market trends, Gupta (2023:1) emphasises that the primary objective of an organisation should be to consistently provide value to its consumers. Thus, Gupta (2023:1) suggests that management should assess their resources and competencies carefully and maximise their potential. Gurnani et al. (2012:17) state that one of the key challenges facing supply chain managers in today's business world highly volatile and interconnected business environments is how to proactively address disruptions that could disrupt the complex supply networks of modern companies. Valuable resources that are expensive and hard to replicate can give firms a lasting competitive edge

when they control them (Barney, 1991:171). Thus, Gurnani et al., (2012:17) state that business must strategically manage these valuable resources to maintain their competitive edge in the market and address their supply chain disruptions proactively. Failure to do so can result in loss of market share and decreased profitability. According to Gurnani et al. (2012:17), a supply chain disruption refers to any event that hinders the production, sale or distribution of goods or services. It is crucial for companies to have backup plans in place to reduce the impact of such disruptions. According to Gurnani et al. (2012:17), one major challenge for supply chain managers in today's volatile and interconnected business environments is proactively dealing with disruptions that may affect the complex supply networks of modern companies.

According to Barney (1991:171), resource-based theory (RBT) involves a company's-controlled assets, processes, capabilities, attributes, knowledge, and information that are used to develop strategies to improve efficiency and effectiveness. Consequently, RBT concentrates on the internal resources and capabilities that a company can utilise and develop to establish a competitive advantage. The study used RBV from the perspective of retailer capabilities, internal resources, brand reputation, and employee expertise as key factors to achieve an organisation's competitive advantage. The study concluded that a company's competitive advantage is heavily dependent on the effective utilisation of these resources and capabilities to minimise ordinary SC disruptions of retailers. Additionally, the study found that leveraging these resources can also help improve overall supply chain performance.

Thus, the significance of RBT depends on using it as a theoretical framework to analyse how strategies might leverage retailers' internal capabilities and resources to strengthen supply chain resilience and mitigate ordinary supply chain disruptions in Cape Metropole. In the context of this study, RBT resources could include robust supplier relationships, competent personnel, effective communication, and efficient supply chain management systems.

2.2.3. Dynamic Capabilities Theory

The Dynamic Capabilities Theory was formulated in 1997 by David J. Teece, Gary Pisano, and Amy Shuen, as presented in their seminal paper, "Dynamic Capabilities and Strategic Management". The purpose of DC theory is that businesses can achieve and sustain a competitive advantage by incorporating flexibility to enhance resilience, as well as developing and reconfiguring internal and external capabilities to adapt and respond swiftly to a changing environment. According to organisational practices and management skills (Teece et al., 1997; Teece, 2007; Teece, 2018), dynamic capabilities (DC) are a firm's ability to adapt its internal competencies to changes in the business environment

Parveen (2023:1) describes DC as an organisation's ability to adapt, integrate, and reconfigure its resources and capabilities in response to changing market conditions and opportunities.

Parveen (2023:1) and Teece (2018:40-49) further explain that the strength of a firm's DC involves essential factors to thrive in a dynamic and competitive environment. These factors include the ability to recognise and take advantage of new opportunities, transform and reconfigure existing resources, and continually learn and innovate (Teece, 2018:40-49; Parveen, 2023:1).

Cepinskis and Masteika (2015:830–835) argue that DC have become more important as supply chains have become longer and more complex. Cepinskis and Masteika (2015:830–835) state that a business, regardless of its size, can suffer significant impacts from its supply chain, as its competitiveness and longevity depend on the quality of actions taken by its supply chain components. Furthermore, Cepinskis and Masteika (2015:830–835) suggest that the emphasis lies on influencing the ability of the supply chain to adapt to market changes rather than creating the environment itself through management, according to the theory of DC. In the supply chain context, it is the researcher's capacity to respond effectively to disruptions.

Consider the above-mentioned theories. The DC theory could guide the study by focussing on how retailers in the Cape Metropole can develop and maintain flexible and adaptive capabilities to quickly respond to and recover from supply chain disruptions. Retailers are consistently exposed to SC disruptions that can impact their ability to sense and seize new opportunities, transform and reconfigure existing resources, and continually learn and innovate. By understanding and applying the DC theory, the researcher can assist retailers in the Cape Metropole in enhancing their ability not only to survive disruptions but also thrive in a constantly changing environment. This approach could provide valuable insights into how retailers can build resilience and agility in their supply chains to stay competitive and meet customer demands effectively, consumer preferences, and market trends.

2.3. Retail business management

2.3.1. Introduction

According to Berman and Evans (2013:3), retailing involves business activities that involve the selling of products and services to final customers and consumers. Levy et al. (2019:6) define retailing as value-added goods and services sold for personal use to consumers. Levy et al. (2019:6) highlight further that retailing does not only occur in a store, as it can include purchasing goods and services online, a haircut, leisure services, and many other service offerings. Topps and Taylor (2018:5) also describe retailing as purchasing ("shopping") goods from a store or any online company. The act of retailing refers to the process of offering products and services at a reduced price to generate a profit and meet the demands of consumers (Topps & Taylor, 2018:6). Retail businesses have various functional divisions to help increase sales and improve productivity (Topps & Taylor, 2018:6). Therefore, it is critical

to understand most of these functions. According to Topps and Taylor (2018:9), the SC is one of the significant functions that each different type of business needs to understand. SC teams aim to achieve a margin, develop a good relationship with suppliers, make the best selection of products, price, and manage the stock flow that moves in and out of business (Topps & Taylor, 2018:9). Therefore, the retailer-supply-chain interaction should be a critical factor within the company. Oxford College of Procurement and Supply (2022:1) opines that communication is crucial to SC success, yet it is surprisingly one of the most significant areas that needs improvement. Thofa (2023:1) states that effective communication is crucial in SCM to avoid delays caused by communication breakdowns between departments.

Thofa (2023:1) further explains that inadequate communication between production and warehousing departments can result in suboptimal utilisation of storage space and disrupt logistical flow. The lack of awareness of the production team regarding the capacity constraints of the warehouse can lead to haphazard inventory management, challenging the logistics team to locate and ship goods.

Therefore, the research includes an inquiry into how to mitigate ordinary disruptions to the SC. The following section looks at the management of retail SC.

2.3.2. Retail supply chain management

According to Berman and Evans (2013:388), the retail SC link consists of parties involved in retail logistics processes that can be defined as manufacturers, wholesalers, third parties, shippers, and retailers.

Levy et al. (2019:6) explain that links between retailers, manufacturers, and consumers are crucial in the SC. According to Berman and Evans (2013:288), many retailers seek closer links with SC logistics processes to improve their collaborative planning, forecasting, and replenishment of products.

Gavirneni (2005:88) defines the SC as an organisation's activity to deliver the most profitable and valued product and service to the right customer at the right time. In addition, Gavirneni (2005:88) explains that SCM focusses more on procurement and logistical strategies, and methodologies to achieve business objectives effectively.

The SCM flow within any procurement and logistical processes must not be taken lightly, as any disruption that may influence the relationship between logistics processes, suppliers and customers can occur.

This research study examined the impact of SC disruption on selected retail businesses and proposed effective methods to mitigate the same. The ultimate goal was to ensure business

profitability and the achievement of set objectives while minimising the adverse effects of SC disruption.

2.4. Supply chain management

SCM involves the administration of both upstream and downstream interactions with suppliers and consumers to provide exceptional customer value at minimal expense (Christopher, 2011:3). In addition, Christopher (2011:3) argues that the aim of SCM relationship management or the SC network relationship is to achieve additional profitable outcomes for all parties in the chain.

According to Christopher (2011:3), SCM can be defined as managing upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost. Christopher (2011:3) adds that to achieve the additional profitable outcome for all parties in the chain, the focus of SCM is the management of relationships or the SC network relationships.

Figure 2.1 below shows the strategic SCM model, which is the flow of materials to the final customer; when raw materials are purchased, manufacturers produce products, ship them to intermediate storage warehouses (if applicable), and then ship them to retailers and customers. Figure 2.1 illustrates the SCM collaboration and emerging sector of end-to-end network design of suppliers, manufacturers, distributors, retailers and customers. The Subramanian (2005:25) strategic SCM model depicted in the diagram outlines the complete SC stream of the logistical flow of materials, from the production of raw materials to their final distribution to retailers and end customers. According to Subramaniam (2009:25-31), interruption may still occur inside a complex supply chain; therefore, it is critical to manage risk in each emerging part differently to ensure a smooth SC flow from end to end. As a result, properly understanding each segment of the supply chain is critical for effective risk management and to ensure a seamless flow from start to finish.

Furthermore, Lawal (2015:12) defined SCM as an efficient and integrated approach that uses suppliers, manufacturers, warehouses, and retail stores to ensure that goods and services are produced and distributed at the right time, and in the correct quantity and location to meet customer requirements. Levy et al. (2019:229) explain that efficient SCM is imperative for retailers, as it gives them a strategic advantage regarding product availability, better inventory turnover, and a higher return on assets.

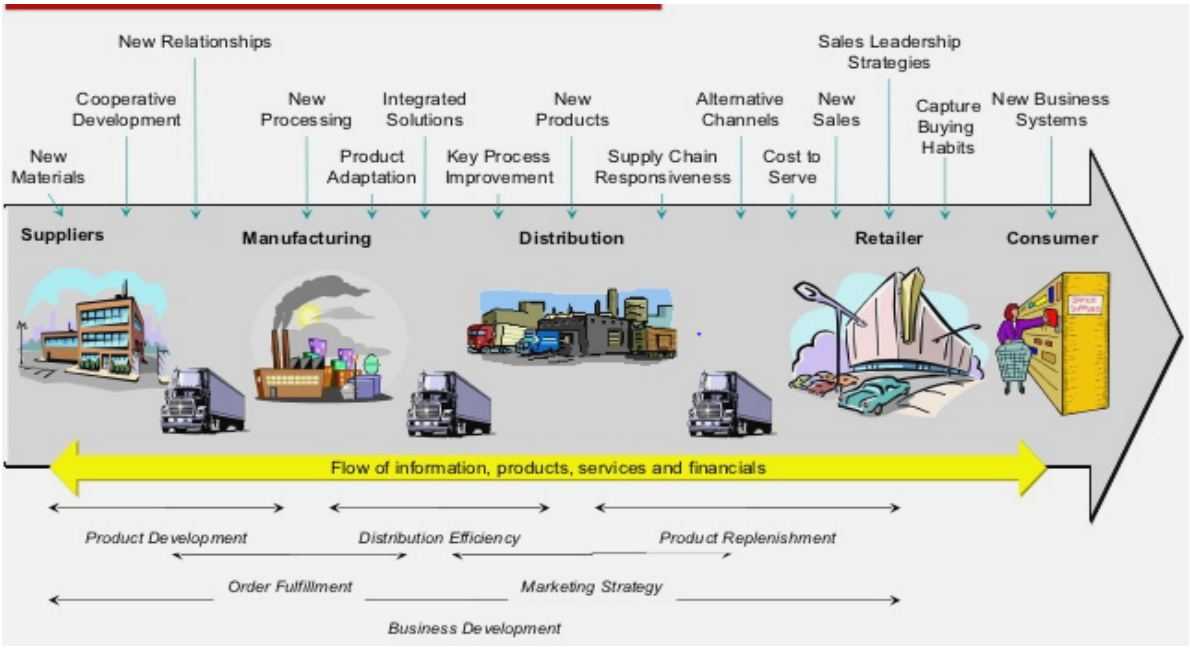


Figure 2.1: Supply chain end-to-end network design

Source: Subramaniam (2009:25)

Subramaniam (2009:25-31) demonstrates that the actions conducted in the supply chain model are critical to generating a competitive advantage for the network's stakeholders. Supply chains are more vulnerable to disruption and risk; organisations want faster growth, more innovation, and a stronger competitive margin; customers want cheaper lean and cost-saving offerings; demand for faster delivery, resulting in shorter delivery times; globalisation grows; and technology changes and improvements (Subramaniam, 2009:6). All of these activities and demand can put pressure on effective supply risk management and risk exposure such as transportation constraints, commodity price fluctuation and volatility, environmental risk, labour issues, IT system constraints, and financial implications (Subramaniam, 2009:6).).

Considering the above-mentioned, it is imperative that supply chain disruption remain minimal to guarantee the success of the supply chain. This research study aimed to investigate supply chain disruptions in the retail industry and formulate strategies to effectively mitigate retail SC interruptions. Hugos (2018:55) postulates that the main reason why SCM is successful is based on four parts inside the SC: the producer/manufacturer, distributor/wholesaler, retailers, and ultimately, its customers/consumers.

2.4.1. Manufacturing

Manufacturing is the manual or machine production of finished goods that a business sells to customers. Manufacturing is usually done on large production lines using machines and skilled workers. Shopify (2021:1) identifies three types of manufacturing processes: (1) Make-to-stock (MTS), (2) Make-to-order (MTO) and (3) Make-to-assemble (MTA). Segal (2020:1) outlines MTS as production strategies that companies use to match inventory with anticipated

consumer demand. The push system is used in the manufacturing process known as MTS. In line with expected demand, goods are "pushed" through the SC as they are created to stock. Shopify (2021:1) further explains that with MTO, the manufacturer waits for orders before starting their production line. Inventory is easier to manage, and owners need less reliance on market demand (Shopify, 2021:1). If the customer must wait for their order, it increases the lead time, and for this reason, manufacturers need a constant flow of orders to keep their factories running (Shopify, 2021:1). On the other hand, MTA manufacturers produce components in anticipation of assembly orders (Shopify, 2021:1). In this way, the manufacturer is ready to fulfil the customer's order but if the order does not go through, the manufacturer is supplied with unnecessary parts (Shopify, 2021:1).

During these three manufacturing processes, different types of disruption can occur when the manufacturer inaccurately forecasts raw materials, poor cash flow management, inventory is either too low or overstocked, and there could be the risk of obsolescence or perishability (Shopify, 2021:1). One of the disruptions and risks during MTS is that if the manufacturer engages in overproduction, they may find themselves unable to sell the entire batch, leading to surplus and consequent financial losses (Shopify, 2021:1). On the contrary, underproduction can result in missed sales opportunities, which can ultimately erode market share and diminish customer trust (Shopify, 2021:1).

SC disruptions have become a significant challenge for the global economy. According to Kamali & Wang (2021:1) on the International Monetary Fund Blog, since the COVID-19 epidemic in early 2020, manufacturers in China have begun to close due to numerous countries implementing lockdown restrictions. The lockdown affected employment levels, reduced demand for tradable goods, and caused disruptions to logistics networks which lead to capacity constraints, resulting in significant freight increases and delivery time delays (Kamali & Wang, 2021:1).

Local manufacturers experience inflationary pressure due to increased fuel prices; increases are already at 10%. Shipping costs have increased significantly by over 30% (Hunter, 2022:1). The International Monetary Fund (IMF) reports that consumer price increases are the result of SC disruptions, and the increasing cost of raw materials (Buchholz, 2021:1).

2.4.2. Suppliers and distributors

A supplier can be identified as a business that provides goods and services to another organisation (Accounting Tools, 2022:1). Suppliers can be considered part of the SC, providing bulk products. The supplier uses different logistics modes to ship the goods to customers and buyers (Accounting Tools, 2022:1). In contrast, the distributor buys the goods from multiple manufacturers and sells to the customers (Accounting Tools, 2022:1). The distributor sells in bulk to businesses (Hugos, 2018:55). The distributor and suppliers manage their stock level

by implementing inventory management, warehouse operations, product movement, customer support, and post-sales services (Hugos, 2018:55). If any ordinary SC disruptions occur during the supplier and distributor logistical flow; product shortages, late deliveries, order placement error, or even inaccurate inventory control management could disrupt the entire supply flow, and can lead to customer delivery delay and dissatisfaction with service delivery.

According to Buchholz (2021:1), as the coronavirus crisis began to ease toward the end of 2021, many businesses faced significant challenges of staff being lost due to illness or travel restrictions. Additionally, numerous suppliers could not meet their clients' total delivery requirements. Buchholz (2021:1) elaborates that a delay in one part of a product could swiftly disrupt the client's production processes.

2.4.3. Retailer and consumer

Retailers can be defined as businesses that sell goods in smaller quantities directly to the customer and the general public (Hugos, 2018:66). Retailers can closely monitor customers' product preferences and demands through sales and buying behaviour (Hugos, 2018:66-74).

Customers or consumers can be any individual or organisation that purchases products or services from the retailer, producer, or distributor (Hugos, 2018:55). Customers purchasing from a retailer purchase for their use. In contrast, customers who purchase from the producer or distributor use those products or raw materials to integrate them into another product to sell to their customers as the final product. Customer service satisfaction, good quality products, and excellent customer service are critical factors for a great customer experience and to gain customer loyalty (Lee, 2021:1). Customers want and expect a complete customer service experience, whether it is an in-store experience, a product experience, or online (Lee, 2021:1). However, when disruptions occur that negatively affect the customer experience, it could lead to loss of sales, unsatisfied customers, and brand damage.

2.4.4. Logistics

Logistics management is concerned with managing the components of the logistic mix, which can be identified as storage, inventory, transport, unification, packaging, and finally, communication (Fernie & Sparks, 2010:7). According to Fernie and Sparks (2010:8), logistics management seeks to balance costs and service requirements while managing the logistic mix in an integrated manner.

Van Weele (2005:206) describes logistics management as material flow, from the procurement of raw materials to the production of the product to the distribution centre, to the retail sector and finally to the consumer. Topps and Taylor (2018:10) note that logistics is primarily related to the SC and merchandise. The best example of these interaction flows is given in Figure 2.1

above. Topps and Taylor (2018:67) further note that the importance of logistics within the SC and merchandising system is the connection between information flow, intake, and dispatch. These links are essential for the adequate performance of business functions to minimise costs.

The concepts above define the movement/flow of products, information, communication, and service interaction. Therefore, retailers should have direct interaction with the logistics mix to improve their information flow (customer needs and wishes), improve their transport routes for faster delivery, and reduce inventory by using communication and information systems.

The following section elaborates on disruptions in the SC.

2.5. Supply chain disruptions

Disruptions in the SC can be viewed as unexpected incidents that could significantly jeopardise the flow of materials and business operations (Bugert & Lasch, 2018:304). Ward et al. (2014:142) explain that SC disruptions may affect the productivity and profitability of a business.

Pariazar and Sir (2018:113) describe disruptions as sudden events that could cause damage to business property. Pariazar and Sir (2018:113) add that threats to the SC include natural disasters, development problems, injuries, workforce shortages, terrorist attacks, unforeseen and sudden shocks, economic crises, and war.

Li et al. (2017:88) note that most SC disruptions involve ordinary disruptions such as parts shortages, a lack of response to customer-requested changes, and problems of production, ramp-up, and quality. Alicke et al. (2016:8) report that lost sales and disrupted SC activities are caused by poor service offerings, unrealistic lead times, unavailability of products, and unreliable parts delivery.

Li et al. (2017:88) identify time as a factor that can play a significant role in SC disruption. These include the duration of the disruption, the time involved in designing a solution to the disruption, the time needed to execute the solution, and the time needed to recover. As described by the above author, ordinary SC disruptions can negatively affect business processes, harm business productivity, and reduce customer satisfaction and brand equity. Therefore, the primary focus of this research study was on identifying the strategies retailers in the Cape Metropole can implement to mitigate ordinary SC disruptions effectively.

Nel et al. (2018:2) have published several academic articles highlighting the different types of SC disruptions. These disruptions can be explained as internal business disruptions such as strikes, human intervention, and error; external disruptions such as customs delays and

manufacturing delays; and new regulations and catastrophic events (Christopher & Peck, 2004:6; Sodhi & Lee, 2007:1430; Behdani, 2013:21; Nel et al., 2018:2).

The Supply Chain Quarterly (2019:1) lists the top 10 worldwide SC risks of 2019. These risks and disruptions to the SC have significant implications for the SC network. The first major SC risk is trade wars, when countries try to damage each other's trades by imposing new tariffs on a wide range of consumer products and industrial components or quota restrictions (Supply Chain Quarterly, 2019:1).

According to the Supply Chain Quarterly (2019:1), the second issue facing the industry is the lack of raw materials, which leads to bottlenecks in production and longer production lead time. Another challenge was product recalls and health scares that resulted in loss of control over production and regulatory oversight. Fourth, in 2018, European SCs were impacted by climate change and water scarcity, resulting in low water levels that restricted inland shipping (Supply Chain Quarterly, 2019:1). The fifth item in the Quarterly Supply Chain (2019:1) report highlights the stricter environmental legislation being enforced by countries that could lead to disruptive business operations. The last pattern of disturbances can be described as (6) economic instability and systemic change (7) industrial unrest (8) container ship fires (9) border battles and finally, drones and aviation safety (Supply Chain Quarterly, 2019:1).

In the 20th century, scholars from academic institutions published articles on various business disruptions in different industries (Nel et al., 2018:3). These authors carried out various academic research studies on the disruptions that can occur in different industries, such as retail, chemical, automotive, industrial, FMCG, petrochemical, and the toys industry.

Additionally, the Institute for Business Value (IBM) (2020:1) reports that the global COVID-19 pandemic exposed SC vulnerabilities in all sectors and industries.

COVID-19 has exposed vulnerabilities and complexities in global supply chain operations, particularly in the healthcare industry, as there was a severe shortage of protective equipment (Saleheen & Habib, 2022:380). Saleheen and Habib (2022: 380) report that managing risk and building resilient supply chains in a borderless economy during the pandemic became increasingly daunting, with uncertainties in demand and supply, shorter product lifecycles, outsourcing and numerous other issues.

Furthermore, Saleheen and Habib (2022:380) indicate that many factors such as financial unpredictability, mergers and acquisitions, technological innovations, e-business, shorter time-to-market, natural disasters, pandemics, and terrorist activities influenced the business landscape. These factors required organisations to adopt more innovative business strategies (Saleheen & Habib, 2022:380).

A comprehensive review of academic research and related reports revealed a notable deficiency in scholarly work that focus on the mitigation of common supply chain disruptions among retailers in the Cape Metropole. The researcher therefore considered this as motivation to specifically focus on the Cape Metropole retailers to investigate how they can mitigate ordinary SC disruptions.

2.6. Supply Chain Risk Management (SCRM)

As illustrated in Figure 2.1 above, SC is a long and complex process with various essential functional interlinks to satisfy consumers. However, long and complex processes leave SC vulnerable to disruptions and financial risk (Meyer et al., 2019:2). Subramaniam (2009:25-31) postulates supply chain risks caused by external variables such as the environment and demand, as well as internal issues such as procedures and governance. Subramaniam (2009:25-31) demonstrates the importance of a risk framework that combines strategy, execution, and continuous improvement. Risk management includes anticipating risks, managing SC performance, managing suppliers for risk exposure, product/inventory and information flow, continuous monitoring and control risk, and ensuring that the appropriate capabilities and performance indicators are in place (Subramaniam, 2009:25-31). Furthermore, Commercial Risk (2019:1) argue that SC risk continually evolves and holds dangerous consequences for businesses. Wieland and Wallenburg (2013:302) explain that SCRM involves implementing risk management strategies and SC based on continuous risk assessment, with the aim of reducing vulnerability and ensuring continuity. Wieland and Wallenburg (2013:4) add that the SCRM model promotes a proactive (robustness) and reactive (agility) approach to SC risk analysis.

According to Wieland and Wallenburg (2013:4) proactive and reactive approaches are needed to prepare businesses for unanticipated obstacles, with proactive covering visible aspects and reactive addressing post-events and maximising success after the accident occurs.

Kirilmaz and Erol (2016:3) argue that a proactive approach to SCRM planning is to identify risky suppliers and reduce the extent of damage when disruption occurs. Supply Chain Quarterly (2019:1) emphasises time to reevaluate, as SCR always brings new challenges and unforeseen risks. According to Supply Chain Quarterly (2019:1), risk evaluation is crucial in enabling businesses to evaluate their risk environment, gain valuable insights to improve their strategies, and protect their bottom line.

Additionally, Kirilmaz and Erol (2016:3) identify five phases for proactively minimising SC risk: risk identification, risk measurement, risk assessment, risk mitigation, and risk monitoring and control. Kirilmaz and Erol (2016:5) also note that proactive and reactive approaches are identified and developed during the risk mitigation phase.

The reactive approach is when no action is taken before any event occurs but is implemented to mitigate the risk and reduce the impact after the event has occurred (Kirilmaz & Erol, 2016:5). Although the proactive approach is in effect before any disrupted event happens, this is when mitigation measures are introduced to minimise the risk potential or reduce the degree of disruption impact (Kirilmaz & Erol, 2016:5).

Bradley (2014:483) categorises SC disruptions into two types: catastrophic events such as earthquakes or other natural disasters, and disruptions commonly known as ordinary disruptions, such as late distribution machine/production breakdowns. For these two SC disruption events, Bradley (2014:483) suggests a 5-step SCRM method: first, identify risks; second, measure risks; third, prioritise risks for mitigation; fourth, evaluate risk mitigation tactics; and last, implement risk mitigation tactics. In comparison, the 5-step SCRM methods of Lavastre et al. (2012:829) and Agigi et al. (2016:2) include the following approach: the first step of identifying, the second step of the assessment, the third step of the analysis, the fourth step of risk management, and the fifth phase of mitigation.

Figure 2.2 below highlights an integrated framework for managing disruption risks in the supply. The model illustrates two categories of cycles, namely risk management cycle and disruption management (Behdani, 2013:34). Risk management cycle focusses on potential disruptions and begins with risk identification, followed by risk quantification as well as risk evaluation and treatment, and finally risk monitoring, as shown in Figure 2.2 (Behdani, 2013:34). The disruption management cycle is meant to handle disturbances and respond swiftly so that the SC can resume normal operations (Behdani, 2013:34).

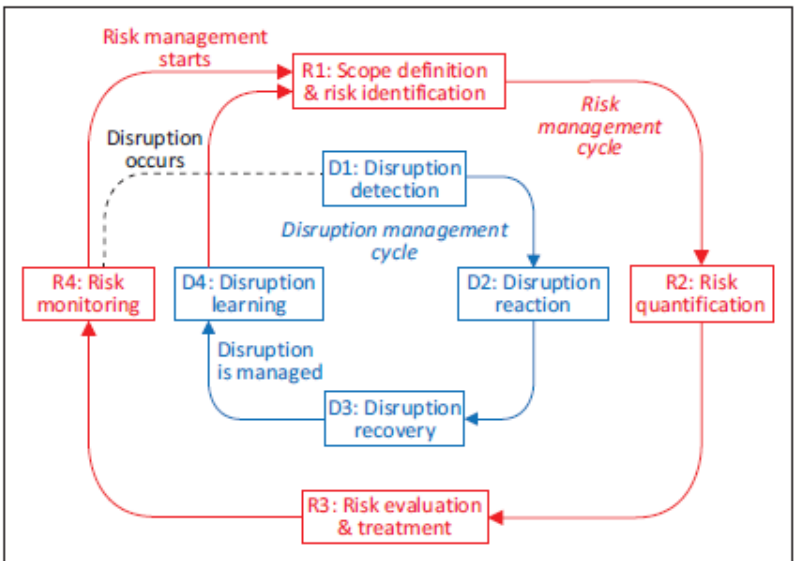


Figure 2.2: Integrated framework for managing disruption risk in the supply chain

Source: Behdani (2013:34)

Figure 2.2 delineates the phases in the management of disruption cycles, including the detection of, reaction to, recovery from disruption, and the disruption learning process. The researcher incorporated Behdani's integrated framework while emphasising a contemporary integrated supply chain risk management model designed to mitigate the risk of supply chain disruptions in a complex and dynamic environment. The use of the integrated approach of Behdani helped the researcher to identify the possibility of disruption of the supply chain within the study. Using this model, the researcher could discover disruptions, determine the necessary response to alleviate these disruptions, and execute a recovery plan to minimise future occurrences. This method helped the researcher identify and improve the overall resilience of the supply chain, thus enhancing its ability to respond to unforeseen circumstances. By using a contemporary integrated SCRM model, the researcher could pre-emptively mitigate possible disruptions before they developed into significant problems that would affect the whole supply chain. The objective was to establish a more flexible and responsive supply chain that would be capable to effectively manage the complexity of the contemporary global business environment. Therefore, this research study analysed SCRM approaches to incorporate the best strategy that focusses specifically on the Cape Metropole retailers and then developed an integrated SCRM framework to reduce ordinary SC disruptions.

2.7. Conceptual framework

Ravitch and Riggan (2017:6) define a conceptual framework as "the researcher's thoughts and implementation of the entire research study". According to Kivunja (2018:46), the conceptual framework encompasses the logical orientation and linkages between the researcher's concept, ideas, theories, structures, plans, and practice, as well as the execution of the research study. Furthermore, Kivunja (2018:46) defines the conceptual framework as the logical conception of a research study. As a result, the conceptual framework of this study was intended to solve the research question of mitigating ordinary SC disruptions. Kusirini et al. (2020:9) note that the most disruptive risks were supplier production capacity, supplier product quality, customer forecasting, and daily finished good delivery schedule to consumers. Thus, this research study aimed to identify the various sources of ordinary disruption, and to propose strategies on how to mitigate SC disruptions to reduce SC risk. The researcher argues that there is limited literature on ordinary SC disruption and how to mitigate SCR risk. Figure 2.3 below describes the conceptual framework of this research study.

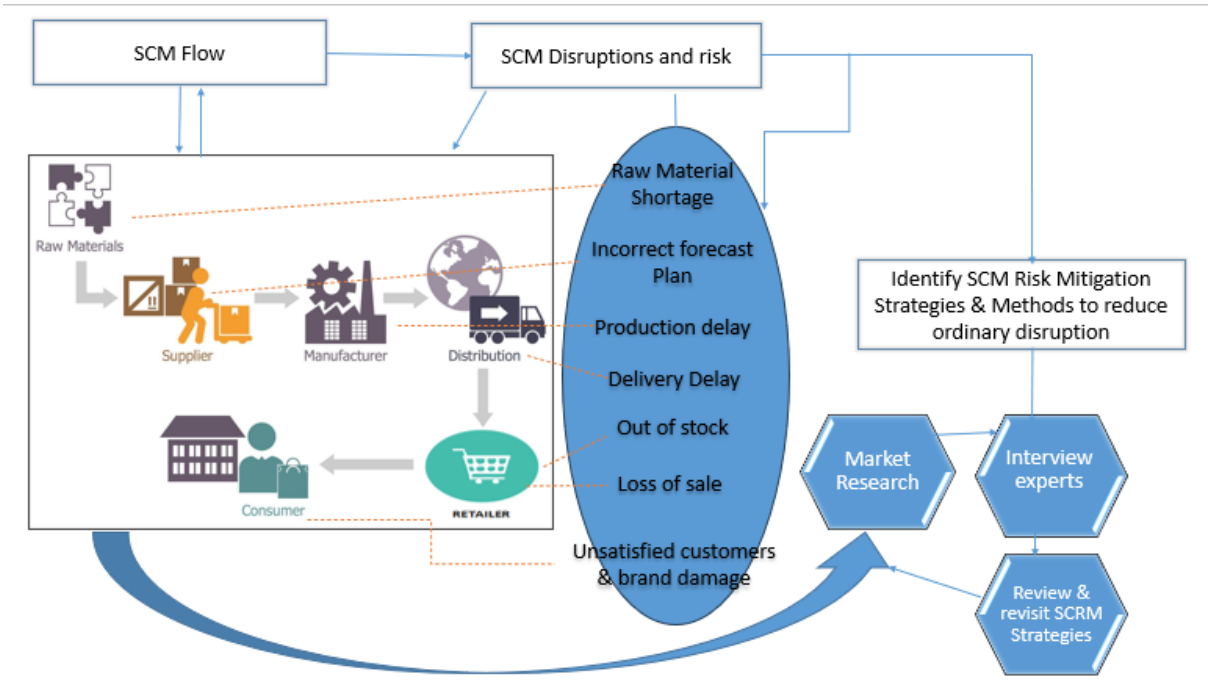


Figure 2.3: Conceptual framework to mitigate ordinary SC disruptions

Source: Author's own construct

Figure 2.3 demonstrates the researcher's conceptual framework for studying the relationships between SCM flow structures and how SCM disruptions affect each flow individually. In addition, it facilitates the identification of risk mitigation strategies within SCM and provides a comprehensive analysis of the implementation the findings of the study. The researcher identifies that by understanding the interconnectedness of supply chain management flows and the impact of disruptions, organisations can better prepare for unforeseen events and can quickly adapt to changes in the business environment. Overall, the goal is to create a supply

chain that is agile, resilient, and capable of meeting the demands of today's dynamic marketplace.

The conceptual framework of this research is shown in Figure 2.3 above, which examines the interconnections among supply chain management flow structures, therefore elucidating the effects of SCM disruptions on each flow. Furthermore, it facilitates the discovery of risk mitigation measures within supply chain management and provides a comprehensive analysis of the execution in this study. The researcher claims that organisations could have a better plan for unexpected occurrences and rapidly adapt to changes in the business environment by understanding the interdependencies of supply chain management flows and the effects of disruptions. The goal was to create a supply chain that is flexible, robust and able to meet the demands of the modern market.

Figure 2.3 illustrates the processes involved in supply chain management flows, beginning with the supply of raw materials from the supplier. Subsequently, these materials are sold to the manufacturer that is responsible for producing the products. The products are then transported to the distributor and, in some instances, to wholesalers. From there, they are directed to the distribution centre of the retailer, ultimately reaching the end customer. Osman (2023:1) delineates this process that progresses in a singular direction, called downstream. Osman (2023:1) explains that raw materials cross the supply chain and eventually transform into a final product that is available for consumer purchase. The relationships among these networks are enabled by logistics, which convey both raw materials and completed goods from one link to another. The main aim of logistics and supply chain management is to ensure efficient and economical delivery of resources and goods to the end consumer. The aim of supply chain management (SCM) is to improve the supply chain strategy, reduce inventory and overhead expenses, increase customer satisfaction, improve product oversight, refine risk mitigation procedures, and establish a robust financial standing while boosting cash flow.

In the SCM Flow, each connection is susceptible to interruptions that might impact the final product and adversely affect the consumer. Recognising risks and disruptions will optimally aid businesses in executing risk mitigation plans and procedures to reduce exposure to disruptions. All components within the supply chain management flow are susceptible to typical supply chain interruptions; for example, a scarcity of raw materials may result in delivery delays at the manufacturer. If an organisation lacks raw resources to make a product, they are unable to provide their suppliers. Suppliers are subsequently out of inventory, resulting in retailers being out of stock and consumers being dissatisfied. Internal and external disruptions and risk factors must be meticulously and consistently monitored to reduce disruptions. Awareness of internal and external risks is an effective contingency strategy to limit risk and disruption, allowing proactive responses upon risk detection.

To conceptualise this study, the researcher interviewed industry experts to understand routine supply chain disruptions within each supply chain management flow, evaluate supply chain management techniques, and perform market research on current supply chain disruptions that affect retailers. The process of information gathering focused on identifying failures to mitigate future risks while also recognising successful elements to replicate for enhanced effectiveness in future outcomes. Additionally, it involved a review of current strategies and processes, with the aim to adjust them to incorporate the lessons learnt. The objective is to establish protocols to manage and mitigate disruptions caused by interruptions, ensuring timely responses, rapid recovery, and restoration of operations to prevent significant sales losses. The primary objective of the study is to emphasise risk mitigation and reduce the potential for disruptions to the supply chain.

The final phase involved addressing the primary objective of identifying ordinary supply chain disruptions and improving risk strategies and methodologies to mitigate these ordinary disruptions.

2.8. Chapter summary

This chapter comprehensively reviewed and analysed the retail, SC and SCRM literature. The critical focus was to highlight the potential threats to SC and SCRM models, which were fundamental to this literature review.

The literature demonstrates the importance of a well-functioning SC in the retail industry, connecting manufacturers and consumers. Even a minor disruption can result in significant financial losses for a company. The research gap highlighted the need for effective risk management strategies to identify and address potential disruptions and maintain a strong relationship with customers and suppliers. The literature review emphasises that SC disruptions pose a significant challenge for businesses, and more research is needed to determine how various stakeholders can mitigate these disruptions within their logistic flows. Ensuring a smooth SC flow is essential for a company's financial success and customer satisfaction.

The research methodology and design that were implemented for this investigation are detailed in the subsequent chapter.

CHAPTER 3: RESEARCH METHODOLOGY AND DESIGN

3.1. Introduction

The previous chapter presented a comprehensive examination of the literature relevant to this research study. This chapter delineates the research methodologies and approaches employed to address the research objectives presented in Chapter 1. It lays out the research framework that encompasses the research philosophy, approach, methodological choices, strategies and design, time horizon, and considerations of data validity and reliability. Furthermore, it addresses ethical issues, data collection methods, data analysis techniques, and the instruments that were used for data collection, along with the delimitations and limitations inherent in the study. The researcher details the research philosophy, approach, and methodology; this section sets the foundation for the study's credibility and validity. Ethical considerations are also thoroughly explained that ensured that the data collection and analysis processes adhere to ethical standards. Overall, this chapter serves as a roadmap for the research study, guiding the reader through the various components that contribute to its validity and reliability.

3.2. Research framework

Saunders et al. (2015:122) outline the research framework as a logical flow to answer the research question and describe the research process as a multilayered onion, as illustrated in Figure 3.1 below.

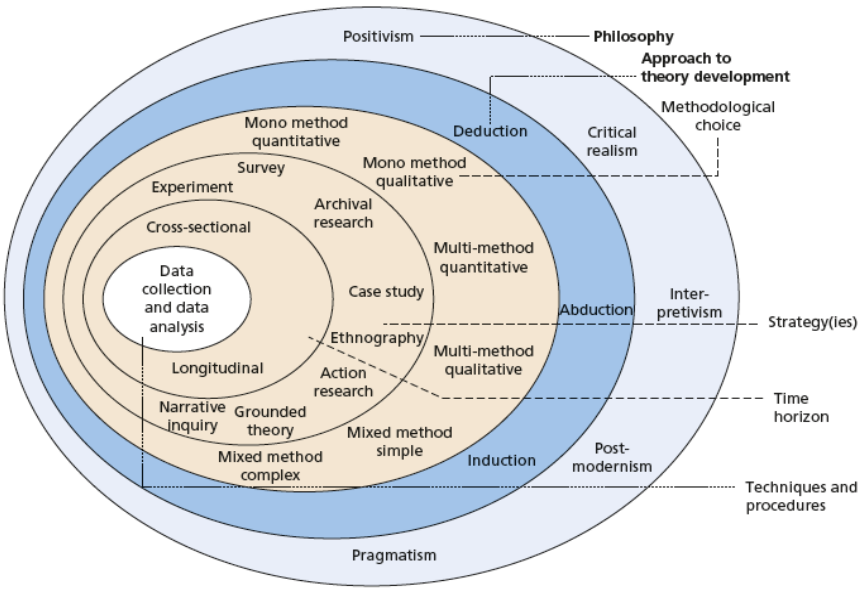


Figure 3.1. The Research Onion

Source: Saunders et al. (2015:122)

Figure 3.1 displays all five layers of the research onion, with the first layer representing the research philosophy, which includes positivism, critical realism, interpretivism, postmodernism, and pragmatism (Saunders et al., 2015:122). The second layer that Saunders et al. (2015:122) outline, is the research approach that the researcher decided to adopt. The researcher can adopt a deductive, abduction, or inductive approach. Methodological choices may be found in the third layer of the research onion (Saunders et al., 2015:122). The researcher must identify the suitable method for the study, namely the quantitative, qualitative, multimethod quantitative, multimethod qualitative mix method sampled or mix method complex. In the fourth layer, the researcher must consider the research strategy to adopt: an experiment, survey, archival research, case study, ethnography, action research, grounded theory, or narrative inquiry. The fifth layer entails time horizon considerations, which could be cross-sectional and longitudinal. The last layer comprises the techniques and procedures for data collection and analysis. Sanders et al.'s (2015:122) multilayered research approach was considered while developing the study's research framework, as shown in Table 3.1.

Table 3.1: The framework of the study

No.	Layer	Approach
1.	Research philosophy	Interpretivism
2.	Research approach	Inductive approach.
3.	Methodological choice	Qualitative research technique
4.	Research strategy	Observation and interviews
5.	Time horizon	Cross-sectional
6.	Techniques and procedures	Data collection and analysis methods: Interviews, journals, electronic databases, textbooks, newspapers, government publications, and websites

Source: Author’s own construct

3.2.1. Research philosophy

The research philosophy is influenced by practical implications that consist of assumptions on the development of knowledge and the nature of knowledge. Saunders et al. (2015:124) define the three main assumptions of research philosophies as a) epistemology (human knowledge, a distinction between justified belief and opinion); b) ontology (nature of reality); and c) axiology (the level of your values, which influence your research process and ethical writing).

During each stage of the research study, the researcher naturally made various assumptions. Therefore, it was crucial to identify and apply the most appropriate assumptions to the study that ultimately shaped the research philosophy. The two types of assumptions that researchers

tend to make are either epistemologically, or axiologically. The epistemological assumptions focused on comprehending and interpreting human knowledge, assessing what was acceptable, and identifying what constitute valid and legitimate knowledge. Axiological assumptions are related to how the researcher's values influence the research process, including ethical behaviour. These assumptions assist the researcher in developing research questions, choosing appropriate research methods, and interpreting the results (Saunders et al., 2015:124). Saunders et al. (2015:124) report that there are five major research philosophies; positivism, critical realism, Interpretivism, postmodernism, and pragmatism, which can be identified as the philosophical approaches within the philosophy assumptions (epistemology, ontology and axiology).

Positivism can be defined by collecting observable, empirical, and measurable evidence, using a quantitative research approach (Saunders et al., 2015:124; The Basics of Philosophy, 2018:1). Interpretivism is understood through 'perceived' knowledge. It concentrates on understanding and interpretation by seeking to understand the specific context and is usually connected to qualitative research (Edirisingha, 2012:1). In contrast, the critical realist refers to what sensations that we experience (Saunders et al., 2015:124).

Postmodernism is essential to recognise the role of language and the relationship between the researcher and the participants by seeking ways of thinking and giving alternative views (Saunders et al., 2015:141). Pragmatism can be both objective and subjective and can underlie mixed method research (qualitative and quantitative methods). It looks at facts, values, accuracy, and intricate knowledge and is designed to 'make our ideas clear' (Saunders et al., 2015:137; Pierce, 2018:1).

This study adopted Interpretivism as its philosophy. Interpretivism guided the researcher to understand why SC disruptions occurred within retailers. At the same time, Postmodernism guided the researcher to explore the participants' perspectives and provide alternative solutions to the problem.

Interpretivism is a philosophical stance that highlights the importance of understanding the role of individuals in creating knowledge (Saunders et al., 2015:129). The importance of interpretivism lies in its ability to explore participants' perceptions of ordinary supply chain (SC) dynamics, focus on participants' experiences, and examine how retail professionals interpret SC disruptions and the strategies they utilise. Thus, Interpretivism helped the study to comprehend the reasons behind SC's ordinary disruptions within the retailer organisation. Interpretivism guided the study to gain deep insights into how senior buyers, logistic managers, executive SC manager understand and respond to daily SC operational challenges and allow the study to understand that each retailer experience and manage SC disruptions differently based on the organisation culture.

According to this approach, it is essential to conduct research among individuals in their specific roles and circumstances (Saunders et al., 2015:129). Nel et al. (2018:2) utilised interpretivism and postmodernist philosophies to examine the impact of SC disruptions on third-party logistics services providers (3PLs) and their clients in South Africa. They investigated how the 3PLs manage disruptions and the importance of such services in the SC, as well as gathered the participants' knowledge and perspectives to answer the study's main research question (Nel et al., 2018:2).

3.2.1.1 Epistemological assumptions

Epistemology is the theory of knowledge, justification, and the methods used (Walliman, 2011:16). Walliman (2011:17) explains that epistemology is how we know things and what is regarded acceptable knowledge. The knowledge approach can be defined as empiricism, using inductive reasoning with knowledge being triggered by sensory experience; and rationalism when deductive knowledge is gained by reasoning.

For this study, it was imperative to understand and interpret human knowledge. Thus, the interpretation was necessary to conduct research among individuals to understand why ordinary SC disruptions occur and what are the most effective and efficient methods to mitigate and manage these disruptions.

3.2.1.2 Axiology

Axiology delves into the ethical implications of value and evaluation in research (Saunders et al., 2015:128). As such, this research was carried out with high ethical standards to ensure that the researcher obtained credible research results. Carnaghan (2013:1) suggests that when using qualitative research to discuss axiology, the researcher should disclose their values in the study and report any biases and the nature of the field. Therefore, the researcher respected the opinions of the participants, performed in good faith, exhibited integrity, and meticulously analysed the findings to ensure that the research met ethical standards. The researcher developed an informed consent form before conducting the interviews, which thoroughly elucidates that the participant is cognisant of the research's nature before consenting to participate.

Informed consent was presented as a letter that included the study summary, scope, duration, potential implications, and outcomes. The document offered a clear description of the study's objective, detailed the requirements for participation, and explicitly indicated that participation is voluntary, with the option that participants are free to leave at any moment. The researcher assured the participants that their responses would be kept confidential by using a coding system. In general, the informed consent process was designed to ensure that participants were fully aware of what they agreed to before participating in the study. This transparency

helped build trust between the researcher and participants that created a safe and respectful environment for data collection. The researcher was able to uphold ethical standards and prioritise the value of the data that the research participants provided by focussing on confidentiality and voluntary participation.

3.2.1.3 Ontology

Ontology explores the fundamental nature of reality itself (Saunders et al., 2015:137). As noted by Saunders et al. (2015:137), ontology is comprised of two philosophical categories: objectivism and subjectivism. Objectivism asserts that social entities exist independently of individuals, highlighting that these entities possess a reality that is external to the actions of social actors (Saunders et al., 2015:137). According to Saunders et al. (2015), the attitudes and behaviours of people participating in subjectivist social events influence the interpretation and outcomes of these events. Subjectivism acknowledges the presence of varying preferences, knowledge, and expectations among individuals and entities, highlighting the significance of individual creativity and autonomy in decision-making processes and shaping the subjective interpretations of reality. Furthermore, Saunders et al. (2015:11) emphasise that understanding the reality of a given situation requires researchers to delve into the specifics of the existing context to uncover the nuanced factors influencing the situation.

This study aimed to examine the effects of ordinary Cape Metropole Retail supply chain disruptions to gain a deeper understanding of their subjective realities. By exploring the individual experiences and perspectives within the context of Cape Metropole Retail supply chain disruptions, the study sought to uncover the unique ways in which these disruptions impact stakeholders and shape their subjective interpretations of reality. Through this exploration, the study aimed to highlight the importance of individual creativity and autonomy in decision-making processes, as well as the nuanced factors that influence perceptions of reality in such situations. Ultimately, the findings of this study contribute to a deeper understanding of the subjectivist realities within the Cape Metropole retail supply chain, informing strategies to address and mitigate disruptions in the future.

3.3. Research approach

The study adopted an inductive method to collect information through a qualitative approach. According to Sekaran (2012:42), a research study could employ either a deductive, inductive or a combination of both approaches. Saunders et al. (2015:137) take a slightly different approach by identifying three distinct research methods: deductive, inductive, and abductive. Saunders et al. (2015:137) explain that a deductive approach involves designing a research strategy to test a theory. In contrast, an inductive approach starts with data collection to explore phenomena to generate a theory. On the other hand, abduction collects data, identifies

themes, and explains patterns to generate a new theory that researchers can test through additional data collection.

According to Wilson (2010:7), the main difference between deductive and inductive approaches is that the former aims to test a theory. At the same time, the latter focusses on generating a new theory based on the data.

Agigi et al. (2016:1) employed qualitative and inductive methodologies to explore SC design approaches in building resilience. Similarly, Nel et al. (2018: 2) used a qualitative and inductive approach to investigate third-party logistics service disruptions and highlight their importance in the SC and for clients.

This research study followed an inductive approach, where the theory emerged from the research data and data collection was used to explore the phenomena in question (Saunders et al., 2015:20). The study focused on finding mitigation methods for reducing ordinary SC disruptions in retailing. To achieve this, the researcher first gathered data to explore the phenomena, specifically mitigating SC disruptions. Nel et al. (2018:1) also employed the inductive approach in their study, by first collecting data through interviews with SC experts.

The following section discusses the methodological choice.

3.4. Methodological choice

According to Walliman (2011:71), data can be classified into two categories. The first category is numerical data, which records and analyses information using statistics based on quantitative data. In contrast, the second category is qualitative data, which describes feelings, ideas, beliefs, and judgements using narratives. A mixed method approach, combining qualitative and quantitative data, allows researchers to collect data from multiple perspectives to interpret results and study research problems (Hastings, 2010:1537; Alzheimer Europe, 2018:1).

Quantitative research involves generating data subjected to quantitative analysis formally and rigidly (Kothari, 2004:5). Alzheimer Europe (2018:1) reports that quantitative research is linked to the positivist/post-positivist paradigm. Scientists generally use objectivity to uncover truths about the natural world and convert their data into numerical form; this method refers more to quantitative research (Kothari, 2004:5). Alzheimer Europe (2018) elaborates that deductive reasoning could be the main emphasis of quantitative research and this emphasis tends to be more specific, than general. Furthermore, Creswell (2014:23) states that quantitative research tests objective theories by examining the relationship among variables.

According to Kothari (2004:5), qualitative research involves subjective evaluation of attitudes, opinions, and behaviour. This approach typically follows an inductive process, allowing researchers to gather data and explore the phenomenon in question to develop a theory or identify patterns of meaning in the collected data (Saunders et al., 2015:145).

The current study utilised a qualitative approach through conducting semi-structured interviews with industry SC experts. This method allowed the study to gain a more thorough understanding of the methodology and practices employed by organisations, particularly in instances where quantitative data is not readily available. The study identified subtle nuances between various sources by exploring the current phenomena experienced by SC experts and organisations. This approach proved more effective than a descriptive one, providing a basic overview of observed phenomena. In a similar study, Umair and Singh (2020) conducted qualitative research to investigate the use of blockchain for efficient risk management in the supply chain, using interpretivism and an inductive method via interviews. Furthermore, Agigi et al. (2016:1) performed qualitative research on supply chain design strategies aimed at enhancing resilience among South African fast-moving consumer product supermarket producers. Agigi et al. (2016:1) examined the supply chain risks encountered by grocery manufacturers in the South African fast-moving consumer goods (FMCG) sector and analysed supply chain design strategies that facilitate supply chain resilience.

Thus, to thoroughly investigate the "how," "why," and "what" of the main research question, the use of a qualitative research approach was particularly fitting for this study as it allowed for a deeper understanding of the experiences and interpretations of the participants.
Using a qualitative approach, the researcher also gained valuable insights into the company's experiences, beliefs, and processes. Interviews proved to be essential in understanding the disruptions within the retail industry. The research design strategy is defined in the subsequent section by the researcher.

3.5. Research design strategy

A well-crafted travel plan, known as the research design strategy, provides researchers with a roadmap to reach the ultimate destination - the research goal (Leedy & Ormrod, 2014:5). Dinnen (2014:1) defines the research strategy as an action plan that guides the researcher in conducting systematic research to yield accurate results, collect data, and report findings in detail.

The research design strategy involved observation, interviews, and documentation collection (policy and procedure). To compare participants' responses and ensure accurate results, the

researcher employed multiple measures; a process known as triangulation. Leedy and Ormrod (2014:1) further explain that this approach allows for informal observations and in-depth interviews, since common data trends could appear in both methods. Consequently, non-participant observations were conducted of the retailers' operational activities to gain a practical understanding of how ordinary supply chain disruptions occur and to observe how retailers manage those disruptions. Through these observations, the researcher gained a deeper understanding of the practical challenges the SC department faces and how they manage disruptions. Additionally, to verify the data obtained from interviews and observations and ensure reliability and validity, the retailers' documents were analysed, such as SC procedures, policies, and supplier performance reports. Neuman (2011:166) adds that several measures could be used to compare data and determine the accuracy of participants' responses. As a result, the author labelled it the triangulation of measures.

The subsequent section delves into the data collection methods employed in the study.

3.5.1. Data collection method

3.5.1.1 Interviews

To provide greater flexibility and a more comprehensive range of applications, researchers use three different types, namely structured, unstructured, and semi-structured interviews (Walliman, 2011:16). Structured interviews follow a set of predetermined questions. In comparison, unstructured interviews use a guide and allow for more flexibility in exploring participants' attitudes. Semi-structured interviews combine the two and involve probing (Walliman, 2011:16).

This research use a semi-structured interview guide, which offers important details about participants' views and perspectives. Interviews could take many formats, including face-to-face, telephone, video conferencing, email, and online (Creswell, 2014:190).

The inclusion of South African SC experts' experience in SC disruptions was considered essential for this research study aimed to identify the challenges posed by SC disruptions and determining the most effective ways to mitigate such disruptions. In a study on supply chain disruptions, Nel et al. (2018:1) performed semi-structured interviews with South African third-party logistics service providers and customers. Similarly, Scheibe and Blackhurst (2017:43) used semi-structured interviews to examine "Supply Chain Disruption Propagation: A Systemic Risk and Normal Accident Theory Perspective.” Scheibe and Blackhurst (2017:43) aimed to understand what drives SC disruption propagation and provided theoretical insights into this emerging area.

The following section discusses the time horizon.

3.6. Time horizon

According to Sekaran (2012:135), the period of a study is determined by the method used to gather data to answer the research question. The timeframe could range from just a few days to several weeks or months and can either be longitudinal, or cross-sectional. A cross-sectional study collects data once to answer a research question, while a longitudinal study collects data multiple times over a long period, as explained by Sekaran (2012:416).

The researcher used a cross-sectional method for this study, which enabled the researcher to examine various characteristics simultaneously without manipulating variables. This approach provided the researcher with data on the current population and its situation (Cherry, 2019:1). As Cherry (2019:1) states, a cross-sectional study is conducted at a single point in time. In contrast, longitudinal studies observe a group over a prolonged period. Cross-sectional research assists in describing the current situation and is often employed to identify prevailing characteristics in a population at a specific moment (Cherry, 2019:1).

The researcher collected data from participants during a single visit to determine how to mitigate disruptions within SC. A cross-sectional study was utilised by Agigi et al. (2016:2) to investigate the SC risks encountered by grocery manufacturers in the South African FMCG industry and to examine SC design strategies that promote SC resilience. A similar cross-sectional data technique was used to evaluate SC interruptions from the perspective of South African third-party logistics service providers and their consumers (Nel et al., 2018:1).

3.7. Techniques and procedures

3.7.1. Population

The population of interest to this study comprised members of the Cape Metropole SC and those involved in the value chain (VC).

The researcher's objective is to investigate individuals and events, as well as phenomena that comprise the population (Sekaran, 2012:265). According to Creswell (2014:58), a research population encompasses all the members of a defined class of people, objects, places, or events relevant to a study.

This study's population was limited to senior buyers, executive procurement managers, SC managers, and other SC team members working in the Cape Town Metropole area. The selected population were identified as the most suited individuals due to their key duties, skills, and knowledge in managing procurement and supply chain activities. The selected population was directly involved in managing supply chain activities, possesses decision-making

authority, and is accountable for managing supply chain disruptions and implementing mitigation solutions. Therefore, it was essential to guarantee that the acquired data is credible, accurate, and consistent with the study's objectives.

3.7.2. Sampling

To gather information for research, a process called sampling is utilised (Sekaran, 2012:264). Sekaran (2012:266) defined sampling as selecting elements from the population. There are generally two categories of sampling designs: probability sampling and non-probability sampling. Probability sampling entails each member of the population to have an equal chance of being selected for the study. There are different methods of sampling, including random, systematic, stratified, cluster, area, and double sampling (Sekaran, 2012:269).

On the other hand, non-probability sampling does not guarantee equal chances of being chosen for inclusion in the study. Convenience sampling, purposive sampling, judgment sampling, and quota sampling are examples of non-probability sampling (Sekaran, 2012:269).

The sample in this study comprised of 11 purposively selected experienced experts in SC from various organisations. These individuals were chosen based on their extensive retail industry experience and knowledge of SC disruptions. Experts from different organisations within the VC were also included in the sample to provide diverse viewpoints. This approach allowed for the assessment of multiple perspectives. The researcher's professionalism as an expert in the SC industry plays a major role in the selection of the participants. The researcher's knowledge and experience in the SC industry was a crucial factor in the selection process to identify the key role players and participants in this study.

The researcher selection process was meticulously planned by reviewing SC experts and the roles that they are playing in the VC, and this selection was executed to ensure the rationality and trustworthiness of the study results. The success of the study depends on the careful selection of participants who can provide valuable insights and data. Senior buyers have in-depth knowledge and experience from the purchase of raw materials to the final product. The senior buyer is also part of the selection of the right product for the end customer. The senior planner is responsible for coordinating the production schedule to ensure timely delivery in the distribution and stores. The senior planner works closely with the production team and senior buyer to monitor inventory levels and adjust accordingly. In their role, the SC executive manager oversees the entire supply chain operations and makes strategic decisions to optimise efficiency and reduce costs. SC executive managers have expertise in strategic development and implementation, risk management, cost reduction strategies, and overall supply chain optimisation. SC executive managers and senior buyers are responsible for building relationships with suppliers and logistics partners to ensure smooth operations and timely delivery of goods. Additionally, SC executive managers together with the senior buyer

are constantly analysing data and market trends to make informed decisions that will benefit the company in the long run. Overall, the SC executive manager plays a crucial role in the success of the supply chain operations and contributes to the overall profitability of the company.

On the other hand, logistics managers are responsible for the move of the products for an organisation. The logistics manager is responsible for coordinating the transportation, warehousing, and distribution of goods from suppliers to customers. The researcher selected a SC general manager to take part in the research study, as the GM ensures that the supply chain department is functional and oversees the overall day-to-day business. The general manager provides strategic direction for SCM and ensures that all processes run smoothly and effectively. The general manager's objectives are to develop and implement SCM strategies, maintain and update policies and procedures, monitor SCM planning and key performance indicators, and ensure that the overall goals of the business are being met. Additionally, the general manager is responsible for overseeing the training and development of SCM staff to continuously improve operational efficiency. All these key role players play a crucial role in fostering strong relationships with suppliers, vendors, and other key stakeholders to ensure the smooth flow of goods and services. Overall, the researcher selected these key players as they are instrumental in driving the success of the supply chain management department and contributing to the overall success of the organisation.

Table 3.2 below displays the various sampling techniques.

Table 3.2: Types of sampling

Probability sampling	Non-probability sampling
Random Sampling: A random sample is a subset of individuals selected from a large group (population)	Convenience Sampling: Sample selection that is conveniently accessible and in the proximity of the researcher
Systematic Sampling: The researcher selects the main subjects for the population and then selects each subject from the list at a fixed sampling interval.	Purposive Sampling: Sampling with a purpose in mind and seeking one or more predefined groups
Stratified Random Sampling: The researcher divides the entire population into different subgroups and then randomly selects the final subject proportionally from the different subgroups.	Judgment Sampling: Sampled based on the researcher's knowledge or those of experts
Cluster/Area Sampling: "When merging various clusters, they form a unified population."	Quota Sampling: The researcher continues sampling until it reaches the desired sample size.
Double Sampling: "Give a second chance to sample the questionable."	Snowball Sampling: The research participants recruit other participants for a test or study

Source: Sekaran (2012:269)

The study utilised a non-probability sampling method, with purposive sampling as the technique for the proposed study. Bugert and Lasch (2018:304) utilised non-probability and systematic sampling methodologies to examine the efficacy of responsive pricing during SC disruption. To address the main objective of that study, the appropriate techniques used were the non-probability method and purposive sampling technique.

Table 3.2 above clearly indicates that the most appropriate sampling method for this study was purposive sampling, given the high level of expertise of the potential participants in SC. This method ensured that the sample was highly credible and reliable, as the participants represented the entire VC in SC, making them the best-suited individuals to provide insightful responses to the research question.

3.7.3. Pilot Testing

According to Hundley and Teijlingen (2014:1), "pilot studies" are characterised as smaller-scale versions of comprehensive studies, in addition to serving the purpose of pre-testing research instruments such as questionnaires or interviews. Pilot studies play an essential role in the formulation of a robust study design, thereby enhancing the probability of success and yielding significant insights (Hundley & Teijlingen, 2014:1). Eight participants were chosen to provide feedback and insights regarding the questionnaire. This process aimed to ensure that the questions were clearly articulated and comprehensible, to identify any errors, and to

ascertain the time required for each participant to complete the questionnaire. The pilot testing was essential to ascertain the relevance of the study. A convenience sample data collection was conducted involving colleagues from the supply chain, external experts, as well as friends and family who possess relevant background experience in the field of supply chain management. The interview questionnaire was disseminated to the participants through electronic mail, and both virtual and in-person interviews were carried out. The findings of the pilot study provided significant insights into the domain of supply chain management.

3.7.4. Data Saturation

Saunders et al. (2017:1893–1907) argue that saturation is predominantly used in qualitative research as a principle to discontinue data collection. The principle of data saturation was described in 1967 by Glaser and Strauss from their origin of grounded theory. Qualitative research generally uses small sample sizes. One method of determining the number of individuals required is to continue conducting interviews until the data yields no new information during the analysis. At that point, the research has generally reached data saturation (Saunders et al. 2017:1893–1907). The current research study had 11 participants, each of whom is an expert in the subject of supply chain management (SCM). Cresswell and Cresswell (2018:186) claim that there are no definitive guidelines on the number of participants in research; yet experts suggest that a range of 10 to 50 participants may be enough, contingent upon the nature of the study and the research topic. According to Interq research (2023:1), qualitative research look for a pattern of similar themes to emerge during interviews (or observations). As the researcher interviews more individuals, the researcher will stop discovering fresh topics, ideas, viewpoints, or patterns (Interq, 2023:1). Essentially, saturation occurs when you get a declining return while talking to an increasing number of individuals (Interq, 2023:1). As per the guidelines provided by Creswell (1998:64) and Onwuegbuzie & Collins (2007:289), researchers recommend a sample size of five to twenty-five participants for phenomenological research designs. But some researchers maintain that a sample size in qualitative studies can only be determined when saturation is reached (Charmaz, 2006:114; Mason, 2010:4; Bryman, 2012:426). This research was able to provide high-quality, extensive, and thorough analyses using 11 individuals. Time-consuming interviews were conducted; nonetheless, sufficient data was obtained for quality analysis. The findings revealed that having more participants did not inevitably result in new insights or patterns.

3.8. Data analysis

3.8.1. Introduction

After collecting data, the next step is to analyse the data to test the research theories (Sekaran, 2012:300). The researcher used qualitative research in this study, as it was the most suitable

method to address the research problem and understand the ordinary disruptions within the retail industry. According to Hilal and Alabri (2013:181) qualitative data consist of in-depth information presented in words. Analysing qualitative data involves reading transcripts, looking for similarities and differences, seeking themes, and developing categories (Hilal & Alabri, 2013:181). The researcher meticulously coded and categorised the raw data to derive valuable insights and construct logical theories that address the research question. Data coding is an essential aspect of qualitative analysis. The researcher used Atlas.ti version 22.02 software for this study to process and analyse the qualitative data effectively.

3.9. Data collection process

3.9.1. Introduction

The semi-structured interviews began with a concise introduction, outlining the research's nature, goal, and the importance of the participants' involvement. The researcher emphasised that participation is entirely voluntary and that individuals may withdraw at any time, followed by obtaining agreed-upon consent forms. Due to the strict lockdown, face-to-face interviews were unfeasible, and thus online interviews were conducted instead. The interviews were meticulously transcribed to guarantee the precision of the researcher's findings. The data collected were all transcribed in English. Nonprobability, purposive sampling supported the study's primary objectives and addressed the main question.

The study aimed to uncover answers to the primary question presented in Chapter 1. The researcher conducted 11 online interviews with experts from the SCM departments of retail organisations (see Table 3.3). Due to the strict lockdown, the researcher had to resort to online interviews, which were transcribed accurately and in detail to ensure the utmost precision and accuracy in the analysis.

Two participants were from the logistics industry, three from the manufacturing industry, three from the food industry, and three from the FMCG industry.

Table 3.3: Participants' details

Participant Designation	Retail Organisation —Industry	Number of Participants	Participant #
Senior Buyer	Retail FMCG	1	1
SC Executive Manager	Retail Food Industry	1	2
SC General Manager	Manufacturer	1	3
Logistic Manager	Logistics	1	4

Senior Planner	Retail FMCG	1	5
Senior Buyer	Manufacturer	1	6
SC Executive Manager	Logistics	1	7
SC General Manager	Retail FMCG	1	8
Logistic Manager	Retail Food Industry	1	9
Senior Planner	Manufacturer	1	10
Senior Buyer	Retail Food Industry	1	11
Total		11	

Source: Author's own construct

3.10. Data analysis process

The researcher offered an interpretation of those data regarding the main and supporting research objectives highlighted in Chapter 1. The data obtained from the interviews were meticulously analysed and validated for reliability. The anonymity of the participants was always maintained.

In total, 11 online interviews were conducted with participants from the SCM departments of various retail organisations. The researcher coded all transcripts and numbered the participants to ensure precision and accuracy.

To further ensure the accuracy of the analysis, mainly since the interviews were conducted online due to lockdown restrictions, the researcher utilised Creswell's (2014:196) data analysis hierarchical approach as a guideline. This approach was chosen to eliminate biased information and maintain ethical research principles, as shown in Figure 3.2 below. Finally, the researcher uploaded all the interview transcripts onto Atlas.ti version 22.02 software and performed the primary coding. The initial step in that process was to identify themes and descriptions.

The researcher sought to develop the theory through the data collection and interpretation stages. During data collection, the researcher did not yet know which methods SC retailers can use to mitigate SC ordinary disruptions. The collected data was interpreted efficiently and practically to address the research question. The next step was to code the data accurately, which was essential to ensure that the data was interpreted correctly. After that, the researcher

had to carefully read through all the data to identify useful information and prepare the correct data for analysis. The last crucial step involved preparing and organising data for analysis, in which the raw data was validated to ensure accuracy before interpreting it to arrive at a conclusive answer to the research question.

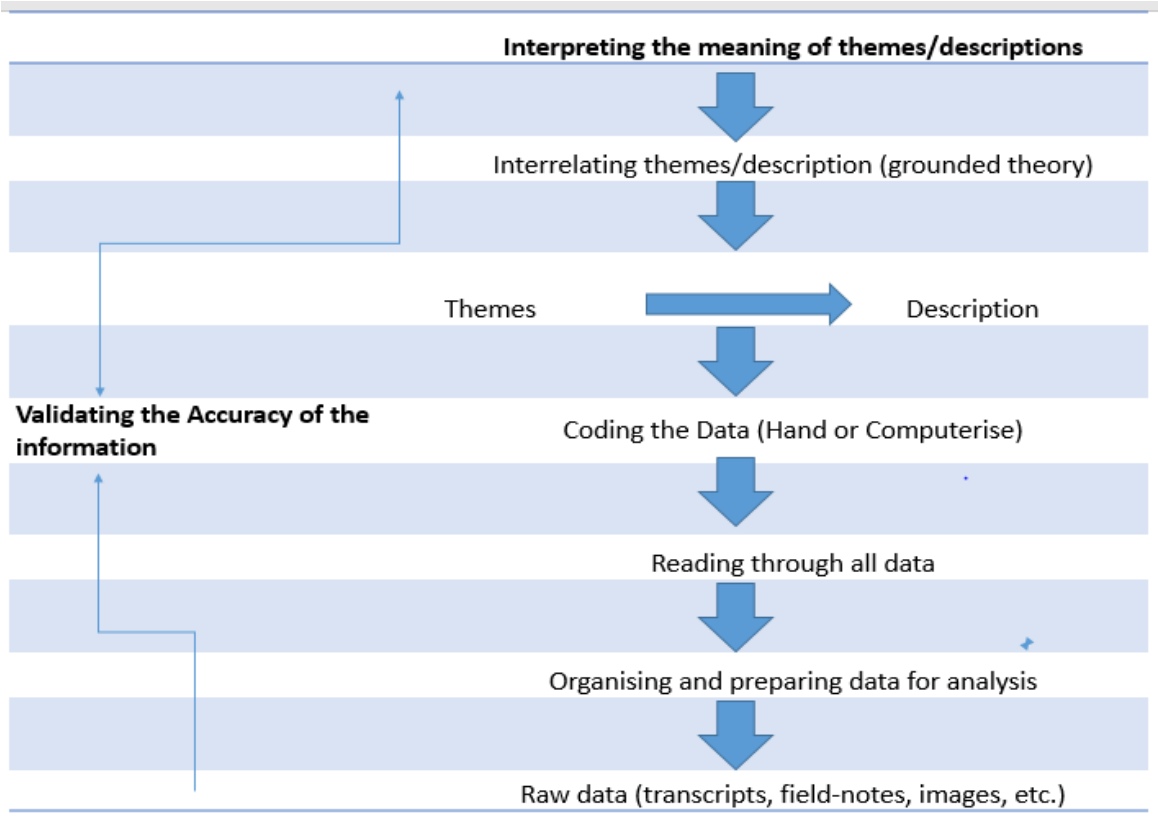


Figure 3.2: Data analysis in qualitative research

Source: Creswell (2014:197)

3.11. Data validity and reliability

3.11.1. Introduction

The accuracy and precision of measurements are essential factors to consider when evaluating measurement tools, also known as reliability and validity (Kothari, 2004:73). It is crucial to carefully assess reliability and validity to ensure that the study analysis is appropriate and adequate based on the methods used (Kothari, 2004:20).

According to Hayashi et al. (2019:1), reliability and validity play a critical role in providing exceptional evidence in the organisational sector of study. Moreover, Hayashi et al. (2019:1) opine that quantitative studies provide better validity evidence than qualitative studies.

3.11.2. Reliability

Reliability measures the consistency of the analysis instrument (Leedy & Ormrod, 2014:106). It addresses the credibility of the researcher, participant, and reader, and the issue of whether the findings are accurate, trustworthy, and authentic (Creswell, 2014:197).

Reliability measurements are crucial for researchers to conduct their studies with high trustworthiness and accuracy in data analysis. In qualitative research, consistency is the key to reliability (Carcary, 2009: 7), which involves utilising the same format for data extraction from sources. Hence, the researcher relied on reliability measurements to ensure the accuracy of the extracted data and verify terms and context through constant comparison.

3.11.3. Validity

Validity is when the researcher checks for the appropriateness and accuracy of the findings by applying particular procedures. Walliman (2011:71) defines validity as a critical criterion that seeks to check whether an instrument measures what it is supposed to measure. Walliman (2011:104) identifies three types of validity: content, criterion-related, and construct. Content validity is the measuring instrument that adequately covers the topic under study (Walliman, 2011:104). Secondly, criterion-related validity refers to the ability to predict the outcome or estimate the existence of the current condition (Walliman, 2011:104). Thirdly, construct validity refers to the scores on a test, which can be explanatory constructs of sound theory (Walliman, 2011:104). According to Kumar (2014:215), validity pertains to the construct of the research instrument's quality and capability to measure the research questions. Maintaining validity was crucial to the study to produce precise and high-calibre evidence. To effectively mitigate ordinary disruptions in the SC, the solutions implemented must be appropriate and precise. The proposed solutions must be tailored to the specific disruption, and a well-informed and practical approach should be taken after a thorough analysis of the situation. As a result, the researcher utilised a measuring instrument by incorporating content and criterion-related validity, ensuring comprehensive coverage, and confirming the current state of affairs.

To ensure the accuracy and validity of this research study, it was crucial to interpret the data collected from participants accurately, as emphasised by Sekaran (2012:301) and Creswell (2014:196). Since qualitative research investigates the participants' experiences, perceptions, and beliefs, they are crucial in determining validity. Validity is reinforced when empirical data frequently support the findings and when varied records are analysed and evaluated to form a connection (Neuman, 2011:220). Through coding, the researcher evaluated responses in the research context to ensure the findings' internal validity. Therefore, the responses provided by the participants were examined and coded to one another to establish whether they were valid. The responses were then assessed for reliability to confirm their accuracy and consistency.

3.11.4. Trustworthiness

According to Lincoln and Guba (1985), the notion of trustworthiness in qualitative research is comprised of several crucial components, including credibility, transferability, dependability, and confirmability. Additional, Ahmad (2024:1) posits that the qualitative research study the complexity of human behaviour, attitudes, and their experiences. Thus, it is imperative to prioritize the establishment of trustworthiness in qualitative research in order to solidify the legitimacy and dependability of the findings. The researcher incorporates the trustworthiness criteria of Lincoln and Guba (1985) to measure the trustworthiness of this study.

3.9.4.1 Credibility

According to Dodgoson (2019:220-222) researchers develop credibility by engaging over extended periods, observing persistently, and using triangulation. Adler (2022: 568) postulates that researchers earn credibility if they spend sufficient time in the research field, engage with participants, monitor their activities closely, and obtain a complete comprehensive insight of their participants.

Gunawan (2015:10) posits that persistent observation involves keeping an open-minded attitude, recognising personal biases, and practicing self-reflection throughout the entire study process. Furthermore, Gunawan (2015:10-11) proposes that the researcher can utilise triangulation to validate findings from various perspectives and compare them to other sources to improve the credibility of the data. The researcher had intensive conversations (Prolong Engagements) with participants in order to obtain a comprehensive data base, build relationships with participants, and unearth any untruthfulness and biased information in the findings. Throughout the study the researcher remained open-minded (Reflexivity) and were cautious to not provide any personal opinion that can be seen as biased. The researcher practiced self-reflection and conducted cross-verification of participants' data against each participant, as well as to verify the information with those in the literature.

The participants have demonstrated the authenticity of the phenomena to successfully mitigating supply chain disruptions in the Cape Metropole.

3.9.4.2 Transferability

The primary goal of transferability, according to Forero et al. (2018):1–11 and Liamputting (2019: 9–26), is to increase the degree to which the findings of a qualitative investigation may be generalised or transferred to other contexts or situations. Thick description, purposive

sampling, and reflexivity are the methods to attain transferability according to Guba and Lincoln's criteria.

Furthermore, it is defined by Haq et al. (2023:150) and Raizi et al. (2023:1) as the extent to which the study results may be extrapolated to other settings or situations. This research used a purposive sampling strategy. Purposive sampling was the most suitable method for this investigation since the participants were specialists and representatives of supply chains and value chains, hence assuring the sample's validity. Their knowledge can also transfer to other contexts and settings. The participants chosen for this study were senior buyers, senior planners, SC general managers, and logistics managers who possess a comprehensive understanding of the daily challenges and disruptions faced by SC. Furthermore, to assess reactions from multiple perspectives, eight businesses were chosen to provide alternative viewpoints on typical disturbances in supply chain management.

3.9.4.3 Dependability

Dependability pertains to the systematic documentation that outlines the research methodologies and choices undertaken during the study (Ahmed, 2024:2). The technique must be transparent, and the methods auditable, traceable, and capable of yielding consistent findings upon repetition of the research (Mores, 2015:1219; Hanson et al., 2019:1013). Credibility, triangulation, data splitting, replication of analysis, and the use of an audit trail are ways to achieve dependability (Guba & Lincoln, 1989). The researcher recorded the methodological approach, data gathering technique, and analytical methodology used in this study. The researcher used Atlas.ti version 22.02 software to effectively assess qualitative data, thus creating a traceable audit for future studies to aid replication by other researchers and boost research credibility.

3.9.4.4 Confirmability

Liamputtong (2019:20) posits that confirmability aims to ensure that the results and their interpretations are grounded in the data rather than being mere constructs of the researchers' imagination. To engage in reflexivity is essential for revealing one's foundational epistemological beliefs, the rationale behind the study's design, and any previously unacknowledged assumptions, biases, or prejudices related to the context or issue at hand (Guba & Lincoln, 1982:379). The researcher maintained a journal to keep track of their ideas. Documented assumptions help eliminate biases and prejudices. This is reflected in the schedule of interviews for the convenience of the participants, as well as explaining each response to ensure that all answers reported are the participants' interpretations and understandings, and not those of the researcher. This is critical to ensuring the integrity and accuracy of the study results.

The following section discusses the ethical principles of this research study.

3.12. Ethical issues

Research ethics refers to the expected societal behaviour or code of conduct that researchers should display (Sekaran, 2012:165). This code of conduct involves performing research in good faith, carefully scrutinising findings, avoiding self-interest, and setting aside one's ego. Additionally, Sekaran emphasises the importance of executing each step of the research process ethically and being considerate of all parties involved in the study. During the data collection, analysis, reporting, and distribution of information on the internet, the researcher conformed to the generally accepted code of conduct by performing ethically.

The research relied on virtual interviews conducted with SC experts as the primary data collection method. Before scheduling the interviews, the interviewees were contacted by phone or online and provided information on the research objective, context, and terms and conditions. Consent forms were provided to the interviewees to adhere to the ethical standards set by CPUT. The interviewees were given sufficient time to review and prepare their responses. They were also granted the right to choose what information they wished to share for the study and whether their names would be used. Prior to conducting any interviews, the researcher obtained clearance from the CPUT ethics department to ensure that high ethical standards were maintained throughout the research and interview process.

The researcher used Leedy and Ormrod's (2014:106) four categories of research ethics: to protect participants from harm, voluntary participation (informed consent), right to participants privacy, and professional integrity. The following section elaborates on these categories.

3.12.1. Protection from harm

The text elucidates the potential for ethical harm when study participants feel violated through misinterpretation of data or privacy infringement. To preclude such harm, the researcher conducted meticulously prepared interviews at appropriate times and ensured that all participants were fully safeguarded. A comprehensive briefing session was arranged with the participants to prevent confusion and ensure that they understand all expectations.

3.12.2. Informed consent

Before research commences, the researcher must obtain consent from the relevant authority to access the investigation site or organisation (Creswell, 2014:92). Oliver (2010:28) adds that informed consent is the principle where the participant is fully aware or informed of the nature of the research before agreeing to participate. Informed consent was in the form of a letter that summarised the study, extent, time, potential impact, and outcome of the study (Creswell,

2014:92). The informed consent clearly explains what is expected of the participant and that respondents understand what their involvement in the research study is, as elaborated by Leedy and Ormrod (2014:106). The form contained a brief description of the study's goal, a description of what participation involved, and clearly stated that participation is strictly voluntary and that the participant can withdraw at any time. Additionally, the researcher informed the participants that all responses were kept confidential and anonymous (Leedy & Ormrod, 2014:106). Therefore, a well-written consent letter was drafted to obtain authorisation to comply with ethical requirements.

3.12.3. Voluntary participation

Adhering to the ethical guidelines, the researcher made it clear to the participants during the interview that their involvement in the research was completely voluntary. The participants were allowed to either participate or decline without any consequence. Additionally, the researcher emphasised that participants had the right to withdraw from the study at any point. It was also emphasised that the researcher would not pressure any individual to participate in the investigation, ensuring that participation was entirely voluntary.

3.12.4. Confidentiality

To uphold ethical standards of confidentiality, the researcher took necessary precautions to protect the information of participants from unauthorised access, use, disclosure, modification, loss, or theft (Leedy & Ormrod, 2014:122). To achieve this, the researcher refrained from recording or revealing personal information such as names or identities, and instead coded and numbered participants during the interview process. The coding and numbering approach fostered trust and rapport between the researcher and participants and safeguarded the integrity of the research project.

To guarantee the participants' confidentiality, the researcher employed virtual and telephone interviews; no individual identities or organisation names were logged throughout the procedure. The data was securely kept and only available to the researcher. However, the researcher ensured confidentiality by implementing strict coding and numbering measures to protect participants' information from unauthorised access. As such, the ethical obligation to protect participants' information was fulfilled.

3.12.5. Right to privacy

Leedy and Ormrod (2014:106) emphasise that all participants are entitled to privacy, and the researcher must always respect it. Similarly, Flick (2009:68) highlights the importance of maintaining participants' confidentiality throughout the research process. In fact, Leedy and Omrod (20214:124) posit that maintaining anonymity is crucial. The researcher implemented

measures to protect the anonymity of the participants, as the researcher was aware of their identities. Notwithstanding the absence of anonymity, all information obtained from the interviews were maintained in the utmost confidentiality. The researcher ensured that no identifying information is shared to protect their privacy and to ensure that participants feel comfortable sharing their experiences and perspectives.

Thus, to ensure the confidentiality of participants, the researcher assigned unique arbitrary code numbers to each participant and labelled their documents accordingly (Leedy & Ormrod, 2014:106). This way, the researcher concealed the participants' identities by allocating a unique code in number format to the research study documents.

3.12.6. Plagiarism

Researchers must uphold ethical standards when conducting their studies. As emphasised by Flick (2009:69), accuracy and proper interpretation of data should be the guiding principles of research, and any form of deception, fraud, or bias should be avoided at all costs. Plagiarism is a severe offence that must be avoided at all costs, as articulated by Oliver (2010:152). In this study, all sources were duly recognised, and the researcher could present truthful and professional research work. All sources used were fully acknowledged in this research study. The researcher used the Harvard referencing method as required by CPUT, avoided plagiarism, and presented an honest and professional research report.

3.13. Delimitation and limitation

3.13.1. Delimitation of the study

Delimitation is an essential component of a research investigation, since it explicitly delineates the parameters of exclusion (Leedy & Ormrod, 2014:43). The delimitation process involves setting boundaries and choosing the researcher's study plan (Simon & Goes, 2013:3).

These choices include the chosen methodology, objectives and research questions, theoretical framework, and the population to be included in the research.

This study was limited to retailers within the Cape Town CBD in the Western Cape province of South Africa, which refers to the specific location and population being studied. While international retailers could potentially contribute valuable information, they could not be included in this study due to time and cost constraints. The focus was solely on retailers and organisations in the Cape Metropole. This decision was made to ensure that the research remains feasible and manageable within the constraints of the available resources. By narrowing the focus to Cape Metropole retailers, the study was able to delve deeper into the specific challenges and opportunities faced by businesses in the Cape Metropole. This

targeted approach ultimately led to more meaningful and relevant findings that can inform local policy and decision-making.

The study adopted a qualitative research methodology because the study aimed to understand in detail the growth process of the businesses, and only a qualitative approach could provide suitably granulated and meaningful results. The researcher used an inductive approach, initially requiring the collected data to investigate the phenomenon of SC disruptions in retailers. The sample was drawn using purposive sampling. The data was collected using semi-structured interviews and it was analysed using ATLAS.ti 22.02 software. Furthermore, the researcher utilised a non-probability sampling method, with purposive sampling as the technique for the proposed study. The philosophical and methodological approach for this study was subjective, and the epistemology of the study was focused on interpretivism.

The researcher acknowledges that creating effective methods to deal with SC disruptions is not the only factor that contributes to the success of a retailer. Developing efficient mitigation strategies can improve daily workflow, increase positive work outcomes, and lead to fewer disruptions in the consumer shopping experience. All these factors can contribute to the success of an effective SC department. Delimitation of the study area helps to narrow down the scope of the research to the specific Cape Metropole location. This approach enables a more in-depth investigation of the supply chain disruptions and challenges that retailser in the region encounter. By understanding the unique dynamics and factors at play of retailers within the Cape Metropole, the researcher could provide more targeted recommendations and strategies for improving supply chain performance and mitigate risk and disruptions.

The following section discusses the limitations of the study.

3.13.2. Limitations of the study

Limitations are generally found in the final part of the research report, such as flaws in sampling that are beyond the control of the researcher, unanswered questions, participants withholding necessary documentation, unattended interviewees, and biased answers from participants (Sekaran, 2012:346). The researcher faces limitations that are beyond the researcher's control, such as time, funds, and accessibility to the population. These limitations threaten the research as they can impede answering the research questions and the completion of the study. Leedy and Ormrod (2014:316) argue that limitations outline the threats to the research study.

The COVID-19 pandemic had a significant impact on the economy and society as a whole. To help prevent the spread of the virus, people had to practice social distancing, work from home, and limit their in-person interaction. As a result, interviews were conducted virtually or telephonically to accommodate these limitations. Tremblay et al. (2021:1) contend that COVID-

19 has compromised the health and wellbeing of persons globally, leading to a significant transformation in the attitudes, lives, and behaviours of professionals in several domains, including academia and research. Sah et al. argue that stringent limitations were implemented owing to COVID-19. This pertains to a researcher examining a qualitative study focused on virtual communication tools to enhance knowledge and comprehension of successful information technology utilisation in research fieldwork (2020:1).

During the research, SC buyers, executives, logistics managers, material coordinators, and planning managers were not easily accessible. Obtaining a consent letter from companies was a challenge for the researcher and it took almost 11 months to identify and contact the right people to handle the request. Furthermore, the researcher needed help in scheduling appointments with some companies, as it took a year to receive a fixed date. Some companies needed help to complete the questionnaire during the initial meeting with the researcher, adding to the predicament.

In addition, managers encountered during the fieldwork were sometimes unwilling to understand or listen to the significance and purpose of the study. They considered paperwork a waste of time compared to their daily activities. Some managers also stated that they could not disclose company information to outside parties and were unable to provide the required assistance.

The researcher acknowledged that certain study limitations may have been beyond their control and could have threatened validity. One such limitation was the lack of funding availability, which was necessary to purchase essential equipment, data analysis software, and tools to ensure accuracy. Additionally, funds were required to acquire a reliable laptop for data documentation, dissertation revision, and access to relevant literature. Travel expenses were required to gain access to the study population. To mitigate these limitations, the researcher unsuccessfully applied for funding. Thus, the research study took longer than expected, and the researcher needed more time to complete the study. External limitations also played a role, such as not receiving completed questionnaires and participants withdrawing from the study, which impacted the study's outcome.

3.14. Chapter summary

This chapter explained the methodology used in the study. The researcher opted for an interpretive philosophy and qualitative research approach. Purposive sampling was used to gather data from 11 participants across five retail businesses. Semi-structured interviews were conducted to facilitate efficient data collection, and the data was analysed using ATLAS.ti.

The sampling technique used in this study was discussed in this chapter. The researcher employed a non-probability method with purposive sampling. Table 3.2 confirms that purposive sampling was the most appropriate method. Ensuring validity and reliability is crucial to producing precise and high-quality evidence. In qualitative research, reliability is achieved using the same data extraction method, while validity is strengthened when empirical data consistently support the findings. Through coding, the researcher examined responses in the research context to ensure the internal validity of the findings. Additionally, the researcher adopted Leedy and Ormrod's (2014:106) four categories of research ethics as guidelines to ensure that the study was conducted ethically.

These include protecting participants against harm, voluntary consent (informed consent), participants right to privacy, and professional integrity.

The study's limitations include insufficient funding to acquire essential equipment and access the study population. Although the researcher applied for funding, it was not granted, causing the study to take longer than expected. External limitations, such as unanswered questionnaires and participants withdrawing, also impacted the study's outcome.
Data presentation and data analysis will be discussed in the following chapter.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

4.1. Introduction

The previous chapter outlined the research methodology and design that was adopted to answer the research questions and meet the study objectives. This chapter interprets data gathered from supply chain professionals, particularly supply chain specialists like senior buyers, executive managers, senior planners, logistics managers, and general managers, and analyses their responses. This chapter summarises data collection procedures, analyses, and interpretations in relation to the primary and secondary study objectives established in Chapter One. The researcher performed the semi-structured interview comprehensively until saturation was achieved, as detailed in Chapter Three (3). Appendix B includes the interview guidelines and questions.

The researcher ensured fairness and adherence to the criteria among all participants by implementing meticulous measures to ensure equitable handling and satisfaction of all requisite criteria. The participants were located around the Cape Metropole area in Cape Town and were chosen for their broad knowledge of the risks and disruptions of SC. Their expertise provided a deeper understanding of how, what, and when disruptions occur within the organisation. Through the lens of the respondents and the literature, the researcher obtained a better understanding of ordinary SC disruption concepts and risk identification, and delineating key mitigation strategies and methods.

To process the collected data, the study used Atlas.ti version 22.02, a software analysis tool that provides efficient and accurate analysis. Using this tool ensured that the study adhered to the highest standards of accuracy and precision. It is necessary to complete some initial tasks, and the proposed theories should also be tested (Sekaran, 2012:301; Creswell, 2014:196). For qualitative methods, Creswell (2014:196) suggests three steps: Step 1 involves organising and preparing the data for analysis; Step 2 involves reading or re-examining all the collected data to check their credibility; and Step 3 involves coding all the data. Additionally, Flick (2009:100) suggests that coding is one of the most prominent methods for analysing research data.

4.2. Data interpretation process and findings

This section presents a thorough data analysis and proposes effective strategies to mitigate potential SC disruptions for retailers operating in the Cape Metropole region. The objective was to provide actionable insights to help retailers navigate and overcome challenges in their SC operations.

4.2.1. Revisiting the main objective

One of the key objectives of the research was to determine the solutions that retailers in the Cape Metropole may adopt to reduce the impact of ordinary SC disruptions.

4.2.2. Revisiting supporting research objectives

i. **To identify the different types of SC disruptions that retailers in the Cape Metropole experience;**
ii. **To determine the impact of ordinary SC disruptions on retailers in the Cape Metropole.**

4.3. Analysing the questionnaire to answer the main and supporting objectives.

An interview guide that corresponds to the primary objective of the study and supporting research questions was meticulously developed by the researcher based on the relevant information. The guide incorporated thought-provoking questions that elicited valuable insights into the research topic and contributed to achieving the research objectives. The researcher developed a research matrix to indicate the interview questions centred on each research objective and question, as illustrated in Table 4.1 below.

Table 2: Research matrix

No:	Supporting Research Question	Supporting Research Objectives	Semi-Structured Interview Guide
1.1	What are the different types of SC disruptions that retailers in the Cape Metropole experience?	To identify the different types of SC disruptions that retailers in the Cape Metropole experience.	Questions 1, 2 and 4
1.2	What is the impact of ordinary SC disruptions on retailers in the Cape Metropole?	To determine the impact of ordinary SC disruptions on retailers in the Cape Metropole.	Question 3
	Main Research Question	**Main Research Objectives**	**Semi-Structured Interview Guide**
1.3	How can retailers mitigate ordinary SC disruptions within the Cape Metropole?	To identify the strategies that retailers in the Cape Metropole can implement to mitigate ordinary SC disruptions.	Questions 5 - 7

By employing Creswell's (2014:197) data hierarchy analysis process, the researcher thoroughly examined the research data and identified several significant themes and descriptions. These findings provide valuable insights into the research objective and question. The interconnected data analysis process also helped to establish a strong connection

between the research interview guide questionnaire and the research objective and question, allowing a comprehensive understanding of the data.

The discoveries made by this study are of utmost importance to the retail industry as they delve into the intricacies of consumer behaviour and decision-making. With this knowledge, businesses can develop highly effective marketing strategies and gain an advantage over competitors. The study encourages further research, particularly to examine the relationships between themes and descriptions revealed in the data analysis. Such continued research has enormous potential to provide valuable perspectives that propel business growth. The research matrix in Table 4.1 illustrates the interconnection link, and the analysis of questions 1, 2, and 4 of the questionnaire.

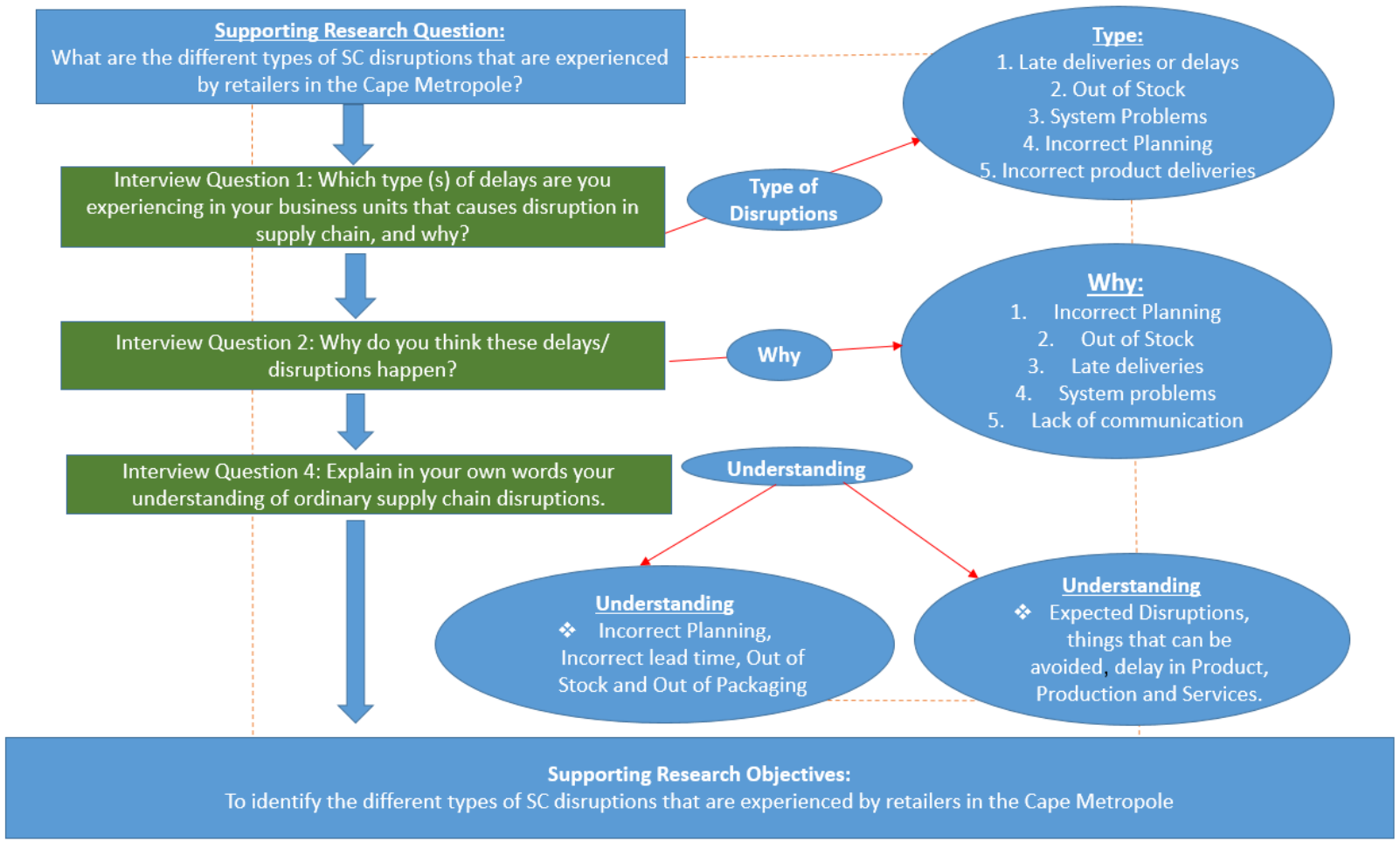


Figure 4.1: Data analysis and key findings of questions 1, 2, and 4

Source: Author's own construct

4.3.1. Findings of supporting questions

What types of SC disruption do retailers in the Cape Metropole experience?

4.5.1.1 Types of delays SC are experiencing

Questionnaire - Question 1: What type of delays are you experiencing in your business units that disrupt the SC, and why?

As stated in the Research Matrix Table 4.1, line 1.2, the primary purpose of this part was to determine the objective and provide an answer to the question that was posed. Participants in this category were encouraged to recognise any disturbances in their SC department. It was crucial to address these disruptions to increase the department's efficiency and ultimately improve overall business operations.

The researcher received an overwhelming response regarding different types of disruptions in the SC department. After collecting and coding the data, the researcher validated its accuracy. Using the Atlas.ti version 22.02 system, nine quotes and five codes relevant to the research study were extracted from the data. However, three quotes were excluded from the analysis because they did not relate to ordinary SC disruptions, which was the focus of the research. These three quotes pertained to disruptions caused by COVID-19, strikes, and looting, which were not considered ordinary SC disruptions.

In addition, a participant provided biased responses that were excluded from the analysis to ensure the integrity of the study. The researcher conducted a systematic and unbiased data analysis, using the Atlas.ti version 22.02 system to efficiently identify the most relevant information for the study.

The researcher used the identified codes and quotes to fully understand how to mitigate the impact of ordinary SC disruptions. Overall, the analysis process successfully uncovered crucial information, and the researcher was eager to develop insightful findings from the data.

During the sorting and final interpretation stages, the researcher referred to the most ordinary types of SC disruption experienced by experts, with late deliveries or delays being the main issue, followed by out of stock (OOS) items, system problems, incorrect planning, and finally incorrect product delivery. Figure 4.1 above and figure 4.2 shows the findings of Question 1 in the questionnaire, highlighting the various types of ordinary SC disruptions encountered by SC specialists.

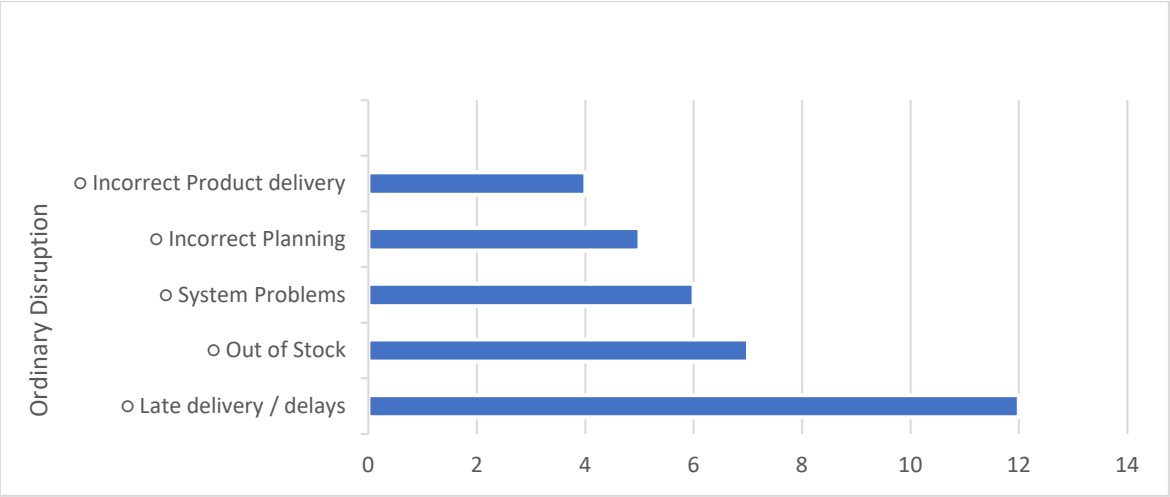


Figure 4.2: Type of ordinary SC disruptions

Source: Author's own construct

Late deliveries or delays

During the interview, Expert 7 noted that late truck arrivals and supplier deliveries could cause delays in the estimated arrival time of the overall shipment and delivery. These disruptions can create chaos in the SC. Additionally, Expert 7 explained that an incomplete scope of work from other departments to the procurement team could lead to ordering delays that could further impact delivery times and operation schedules. Finally, Expert 7 stressed that releasing orders late in the system by the relevant authority can shorten the lead time to supply products and services to consumers and cause disruptions in the SC. Expert 2 noted that poor planning and forecasting can cause delays in the VC due to incorrect or late product ordering.

According to Patel (2023:1), transport operations can often be complicated and inefficient, leading to delayed deliveries. Such delays negatively impact the customer experience as well as the brand's effectiveness within the industry (Patel, 2023:1). Patel (2023:1) found that ordinary causes of transportation delays include traffic, documentation issues, a lack of real-time visibility of product delivery, weather conditions, system failure, outdated technology, customs, increased shipment volume, lost packages, and failed delivery attempts.

Shipping delays and port backlogs further exacerbate the problem by causing late deliveries to warehouses and retailers, leaving customers disappointed if they cannot access goods on store shelves. Expert 4 suggested that ships bypass congested ports in South Africa and proceed to the next port of call to avoid delays, either discharging or keeping all

containers on board for the return voyage. However, such delays can cause severe disruptions, with suppliers waiting months to receive their items, and the entire SC potentially collapsing.

Experts 2 and 4 emphasised the adverse effects of delays on SC performance. Late deliveries from suppliers to warehouses can lead to depleted retail store stock levels and OOS items. Additionally, delays can cause the SC to miss crucial deadlines, ultimately affecting "on-time" delivery to clients.

According to Expert 4, product variations, such as differences in size, colour, or specification of the purchase order, can also lead to delays. As Expert 2 explained, any delay that hampers the VC, including incorrect orders, late delivery, and OOS materials and products, can trigger SC disruptions. Monostori (2018:110-115) postulates that supply side risk involves poor logistic performance, resulting in late deliveries.

Out-of-Stock (OOS)

Frontoni et al. (2017:32-40) describe OOS as a product being unavailable in a store's warehouse or not displayed on the retail store shelf. During interview discussions, the researcher discovered that the respondents identified OOS as the second most ordinary SC disruption type that significantly impacting their operations. OOS was mentioned eight times in relation to other codes. Frontoni (2017:32-40) explains that when OOS occurs, customers either postpone their purchase, resign themselves to not buying the product, or buy it from another retailer.

Expert 1 advised that if the supplier experiences a shortage of supplies, it could potentially result in the plant shutting down, ultimately delaying the manufacturing process. Similarly, Expert 1 pointed out that if the Material Requirement Planning (MRP) system mistakenly generates demands for specific items, it can result in incorrect ordering and shortages in stock. Furthermore, Expert 3 highlighted that stock shortages can adversely affect production schedules, leading to significant pressure throughout the VC.

According to Expert 5, failing to meet the manufacturer's turnaround time can result in a longer lead time; this delay in manufacturing may also cause OOS items in retail stores.

Furthermore, according to Expert 5's recommendations, product returns are frequently caused by suppliers delivering incorrect products or orders, adversely affecting the retailer's stock availability and store inventory.

As revealed by Expert 8, their warehouse experienced a temporary closure due to water damage, which significantly impacted the stock supply to the stores.

System problems

Based on data analysis, it was identified that system difficulties frequently cause disruptions in SC operations. According to an article by Jenkins (2022:1), system errors are responsible for 94-97% of problems, while human error and poor judgement account for the rest. Experts in the field suggest that the implementation of an Enterprise Resource Planning (ERP) system can often be an ordinary cause of these disruptions. Seidor (2022) argues that while there are many benefits to an ERP system, there are also challenges to consider. These include potential employee resistance to changes, the need for integration flexibility, high maintenance costs, data migration issues, poor project management, and redesigning current processes to fit the software (Seidor, 2022). However, careful planning, change management programmes, and maintenance schedules can often prevent these disruptions.

Expert 1 reported that they encountered several issues with their Systems Applications and Products (SAP) system. These issues include downtime, orders not being placed, and warehouse managers experiencing delays in receiving stock, resulting in a backlog that hinders timely order placement. These problems led to logistical complications such as delivery delays and OOS items. Additionally, Expert 1 identified system glitches as a significant contributor to order placement and demand forecast errors. Meanwhile, Expert 9 highlighted that changes in the internal system can cause significant disruptions. Expert 9 added that implementing a new system can cause teething problems, including store stock availability problems. The lack of stock availability has affected the customer experience, making customers unable to find the items they want.

Furthermore, Expert 1 reported experiencing problems with their SAP system, such as downtime, delayed orders, and backlog caused by store warehouse managers who needed to update stock. These problems can lead to delivery delays, OOS items, and other logistical challenges. Another issue occurs when the MRP system selects the wrong product for order placement and demand forecast, as reported by Expert 1. However, according to Expert 9, significant disruptions can occur when an organisation changes internal systems. Expert 9 added that implementing a new system can result in teething problems that could lead to stock availability issues in stores. Due to technical difficulties with their system, customers would have difficulty finding their items. These problems cause inconvenience to their customers, and they must work diligently to resolve them as soon as possible (Expert 9).

Incorrect planning

According to the feedback and data analysis of participants, incorrect planning ranks as the fourth-highest cause of SC disruption. Incorrect planning is frequently linked to other challenges, with three quotation frequencies noted. Inaccurate planning and forecasting can cause significant issues when ordering products, resulting in store surplus or inventory shortages (Expert 2). Such situations can negatively impact business and lead to suboptimal outcomes. Therefore, it is crucial to ensure accurate planning and forecasting to maintain optimal store inventory levels. Incorrect planning can be attributed to errors in the ERP system (Expert 9).

Expert 3 stated that incorrect planning might cause an increase in holding stock, and this can affect the organisation's capital negatively. Expert 3 further explained that an overstock holding can fill the warehouse space, which causes limited storage availability. Expert 6 experienced that when internal stakeholders put in incorrect requirements or give incorrect information, it could lead to incorrect planning and product forecasting. Expert 2 stated that if the forecast estimate is not correct, it leads to incorrect order placement. Expert 2 suggested refocussing the business strategy on more demand-driven planning. Christopher (2011:89) postulates that demand-driven means finding ways to respond to customer demand within their order cycle. An example would be in a case where a customer anticipates a five-day lead time from placing an order until they receive the product. A retailer must then aim to respond within that period (Christopher, 2011:89). Although forecasting remains essential, it is advisable to concentrate on predicting overall volume rather than individual items to facilitate more effective company planning (Christopher, 2011:89).

Incorrect product delivery

Incorrect product delivery was the fifth highest indication of SC disruption the respondents identified that disrupted their operation. Expert 5 stated that incorrect product delivery occurs when the received product differs from the ordered one, which requires it to be returned to the supplier or warehouse.

On the other hand, Expert 11 highlighted that a delivery specification deviation occurs when the delivery is on time, but the supplier delivered the wrong colour, size, or quantity.

Discussion

From the comments above, it is evident that the SC experts interviewed have in-depth knowledge of the different types of SC disruptions. The interviews revealed that the SC experts could differentiate between catastrophic, and ordinary SC disruptions.

SC experts often experience late or delayed deliveries as the most common type of ordinary SC disruption. Late or delayed deliveries have a ripple effect on the entire SC department; despatching products delays the delivery time to stores, stores experience OOS, and this leads to unhappy customers. Therefore, a smooth SC operation is essential, as it meets the customer's requirements and increases customer satisfaction.

Additionally, the interviews demonstrated that preparation is an essential component in ensuring that the SC operation is carried out without any interruptions. The inability to properly plan could lead to crucial disruptions, and these aspects could be either an overflow of stock on hand, which leads to financial implications, or OOS, which leads to loss of sales and unsatisfied customers.

In addition, the landscape of the business world is in a constant state of flux, resulting in higher levels of unpredictability. Through careful observation, it became apparent that the effective implementation of appropriate technological systems is critical to enhancing and supporting SC operations, particularly given the growing challenge of accurately forecasting demand for specific products. To this end, ongoing improvement efforts should include routine system updates and maintenance, meticulous system implementation, and continuous training to mitigate potential system issues.

According to the observations of SC experts, multiple ordinary disruptions were identified in their business, including issues such as late deliveries, OOS items, problems with planning systems and incorrect product deliveries. The subsequent section contains the respondents' elaborations on the reasons for these disruptions.

4.5.1.2 Why SC are experiencing these delays and disruptions

Questionnaire - Question 2. In your own opinion, why do you think these delays/disruptions occur?

In Table 4.1, line 1.3 of the research matrix seeks to identify the supporting objective of the study and address the question presented. The retail SC faced variance disruptions and the researcher was determined to establish the reason behind them.

According to Experts 7 and 11, SC disruptions can be described within an organisation as incorrect product delivery and deviation from delivery specifications, which are common issues in the SC. By identifying and addressing these problems, the organisation can ensure timely and accurate deliveries, thus increasing customer satisfaction (as stated by Expert 7).

The findings of Question 2 are illustrated in Figure 4.1, reflecting the opinions of the participants about the SC disruptions. During the interview questionnaire Question 2 analysis process, the researcher identified nine codes using the Atlas analysis tool. The researcher made some exclusions during the data analysis phase. Four of the nine codes were removed as they were deemed outside the scope of ordinary SC disruptions, namely COVID-19, strikes, looting, and biased answers. Furthermore, responses from one participant were excluded due to possible bias. In pursuit of accuracy, the researcher carefully validated the collected data and began to populate the correct information to prepare for analysis, following the guidance of Creswell (2014:197). During the sorting and final interpretation, the researcher identified the top five reasons for the disruptions within the SC department. According to the respondents, the most common reasons for disruptions were OOS, incorrect planning, late deliveries, system problems, and lack of communication. The researcher provides a more detailed interpretation of the five critical discoveries in the following section.

Out-of-Stock (OOS)

During the interviews conducted under this code, the researcher received substantial feedback. Based on discussions with the respondents, it was determined that OOS is the primary factor contributing to disruptions in the SC. Expert 7 shed light on the reasoning behind OOS occurrences, explaining that they stem from material shortages at the manufacturer's end that lead to an inability to distribute stock to the retailer's distribution centre. Expert 3 expanded on this by stating that shipping delays often cause delivery delays that ultimately result in OOS situations.

It is essential to keep stock levels accurate and readily available to stores. According to Expert 4, the current stock level management within their warehouse is not up to standard and needs improvement to minimise OOS situations. As suggested by Smit (2015:15), SC planning is critical in the SC process and usually relies on system-driven plans. Therefore, it is essential to keep stock levels accurate and readily available for stores (Smit, 2015:15). Unfortunately, if the stock level is not regularly checked by the storeman or warehouse manager and manually updated, it can lead to a situation where the required products are not ordered, as noted by Expert 4.

Expert 7 explains that each product is identified with a unique stock-keeping unit (SKU) and given a specific bin location within the warehouse and retail stores. Regular visual bin location stock counts are necessary to ensure that the actual system is accurate. Discrepancies should be rectified immediately during these counts to avoid it negatively

impacting the planning process and stock availability. By implementing such measures, organisations can maintain optimal inventory levels and ensure timely customer deliveries (Expert 7).

Incorrect planning

Efficient planning is imperative within the organisation as it assists SC experts in ordering effectively and buying the correct quantities, products, and delivery at the time, as stated by SC Expert 3. Incorrect planning occurs when planning does not allocate the correct quantities to the correct stores and store customer demand increases. According to Expert 3, the SC is disrupted when the stock is not sufficient to meet the customers' demand. Expert 7 suggested the implementation of a demand-driven approach to plan more accurately, as inaccurate forecasting can lead to incorrect planning.

Expert 4 postulated that incorrect planning occurs when the stock level is not adequately maintained and regular stock counts are not in place to rectify data within the system.

According to the insights shared by Expert 9, inadequate planning within the organisation can cause considerable disturbance within the SC when items become OOS.

Lack of communication

During the interview, Expert 2 emphasised the critical role of communication within their organisation. Specifically, store administrators and warehouse managers must work closely to promptly and effectively address stock discrepancies. Failure to do so can lead to incorrect stock replenishment and disrupt the SC (Expert 2). Organisations must implement an efficient inventory management system that includes regular stock counts and immediate resolution of discrepancies to avoid such issues. This approach ensures optimal inventory levels and timely customer delivery, as stated by Expert 2.

Effective communication is essential among all teams within an organisation, mainly while working on new projects. According to Expert 11, inadequate communication can lead to misunderstandings within the SC, which, in turn, can cause issues with the ordering and delivery processes. Therefore, all teams must prioritise clear and concise communication to ensure the success of the organisation's projects and operations. According to the insights shared by Expert 11, efficient communication can play a crucial role in reducing disruptions in supply chain management. Participants strongly recommend establishing appropriate controls, providing regular updates, actively seeking customer feedback, fostering interaction, and holding regular meetings to ensure that all teams are aligned to achieve business objectives. Prioritising communication can improve SCM and timely

delivery to customers. Additionally, Expert 11 stated that lack of communication often stems from misalignment and incorrect delegation within the team.

Late delivery or delay

Respondents identified shipping delays as a considerable disruption within the SC department. Expert 3 stated that these delays can result from several causes, such as port congestion, logistical issues, and export permit problems. For example, port congestion can occur due to a high volume of ships waiting to dock and unload, while logistical issues may arise from poor coordination between transporters and warehouses (Expert 3). Additionally, Expert 4 postulated that export permit problems can arise due to documentation or regulatory compliance issues.

System problems

Expert 1 postulated that when the business implements new systems, the SC team usually experiences teething problems that lead to disruptions within the SC process. According to Expert 10, when new systems or changes are implemented, there is often a period of adjustment that involves extensive testing, training, and preparation. According to Expert 10, when staff members are hesitant to adapt to a new system, it can lead to additional challenges and increase the likelihood of delays. Therefore, it is crucial that everyone is involved and willing to embrace the new way of working is crucial.

Discussion

According to research findings, SC disruptions and delays are caused by various factors, including inaccurate planning processes, raw material shortages, delivery delays, incorrect product delivery, poor forecasting and planning, inadequate maintenance of stock levels in warehouses, and lack of communication. Respondents noted that ineffective SC planning could result in setbacks and disruptions if not properly managed. The summary underscores the importance of continuously monitoring and evaluating systems to ensure functionality and usability within the ever-changing retail industry.

The respondents highlighted that OOS situations are the primary reason for disruptions in the SC. These OOS situations arise when material shortages occur at the manufacturer, leading to an inability to distribute stock to a retailer's distribution centre. Further findings explain that shipping delays cause delivery delays, resulting in OOS situations. It was found that the current management of the stock level within some warehouses needs improvement to minimise OOS situations. SC planning was noted to be critical in the process and is based on system-driven plans for accurate stock counts and management. Therefore, regular visual bin location stock counts are necessary to ensure that the actual

system is accurate. The respondents postulated that they should rectify discrepancies immediately during these counts to avoid negatively impacting the planning process and stock availability.

Efficient planning in SCM was discussed to ensure accurate order placement, purchasing, and on-time delivery of products. It was noted that incorrect planning can occur due to inaccurate forecasting, insufficient stock maintenance, and inadequate stock counts, leading to SC disruptions and affecting customer satisfaction.

It was noted that effective communication is crucial to the success of any organisation. Clear and concise communication between teams can help avoid misunderstandings within the SC, prevent stock discrepancies, and ensure optimal inventory levels and timely delivery to customers. Regular updates, appropriate controls, and holding regular meetings can help reduce disruptions in supply chain management. Lack of communication often results from misalignment and incorrect delegation within the team. Therefore, all teams must prioritise communication to ensure the success of the organisation's projects and operations.

Based on the findings, shipping delays were identified as currently being one of the major challenges, causing significant disruptions. Shipping delays can be identified as port congestion, logistical problems, and export permit problems.

Lastly, experts reported that staff reluctance to adapt to new systems creates further complications and increases the chances of delays and SC disruptions. Whenever new systems or changes are implemented, there is usually a period of adjustment that requires extensive testing, training, and preparation. Therefore, getting everyone on board and willing to embrace the new way of working is essential.

In summary, if one of the linkages in the VC is negatively affected, it interrupts the entire SC. To mitigate SC disruptions, retailers must prioritise the establishment of effective communication channels, timely delivery of goods, and regular maintenance and updates to their systems. By doing so, they can ensure smooth operations and maintain high levels of customer satisfaction.

4.5.1.3 SC understanding of ordinary SC disruptions

Questionnaire - Question 4. Explain in your own words your understanding of ordinary SC disruptions.

The fourth question in the questionnaire aimed to assess the participants' understanding of ordinary SC disruptions. The researcher interviewed various field professionals such as

senior buyers, general managers, planners, and executive managers to gather responses for research purposes. The insights of these experts helped to identify communication gaps within organisations to prevent SC disruptions.

Table 4.2 below presents the results of Question 4. The researcher categorised the relevant critical comments from the participants by topic and analysed them to document the essential findings.

Table 4.2: Question 4: Participant understanding of what ordinary SC disruption is

Participants Quotations	Themes	Key Findings
A supply chain disruption is any sudden change or crisis. That which is expected or can be mitigated. Ordinary tells me that this is expected, or it usually happens that way in the normal course of events	Delay/ Disruptions that affect SC/VC negatively Disruption that is expected Disruptions / Delay in product Disruptions / Delay in production Disruptions / Delay in Services	Expected Disruptions, things that can be avoided, delay in Product, Production and Services
This is any form off delay - to have the products / service on site and delay in production.	Disruptions / Delay in production Disruptions / Delay in Services Impact late deliveries lead to production schedule delays Out of stock Impact Production delay	
This could be any type of event that will cause a delay or change in the normal way a supply chain functions in any section of the supply chain.	Delay/ Disruptions that affect SC/VC negatively Disruptions / Delay in product Disruptions / Delay in production Disruptions / Delay in Services Normal Course of Events This is any form off delay - to have the products / service on site an	
Day to day disruptions which can be avoided.	Things that can be avoided This is any form off delay - to have the products / service	
Ordinary tells me that this is expected, or it usually happens that way in the normal course of events	Disruption that is expected Normal Course of Events	
Any delay that can affect the value chain, like incorrect order, delivery, out of stock of material & products.	Incorrect Planning Incorrect Product delivery Incorrect Scope lead to incorrect orders Late delivery or delay Out of Stock Out of stock Impact Production delay	Incorrect Planning, Incorrect lead time, Out of Stock and Out of Packaging
Disruption at any point in supply chain. Like out of package, delay in raw material, credit limit exceeded,	Financial Impact Out of Packaging Out of Stock Out of stock Impact Production delay	

Source: Author's own construct

The researcher gained valuable insights into ordinary SC disruptions by considering the respondents' perspectives. This approach allowed for a more comprehensive understanding of the issue at hand, leading to more effective solutions and strategies to address similar challenges in the future.

Critical ordinary SC disruptions are highlighted in Table 4.2 based on the themes identified by the respondents. The answers of the respondents were categorised and grouped, leading to a better understanding of ordinary SC disruptions.

In Table 4.2, the respondents noted several ordinary disruptions in the SC, such as delays, production and service disruptions, planning errors, lead time issues, ordering, delivery delays, and stock and packaging shortages.

Expert 5 suggested that planning for expected delays can help avoid day-to-day disruptions. Expert 6 added that such disruptions can be anticipated and mitigated with proper measures. Meanwhile, Expert 1 explained that ordinary SC disruptions can manifest themselves in any delay within the VC, from product delivery to services and production delays.

According to Expert 3, any delay such as incorrect orders, deliveries, or stock of raw materials and products, can impact the VC. Expert 4 supported this by indicating that disruptions can occur at any point in the SC, including delays in raw materials, lead times, and exceeding credit limits. Finally, Expert 10 emphasised that any event can cause a delay or change in the way the SC operates at any stage.

Discussion

Findings noted that SC disruptions is a common phenomenon attributed to expected delays and disruptions that can be avoided. According to the findings, these disruptions are mainly caused by human interactions, such as delivery delays, lack of communication, incorrect planning and forecasting, OOS package shortages and raw material shortages, as reported by the respondents. It is crucial to understand these factors to improve the SC's efficiency and reduce the impact of disruptions.

In the following section, the researcher discusses and analyses the impact of SC disruptions.

4.3.2. Findings of Supporting Question 1.2

How do ordinary disruptions impact retailers in the Cape Metropole?

In the session, the researcher wants to underpin and determine the impact of ordinary SC disruptions on retailers in the Cape Metropole. The researcher analysed the results of Question 3 of the interview guide to answer the supporting questions of the study to achieve the research objective (refer to Table 4.3 below).

Participants were guided to explain how ordinary disruptions affect their SC.

Table 4.3: Question 3: How do these disruptions impact the SC and the organisation?

	Research Question		Research Objective
	What is the impact of ordinary SC disruptions on retailers in the Cape Metropole?	⟷	**To determine the impact of ordinary SC disruptions on retailers in the Cape Metropole.**
Interview guide Question 3:	**Participants Quotations**		**Codes / Key Findings**
	Long lead times for manufactures products can take up to 18 months"	→	Longer lead time
What impact does these disruptions has on the SC and the organization?	Production time delays - due to stock out. Due to out of stock it can delay production and increase the lead time		
	Due to out of stock: Suppliers don't meet expectation and requirements set out by the client		
	Longer lead time to deliver the goods to the customers		
	Product are not ready 24/7 this impact service delivery	→	Service delivery (negatively)
	Impact on customer services		
	Impact the supply negatively and delays affect the clients production schedules		
	If a product is not delivered in due time it can impact the outcome of an event, or could possibly delay a business smooth flow.		
	Operational disruptions as team cannot perform duties. Impact the performance and productivity of Staff	→	Operational disruption
	Unnecessary down time and staff cost		
	Lack of trust or reliability in the organisation or retailer	→	Un-happy Customers, Business reputation, customer Loyalty
	Impact customers experience in store and the perception of the organisation as not having a full shelves and stock on hand of desired products.		
	Loss of sales	→	Financial Impact (Negatively)
	Invoices will be paid after delivery		
	Cash flow problems		
	Losing out of a lot of sales		
	Lead to additional expenses. Financial Implication and made additional plans which add to additional cost		
	Revenue is lost		

Source: Author's own construct

4.5.2.1 Impact of ordinary SC disruptions

Questionnaire – Question 3. What impact do these disruptions have on the SC and the organisation?

Table 4.3 above shows how ordinary disruptions within the SC can affect business operations.

The following section provides a detailed discussion of how these disruptions impact the SC.

Longer lead time

According to Expert 1, a longer lead time can significantly impact the manufacturing process, with production taking up to 18 months to complete a particular product. Additionally, OOS situations can cause further delays and disrupt the entire VC, as noted by Expert 1. On the other hand, Expert 2 highlighted that a longer lead time affects the delivery of goods to customers, potentially damaging the business's brand and customer loyalty. Longer lead time can result in poor customer service delivery if products are not readily available 24/7, as noted by Expert 3.

Operational disruptions can also arise due to longer lead times, leading to a manufacturing standstill, as discussed by Expert 3 Waiting on delivery can prevent the team from performing their duties, while SC disruptions can cause unnecessary downtime and wasted labour costs.

Disruptions can significantly affect the success of an event or product, causing delays in the flow of a business VC. Any increase in lead time for raw materials can harm the supply of the product and would ultimately affect the manufacturer's production schedule and the supply of the bill of materials (BOM) (Expert 4).

Service delivery – unhappy customers

The delivery of efficient service is crucial to ensure the success of a business. Failure to meet customer expectations can result in negative experiences, such as frequently unavailable products. Poor customer service can lead to a loss of customer loyalty, as they may not return to the business (Expert 10).

OOS items can disrupt SC, causing dissatisfaction among customers who expect their needs to be met (Expert 5). According to Expert 10, such disruptions can also undermine trust and reliability in the organisation and the retailer. Even minor disruptions can

negatively impact the customer's in-store experience and perception of product availability, which ultimately can leave customers dissatisfied with their experience (Expert 10).

Financial impact

Businesses aim to increase profits and sales, but SC disruptions can hinder profits and sales goals (Expert 2). When SC disruptions occur, sales can decline, leading to a loss of revenue (Expert 2). Expert 1 noted that invoices are paid only after delivery due to longer lead times and disruptions. Loss of sales could cause the disruption of cash flows and financial difficulties (Expert 1). As a result, retailers lose significant sales when shelves remain empty for extended periods (Expert 5). Ordinary disruptions impact the revenue of the business; this is when many human errors occur, such as incorrect ordering and unhappy customers leaving, and when the business is making less, revenue is lost (Expert 8)

SC disruption has financial consequences due to the implementation of alternative plans to compensate for the loss and the acquisition of substitute products to offer customers (Expert 9).

Discussion

The findings reveal that SC disruptions pose significant challenges to retail SC operation; supply interruptions during manufacturing for a product's Bill of Material (BOM) can cause issues. The BOM is a list of products and quantities needed to produce a final product. The BOM interruption has a domino effect on SC, leading to significant SC disruption and challenges. When a bread bakery cannot obtain every ingredient listed in the BOM to make the bread, the bakery cannot proceed to bake the bread. While demand increased, the visibility of low stock on store shelves is increased; such would affect unhappy customers and cause a loss of sales.

The experiences of Cape Metropole SC experts interviewed revealed that SC disruptions could lead to longer lead times and negatively impact business. Ali (2023) states that lead times are critical to business inventory and production management success. By improving operational efficiency and leveraging lead times, companies can optimise inventory levels, reduce costs, and improve profits while increasing customer satisfaction (Ali, 2023:2). When lead time increases, businesses may hold safety stocks, resulting in higher inventory costs, storage needs, and handling costs (Ali, 2023:3). Ali (2023:3) continues that long lead times can negatively impact sales and profits. Customers may be discouraged from buying if they are uncertain about delivery times, which can lead to lost revenue. Additionally, businesses may pay higher prices for goods and services that would result in lower profits.

Long lead times for products or raw materials can cause missed sales opportunities and production shutdowns. Ali (2023:3) reports on how disruptions have affected retailers in the past. During peak season, retailers were struck by OOS items, leading to missed sales. Ali (2023:3) continues that if clothing had arrived in March instead of January, the retailer would have had to deal with OOS, which would have negatively impacted their revenue. According to the literature and expert interviews, SC disruptions can lead to financial risk and sales losses, making them a significant business risk.

4.3.3. Main question findings

What strategies can retailers use to mitigate ordinary SC disruptions within the Cape Metropole?

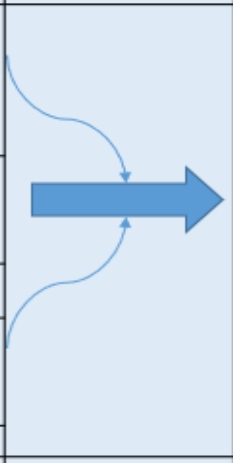
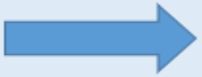
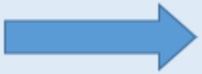
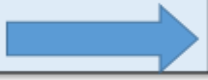
Questions 5, 6, and 7 of the questionnaire were aimed at establishing the research framework and answering the main research question. In Question 5, the participants were asked how to manage and minimise SC disruptions, while Question 6 aimed to determine the rationale behind their preferred approach.

Respondents identified five strategies and four methods that could be used to mitigate SC disruptions in their organisation in response to Questions 5 and 6.

The combined findings from Questions 5 and 6 are presented in Table 4.4, which summarises the recommended strategies. Table 4.5 illustrates additional measurements and methods that can be implemented to mitigate disruptions within the SC.

Furthermore, Table 4.5 identifies the measures discussed in Question 7 that could be implemented to improve the SC operation and mitigate disruptions. These three interview questions were combined to determine the most appropriate strategies to address the main research question and objective.

Table 4.4: Questions 5 and 6: What methods and strategies can be used to improve and mitigate SC and why?

Findings - Question 5	Findings - Question 6		Key Findings
Strategies	**Reasons Why**		
Forward planning, i.e. you anticipate these disruptions, so you order your raw materials well in advance so that the delay in delivery is not felt, or the effects are minimal, so that it does not have a great impact on your production schedule	If you plan ahead, you will have sufficient time to change the strategy in case the measures you have in place are not working, so as to still minimize the effects of the disruptions, and thereby mitigating the major risks.		**Planning Strategy**
Stock Level maintenance. Planning Strategies, Stock Level Maintenance Strategies	Monitor Stock levels, plan accordantly and accountability for any missing inventory		
Implement better planning skills	Proper planning always give good results		
Focus on correct planning strategies and forecast analysis strategies	This will mitigate the disruption risk		
The four types of risk-mitigating strategies include risk avoidance, reducing it, transferring it, and accepting it	Recommend Risk Response because it will avoid delays		**Risk Management Strategy**
Develop a Robust supply chain	Robust: Will assist the business to close the loop for disruptions and Identify them.		**Robust Supply Chain Strategy**
	Robust will rectify before significant loss happen.		
	Robust mitigate the disruption risk		
If mitigation plans exist in businesses, they need to be reviewed and analyzed regularly to mitigate SC disruptions	Data and Analytics: Lead to a better understanding		**Revisit current Supply Chain strategies**

Source: Author's own construct

4.5.3.1 Strategy discussions and analysis

The results of the fieldwork indicate the need for effective methods and strategies to mitigate SC issues. Table 4.4 shows Questions 5 and 6 that delve into this topic. Efficiently addressing any issues is crucial to ensure smooth operation of the SC. Mitigation strategies include identifying effective solutions and optimising the performance of the SC. It is best to use basic vocabulary and concise sentence structure for clarity, prioritising the most pertinent information upfront.

The following section outlines the four primary strategies that were identified during the interpretation of the data.

A) Planning strategy

Expert 6 recommends a forward planning strategy to improve and mitigate SC disruptions, as illustrated in Table 4.4. Expert 6 added that forward planning allows the SC to make proactive plans for future SC disruptions; for example, raw material can be ordered well in advance so that the delivery delay does not affect the operational schedule or the delay is minimal with no risk. Expert 6 explained that if one plans, the organisation still has time to change the strategy in case the current measure is not working and proactively minimise the effects of disruptions.

Alfnes et al. (2012:207) state that manufacturers' challenges start when SC complexity increases, and the raw material orders increase and become complicated. Accurate supply and demand planning is crucial during challenges; a reliable SC planning and execution system is necessary (Alfnes et al., 2012:207). Therefore, the core processes for an SCM system are SC planning, production planning, and material requirement planning (Alfnes et al., 2012:207)

The SC planning process involves two major business approaches: sales and operations plans, and integrated business planning. The forecasting of sales demand is essential to implement approaches by collecting, discussing, and reconciling demand data for effective production planning.

Expert 5 suggested that stock-level maintenance is crucial to the material requirement planning section. Material requirement planning must work in parallel with stock/inventory level maintenance (Expert 5). Monitoring stock levels can help to plan accurately and replenish stock levels timeously. Expert 8’s opinion to improve and mitigate SC risk is to implement competent planning skills, which improve planning and provide good results. Expert 4 suggested that the focus should be on the correct planning strategies and forecast

analysis models. Selecting the organisation's appropriate planning strategies can help minimise the risk of SC disruptions (Expert 4).

According to Hyndman and Athanasopoulos (2018:12), new and established companies can enhance their operations by using visual aids that comprehensively understand projected results and patterns. Companies frequently integrate predictive models into their strategic planning that allow for informed decision-making and proactive measures to ensure future success (Hyndman & Athanasopoulos, 2018:12).

Hyndman and Athanasopoulos (2018:12) state that forecasting is a statistical task in business that informs decisions about production, transportation, personnel, and long-term planning. However, it is often done poorly and needs more transparency with planning and goals (Hyndman & Athanasopoulos, 2018:12). There are three types of forecasting: predicting future sales and orders using current information, historical data, and professional knowledge, goal-driven forecasting, and planning, which involves determining the actions required to align forecasts with organisational goals (Hyndman & Athanasopoulos, 2018:12).).

B) Risk response strategy (RRS)

The second recommended strategy was Risk Management, but more focused on the Risk Response strategy. Experts 1 and 2 stated that an RRS could mitigate disruptions and delays. The RRS focusses on risk avoidance, reducing, transferring, and accepting (Expert 2).

It is imperative to note that risk response is a crucial aspect of project risk management, as highlighted by Project Manager Inc. (2021:1). A risk response plan outlines strategies to mitigate adverse risks – part of the most significant risk management plan. Identifying risks requires analysing similar projects and consulting experienced team members, stakeholders, and mentors before responding. A good risk response starts with suitable risk identification. Project managers work with stakeholders, secure resources, and assign risk owners to deploy strategies (Project Manager Inc., 2021:1).

According to Strategic Decision Solutions (2021:2), avoiding risk means avoiding a specific action or completely decline to respond the risk factor. This approach ensures that potential risks do not threaten the enterprise. Business executives and managers can opt for this alternative when faced with risks that result in severe legal repercussions or even fatalities. Although it can seem like an appealing course of action, it may not always be practical or recommended (Strategic Decision Solutions, 2021:2).

Furthermore, Strategic Decision Solutions (2021:2) suggests that taking action to mitigate potential losses is crucial. If the risk exceeds what the business can handle or tolerate, reducing it is a practical approach to ensure that it falls within acceptable limits. Failing to do so can have serious consequences that could have been prevented.

Strategic Decision Solutions (2021:3) suggests that it is possible to transfer risk by assigning responsibility to a third party. When managing risks in a business, the objective of transferring risk is to reduce the financial impact in the event of an incident. As a result, the company is making a calculated decision by employing this tactic (Strategic Decision Solutions, 2021:3). According to research by Fan and Stevenson (2018:12), transferring risk is a better option for disruption risks with low probability but high impact, such as natural disasters and terrorist attacks. However, it is unsuitable for operations risks with a high probability but low impact (Aqlan & Lam, 2015:78). Therefore, the risk transfer approach was not used in this study.

The last response risk strategy is risk acceptance. According to Strategic Decision Solutions (2021:3), it is called risk acceptance when a risk is acknowledged and accepted without any action taken to mitigate it. According to Fan and Stevenson's research (2018:12), there are no set guidelines for determining an organisation's acceptable level of risk. It varies depending on the context and can be influenced by the organisation's risk propensity and willingness to engage in risky behaviours while making decisions (Park et al., 2016:121). It is crucial to understand that accepting a risk does not mean ignoring it; the risk should be closely monitored to ensure that the consequences do not become too severe (Aqlan & Lam, 2015:79). If the consequences exceed a certain threshold, organisations must consider ways to avoid, transfer, share, or mitigate the risk.

C) Supply chain risk management strategies (SCRM)

Baryannis et al. (2018:2179) postulate that SCRM can employ two distinct strategies: reactive and proactive. Reactive strategies come into play after a risk event, whereas proactive strategies enable identifying and assessing potential risks before their occurrence. Proactive strategies empower organisations to prepare for potential risks by developing mitigation and contingency plans. Proactive strategies rely on precise risk prediction, including any risk's likelihood and potential impact (Baryannies et al., 2018:2179). Chapter 2 provided a literature review on SCRM strategy and the importance of being resilient, proactive, reactive, and responsive to mitigate SC risk and disruptions.

Risk management is a critical process in a business that involves predicting and assessing financial and capital risks. Risk management includes identifying potential threats from financial instability, legal issues, management errors, natural disasters, and cyber-attacks

that could jeopardise IT systems and data. A comprehensive risk management plan should encompass all aspects of the business, including customer information, intellectual property, and corporate data. Risk management is vital for businesses of all sizes that would enable them to plan, prepare, and respond to unexpected events that could harm their finances or operations. By pre-emptively identifying hazards and taking necessary precautions, companies can safeguard themselves in the long run and mitigate risks. Without proper risk management, businesses would be vulnerable to unforeseeable risks and suffer significant losses.

D) Robust supply chain strategy

Expert 3 argued that a robust supply chain strategy helps the business to keep in the loop for any SC disruptions and identifies possible risks. Expert 3 explained that a robust supply chain strategy can assist in rectifying before a significant loss occurs, and also that a robust supply chain strategy mitigates disruption risk.

Thomasnet.com (2018:1) suggests seven tips for building a robust supply chain to reduce the risk of disruption and, ultimately, reduce expenditure. The seven robust tips are detailed below:

Build strong relationships: Building and maintaining a solid SC is highly dependent on the relationships between the organisation, suppliers, the SCM team, and other stakeholders. These relationships should prioritise transparency and mutual benefit to be successful (Thomasnet.com, 2018:1). Taking into account the abovementioned findings, it was revealed that fostering strong relationships with internal and external parties within the supply chain helps ensure open communication and collaboration, which are essential for responding to unexpected disruptions. By working closely with suppliers and stakeholders, companies can proactively address potential risks and find solutions before they escalate into major issues. Ultimately, a focus on building strong relationships can lead to a more resilient supply chain that is better equipped to handle challenges and minimise costs in the long run (Oxford College of Procurement and Supply (2022:1).

Communicate clearly: For suppliers to effectively deliver for an organisation, they must understand its needs thoroughly. Hence, it is crucial to establish a transparent communication system that outlines the organisation's goals and desired outcomes. According to Thomasnet.com (2018), comprehensive information is necessary to ensure that suppliers can deliver a superior finished product and potentially exceed expectations. The findings revealed that miscommunication could lead to production delays, delivery delays, incorrect execution of projects, and increased costs. Therefore, it is important for

organisations not only to clearly communicate their needs and expectations to suppliers, but also to actively listen and provide feedback throughout the process. Thofa (2023:1) predicts that if businesses often have communication problems, disruptions between departments can occur, which can ultimately lead to decreased productivity and inefficiencies in the workplace.

Diversify supply chain: Cultivating solid connections with multiple suppliers ensures smooth and continuous SC. Healthy competition can be encouraged by fostering positive relationships with reliable suppliers, resulting in favourable pricing and service options. Small SCs are vulnerable and inefficient, whereas diverse SCs increase the probability of success and promote a more decisive financial outcome, as stated in the article on Thomasnet.com (2018). The experts stated in the interviews that when a company implements business continuity strategies, supply chain management manages and mitigates disruptions and risks more effectively. The findings revealed that the dual supplier strategy is a contingency plan that enables the alternate supplier to meet shortages when one provider is out of stock; this approach is called dual sourcing. Furthermore, experts explained that dual suppliers allow the business to mitigate risk by sharing it with the secondary authorised supplier, thus reducing the likelihood of out-of-stock situations, delivery delays, and packaging shortages. As a result, dual sourcing is considered a strategic approach to supply chain management.

Start with good data. It is crucial to ensure the accuracy of forecast numbers to avoid negative consequences for the organisation and the supplier. Take a comprehensive approach considering the potential demand from all angles. Leverage strong supplier relationships to collaborate on the development of these forecasts. Reliable data can prevent under-delivery and overstocking, reducing the likelihood of costly rush orders and increased freight charges. The study findings demonstrated that good and correct data in the system are crucial for accurate forecasts and that stock-level maintenance can lead to significant cost savings and improved operational efficiency.

Institute integrated systems: Modern software solutions can enhance SCs, resulting in greater efficiency and cohesion. These systems collect, integrate, and analyse data, enabling all members of the organisation to access the same information. Excellent systems promote well-informed decision making at all levels of the company. Having an accurate understanding of the suppliers is crucial to predict their worth. By employing top-tier software that automates processes, businesses can alleviate burdens on their workforce, minimise errors, and optimise resource utilisation. According to participants, if integrated systems are not managed correctly, problems and errors can occur that could

disrupt the value chain. System errors may cause delays, data loss, and eventually disrupt the entire supply chain. According to SCM EDU (2023:1), supply chain integration must be correctly managed and implemented to minimise system errors and SC disruption, and to ensure smooth operations. SCM EDU (2023:1) stipulates that supply chain integration involves planning, execution, monitoring, and evaluation. Logistics managers plan strategies for sourcing, production and distribution, considering factors such as cost effectiveness, customer service, and supplier relationships (SCM EDC, 2023:1). SCM coordinates with suppliers and stakeholders to ensure timely and budget-friendly delivery (SCM, EDU, 2023:1). Performance metrics are monitored to identify problems before they escalate. The final stage involves evaluating the process and making adjustments based on feedback to ensure that future projects are successful (SCM EDU, 2023:1). Experts highlighted the need for comprehensive training and assistance throughout the implementation phase, as this may prevent significant interruptions in workflow and eventually avoid systemic failure.

Balance flexibility and resilience with cost effectiveness: A healthy SC needs flexibility and resilience. Flexibility saves costs using standardised products, while resilience helps recover from disruptions. Prioritising cost over resilience is risky and can lead to legal and compliance issues.

According to a study by Aldrighetti et al. (2023:2), resilience in supply chains is essential for managing disruptions, necessitating planning and recovery skills such as network redundancy and process flexibility. Furthermore, Aldrighetti et al. (2023:2) argue that a robust supply chain portfolio includes preparedness and recovery strategies to alleviate interruptions and restore operations. Resilience in the supply chain comprises proactive mitigation measures that enhance supply chain resilience and reactive tactics that swiftly restore the supply chain to its original condition after an interruption (Aldrighetti et al., 2023:2). Supply chain robustness refers to the capacity to sustain intended performance, while supply chain resilience denotes the organisation's capability to endure, adjust, and recover from interruptions to fulfil client requirements (Aldrighetti et al., 2023:2). Resilience and flexibility are related to this research study by highlighting the importance of adapting to unforeseen circumstances, being able to bounce back quickly and be flexible to recover speedily. In today's fast-paced and unpredictable business environment, supply chain resilience and flexibility are critical for ensuring continuity and meeting customer demands. By understanding and implementing strategies that enhance resilience and flexibility, organisations can better navigate disruptions and maintain a competitive edge in the market.

Always have a backup plan: Businesses should have contingency plans to ensure customer satisfaction during crises, including mitigating potential SC disruptions. An effective strategy is to implement a diversified, regionalised, and segmented SC. Although it may not be possible to eliminate all risks associated with SC altogether, this approach can significantly minimise their impact. The results show that it is important to implement a dual supply strategy. This involves working with multiple suppliers of critical components or materials so that if one supplier is unable to deliver, the business can still operate without major disruptions. According to the participants, by diversifying suppliers and implementing a dual supply strategy, organisations can increase their resilience and flexibility, making them better equipped to handle unexpected challenges. Ultimately, having a backup plan and a thoroughly considered supply chain strategy can help businesses not only survive, but thrive in a volatile and competitive market environment.

Developing a robust supply chain

Thomasnet.com (2018) summarises and states that the modern world has seen the rise of intricate SCs, which also means an increased risk of disruptions. Fortunately, technology can be used to forecast and avert these risks. However, it is crucial to exercise caution when employing these tools and to acknowledge the importance of building strong interpersonal relationships to ensure the success of the SC.

Revisit the current supply chain strategy

If a business has mitigation strategies and plans, it is vital to regularly review and analyse them to prevent and mitigate SC disruptions (Expert 4).

Discussion

Effective SCM is crucial for manufacturers, distributors, suppliers, and retailers to ensure the smooth functioning of their businesses. However, SC disruptions are inevitable when SC complexity increases. In such situations, it becomes essential to have an accurate supply and demand management system in place. According to the participants, forward planning is crucial for the efficiency and functioning of SC operation.

Retailers can mitigate SC disruptions by synchronising material requirement planning with stock and inventory levels.

Effective SC planning is essential for the growth and success of any organisation. The respondents indicated that it is crucial to involve sales and operations plans and integrated business planning when SCs implement their operational planning.

Further investigation found that forecasting is critical in this process. It provides valuable insights for decision making in production, transportation, personnel, and long-term planning. This statistical task can help businesses identify and mitigate risks and could prevent significant losses.

A robust SC strategy is one of the recommended strategies to mitigate SC disruptions. It prioritises strong relationships, transparent communication, diversified suppliers, accurate data, integrated systems, flexibility, resiliency, and contingency plans. Respondents recommended that good technology can be used to forecast and avert risks; however, human interaction is still crucial to building strong interpersonal relationships.

The respondents added that it is essential to regularly review and analyse existing strategies and plans to prevent and mitigate disruptions in SC. By doing so, businesses can identify areas of improvement and ensure that their SCM system remains effective. Overall, competent planning skills and the correct planning strategies can go a long way toward mitigating SC disruptions.

4.5.3.2 Method discussions and analysis

Improve internal communication

As illustrated in Table 4.5, effective communication systems allow a business to identify early warning signs (Expert 11). The business can then identify risk areas such as what, why, and how (Expert 11). Additionally, Expert 8 stated that the business needs to improve organisational communication. A healthier communication structure can help internal functions run smoothly and work to provide excellent results for the organisation's customers (Expert 8). Thus, clear internal communication clarifies each department's responsibility, allowing each team member to know what is expected from them (Expert 11).

Mitigation backup plans/dual supplier

Furthermore, Expert 10 stated that when an organisation has business continuity plans in place, it assists the SC in mitigating SC disruptions and risks. Expert 14 suggested a dual supplier method as a backup plan for when one supplier is out of stock, it can call up the other supplier to fill the cap; this is called a dual supplier. Expert 14 added that dual suppliers allow the organisation to split risk with the second approved supplier and eliminate the risk of OOS, delivery delays, and -packaging OOS.

Improve supplier relationship

When there is a respectable relationship between the suppliers, the organisation and the SC professionals, the negotiation of alternative options can be done quickly when disruptions occur within the SC (Expert 7). Therefore, a good relationship with suppliers and SC professionals is crucial to customer satisfaction.

Discussion

The above comments underscore the importance of effective communication systems in business. Incorporating such systems can help corporations identify potential risks and warning signs at an early stage. Better internal communication can result in more streamlined departmental functions and improved customer outcomes. An important aspect that keeps emerging, is clear communication when establishing departmental responsibilities.

SC specialists recommend contingency plans, such as the use of multiple suppliers to minimise disruptions and risks in the SC. Additionally, experts propose that cultivating solid relationships with suppliers and SC professionals is vital to achieving customer satisfaction and negotiating alternative options in the face of disruptions.

4.5.3.3 Additional measurements

Participants shared some potential recommendations that could be put into action to reduce risk. The researcher plotted the response thoughts and suggestions in this section. Table 4.5 below highlights the suggestions and recommendations of the respondents to implement additional measures to mitigate the risk of ordinary SC.

Table 4.5: Question 7: Do you have any additional measurement that can be implemented to mitigate supply?

Findings: Question 7	Key Findings
P.1 Identify risk and current risk	Risk Identification measurements
P.2 Select vendors in different geographic regions who supply through secondary ports	Dual Suppliers - In order to deliver at different location
P.3 Fully engage in supplier relationships.	Supplier Relationship
P.5 Open communication between clients and suppliers.	
P.4 Maybe look at regular internal trying for staff in SC and the Value chain. Regular updates and reminder to staff to review the mitigation plans.	Refresher training of SC Strategies and Risk Strategies and implement improvement
P.7 Re-evaluation of supply chain processes to see how it can improve the flow of the supply chain structure.	
P.6 Risk Managements strategies	Implement Risk Management Strategies
P.4 Employers should follow through with the implementation plans and ensure regular training is provided.	Regular Training and Follow-through with implementation plans
P.9 Having multiple people trained in supply chain roles is an effective way of ensuring that business can continue to operate and function of a person in their role becomes unable to perform their tasks or leaves their position immediately, there will be another person to perform the duty in the interim until a permanent replacement is found.	Upskill and Employee development programs.
P.10 For risks with warehouses or distribution centre's, having secondary sites earmarked for in case of emergency is valuable – the recent example of looting destroyed many organizations' warehouses in KZN, so having another site to temporarily operate out of while the destroyed one is rebuilt or fixed will mitigate any further loss and damage to the business.	Multi Warehouses in different locations
P.11 Specific - Measurable - Achievable - Relevant and Time-Bond	"Smart" Strategy

Source: Author's own construct

In the context of SC professionals, risk identification allows a business to detect SC risks and disruptions early, thus allowing the business to rectify issues early before major SC disruptions occur (Expert 1). Expert 6 recommended risk management strategies to mitigate SC ordinary disruptions. The implementation of a dual supplier allows the SC to have alternative suppliers when the business experiences problems with their preferred supplier, thus reducing disruptions within the SC (Expert 1). Expert 2 further recommends a supplier relationship that is thoroughly engaging and transparent. Additionally, Expert 5 suggested a more open line of communication with the supplier to build a relationship between the SC departments. Therefore, early disruption issues can efficiently resolve problems.

Expert 4 recommended that regular internal refresher training of SC strategies and risk strategies is essential for the VC, as this sets a reminder to the whole VC to be on the lookout for SC risk and disruption and detect it early.

Regular review and evaluation of current SC processes allows the business to identify improvements and make changes to move to an updated process for business continuity (Expert 7).

Upskilling employees and development programmes within the different departments are crucial because when multiple staff members are trained within the same positions, an effective way of ensuring that the business can continue to operate and function if a person in their role becomes unable to perform their tasks or leaves their position immediately, there is then immediately another person to perform the duty in the interim until a permanent replacement is found (Expert 10). Warehouses in different geographical areas broaden the delivery options to customers and reduce the delivery lead time to retailers' stores.

A "Smart Strategy" needs to be implemented with each SC project. This strategy allows staff to ask relevant questions to mitigate possible risks and disruptions (Expert 11). It allows us to ask the questions: Is the project Specific; – Measurable; – Achievable; – Relevant; – and Time-bound?

Discussion

The respondents provided suggestions to mitigate SC risks such as implementing measures to identify and rectify issues early, having alternative suppliers, open communication with suppliers, regular training on risk strategies, reviewing and updating SC processes, upskilling employees, having warehouses in different geographical areas, and implementing a "Smart Strategy" with relevant questions to mitigate risks and disruptions.

E) Risk Identification Measurement

Participants recommended that risk identification measurement is one of the key steps that is missing within their organisation. Participants posit that risk identification could allow the business to detect risk and minimise any disruptions within the SC. Niazi (2024:1) explains that risk identification is the process of identifying potential risks that could affect an organisation that includes strategic, operational, and business risks. Strategic risks involve long-term goals and objectives, while operational risks involve day-to-day operations such as supply chain disruptions, data breaches, and equipment failures. Risk identification involves identifying specific risks and their underlying factors, such as lack of diversity in suppliers or contingency plans (Niazi, 2024:1).

Furthermore, to make informed decisions, organisations must first understand business risk profiles and identify these risks by using effective risk measurement tools and constantly monitor each risk and regularly update risk management strategies (Camms, 2024:1). Camms also recommends a few measuring tools, which are to categorise and rate risks to avoid surprises, then prioritise major risks, keep a risk register and their potential likelihood, and report and document near misses and incidents (2024:1). Reporting risk is essential for organisations to establish the groundwork for prevention. This includes operational changes that mitigate near-misses and training programmes that positively influence behaviour. Consequently, the seamless operation of the supply chain depends on the development and execution of a robust and industry-specific risk strategy. According to respondents, risk strategies will help organisations access, approve, respond to and monitor risk. In addition, the responses confirmed that regular communication and collaboration with key stakeholders can help identify potential risks early on and address them effectively. By actively involving all parties in the risk management process, organisations can create a culture of transparency and accountability that promotes continuous improvement and innovation. Ultimately, a well-developed risk strategy and implementation plan can help ensure the resilience and sustainability of the supply chain in the face of unexpected challenges.

Dual Supplier Strategy

This study indicates, a dual supplier strategy must be put into place in order to reduce disruptions to the supply chain and control risks. According to research by Yang et al., the organisation can manage the risk of supply disruption by placing orders from two different suppliers (diversification) (2012:205). In the event that one supplier cannot supply, the organisation can still obtain some orders and deliveries from the other supplier. Furthermore, Yang et al. (2012:205) argue that the additional cost of having a diversified

supplier outweighed the potential benefit of avoiding losses due to disruptions. Furthermore, the respondent is of the opinion that a dual supplier strategy will mitigate supply chain disruption. Ultimately, having multiple suppliers can provide a safety net for the organisation, ensuring that operations can continue even if one supplier is unable to fulfil orders. By spreading the risk among different suppliers, the organisation can minimise the impact of any potential disruptions in the supply chain. This strategy not only helps to protect the organisation from unforeseen events, but also allows for greater flexibility and resilience in the face of challenges.

F) Refresher Training on Existing Strategies

Colman and Gilchrist argue that “refresher training is retraining in a subject to refresh your memory and make sure your knowledge is up-to-date” (2023:1). Additionally, respondents stated that refresher training on existing strategies can help employees to understand the importance of maintaining relationships with multiple suppliers and the potential benefits that come with it. By regularly reinforcing refresher training on exit strategies and understanding their significance, employees can be better prepared to handle any supply chain disruptions that may arise. Refresher trainings can also serve as a reminder to continuously evaluate and adjust the supplier network as needed to ensure maximum efficiency and effectiveness. In the end, by investing in refresher training on existing strategies can help organisations stay ahead of potential challenges and maintain a competitive edge in the market.

G) Employee development programmes

Employee development programmes were one of the additional measures respondents recommended that organisations implement. Employee development programmes enable employees to become more proactive and subsequently identify potential disruptions. Additionally, Jacobs and Washington assert that an organisation's adaptability and resilience can be enhanced by involving employees in development programmes, which can foster a positive culture of continuous improvement (2003:343). In addition, Menon (2012:781) argues that by investing in the skill development of their employees, businesses can establish a more responsive and agile supply chain that can promptly adapt to evolving market conditions. Ultimately, prioritising employee training and development can ultimately result in a supply chain that is more effective and prepared to handle any disruptions that may arise (Menon, 2012:782).

H) Multi-Warehouses in different locations

Additional measures recommended were to have multiple warehouses in different locations, which can contribute to increasing resilience within a supply chain by providing redundancy and flexibility in the event of disruptions.

By strategically locating warehouses in various regions, businesses can ensure that they have multiple options to source and distribute products that can reduce the impact of any single point of failure. This decentralised approach can help mitigate risks and improve overall supply chain performance, ultimately leading to a more resilient and adaptable operation. However, the Golda and Izdebski (2017:637) study revealed that setting up multiple warehouses involved many constraints and criteria that businesses must consider before selecting a warehouse location. These include the proximity to suppliers and customers, labour availability, transportation costs and fuel, local regulations, and expenditures to start the warehouse. The researcher is aware that the establishment of numerous warehouses will shorten the lead time to consumers. Nevertheless, Golda and Izdebski's (2017:635-640) study must be considered for cost-effectiveness and adaptability prior to the establishment of a warehouse or multi-warehouse.

S.M.A.R.T Strategy (Specific Measurable Achievable Relevant and Time-Bound)

The S.M.A.R.T strategy refers to goal setting metrics and checks and asking the relevant questions before starting a business project to ensure that the project and goals are realistic. It refers to setting realistic and achievable goals by creating a metric to measure if the goals for the project are Specific, Measurable, Achievable, Relevant, and if the Time-bound aspects are realistic. Shahin and Mahbod (2006:227) state that goal setting is an essential phase of any organisation, as it guarantees that tasks are completed within the available resources, by the appropriate personnel, and at the appropriate time. Goal setting is an essential phase of any organisation, as it guarantees that tasks are completed within the available resources, by the appropriate personnel, and at the appropriate time. Shahin and Mahbod (2006:227) elucidate that accountability and achievement require specific measurable goals that are distinct, concrete and achievable, while also being challenging. Achievable goals should be reasonable and achievable, while measurable goals should be based on performance and expectation (Shahin & Mahbod, 2006:227). Additionally, Shahin and Mahbod (2006:227) posit that an objective should be practical and outcome-orientated while considering the availability of resources and the selection of key performance indicators (KPIs). Time-sensitive objectives should be assigned a completion date to facilitate the monitoring of progress and to provide structure (Shahin & Mahbod, 2006:227).

Including intermediate objectives and strategies for achieving the goals, this helps in the measurement of success and the development of a realistic action plan.

4.4. Chapter summary

This chapter presented a detailed analysis and interpretation after utilising Atlas.ti version 22.02. The participants included experts such as senior buyers, SC executive managers, senior planners, logistics managers, and SC general managers, all located in the Cape Metropole area of Cape Town.

In this chapter, the findings of the research study's findings successfully identified the most ordinary disruptions in the SC department. Late or delayed deliveries are the most common type of ordinary SC disruptions experienced by SC experts. Experts indicated that this disruption has a ripple effect on the entire SC department and can lead to unhappy customers. Planning plays a significant role in the smooth operation of the SC department. The findings revealed that the inability to plan appropriately could lead to crucial disruptions such as stock overflow or OOS that would result in loss of sales and unsatisfied customers. Appropriate technological systems are essential to enhance and support the SC function. Continued improvement includes regular system updates and maintenance, proper system implementation, and ongoing training that can assist in minimising system problems. This research study provided valuable insights into ordinary SC disruptions and strategies to mitigate their impact on SC.

In this chapter, the researcher delved into the data to determine why ordinary disruptions occur in the retail SC organisation. Through interviews with experts, the researcher identified the top six reasons for these disruptions: OOS, incorrect planning, lack of communication, late delivery, system problems, and poor stock-level maintenance. Addressing these issues is essential to ensure timely and accurate deliveries, ultimately improving customer satisfaction. Respondents emphasised the need for continuous monitoring and evaluation of systems to check functionality and usability within the changing retail business. Good communication channels with internal stakeholders, suppliers, and clients must be established to avoid misunderstandings and disruptions. It is crucial to maintain optimal inventory levels and ensure regular system maintenance and updates to prevent any disruptions in SC.

As presented in the previous section, disruptions in retail SC can have significant consequences for business operations. In summary, this includes longer lead times, which can cause delays in production and delivery, resulting in lost revenue, wasted labour costs, and negative impacts on customer satisfaction and loyalty. The impact of disruptions can

also lead to financial risks such as declining sales and revenue loss. Therefore, to avoid these disruptions, it is essential to address the SC disruptions immediately when the problem occurs to ensure timely and accurate deliveries, maintain optimal inventory levels, establish good communication channels, and regularly monitor and evaluate systems for functionality and usability. By doing so, businesses can optimise inventory levels, reduce costs, improve profits, and increase customer satisfaction.

In summary, the experts interviewed recommended a forward planning strategy to improve and mitigate SC disruptions. This strategy allows SC to proactively plan for future disruptions, such as ordering raw materials well in advance, ensuring timely and accurate deliveries, and maintaining optimal inventory levels. Accurate supply and demand planning is crucial during challenges, and a reliable SC planning and execution system is necessary. The core processes for an SCM system are planning of SC, production, and material requirements. Monitoring stock levels and implementing competent planning skills can also help mitigate SC disruptions. Additionally, a robust SC strategy and revisiting current SC strategies can help identify possible risks and rectify them before significant losses occur. Regular review and analysis of existing strategies and plans are essential to prevent and mitigate disruptions in SC.

Businesses must improve internal communication to identify early warning signs and risk areas. A healthier communication structure can lead to better customer results. Effective internal communication clarifies departmental responsibilities and ensures that team members understand expectations. Furthermore, having business continuity plans such as a dual supplier method, can mitigate SC disruptions and risks. This backup plan eliminates the risk of OOS, delivery delays, and packaging OOS. Building a good relationship with suppliers and SC professionals is crucial to achieving customer satisfaction and negotiating alternative options during disruptions. It is essential to regularly review and analyse existing strategies and plans to prevent and mitigate disruptions in the SC.

Table 4.5 captured all the helpful suggestions provided by the respondents to effectively manage SC risks. The research participants emphasised the importance of early detection of risk and disruptions and implementing measures to rectify issues before they escalate. These measures include having alternative suppliers, open communication with suppliers, regular training on risk strategies, reviewing and updating SC processes, upskilling employees, having warehouses in various geographical areas, and implementing a "SMART Strategy" with relevant questions to mitigate risks and disruptions. Lastly, regularly reviewing and analysing existing strategies and plans can help prevent and mitigate disruptions in SC.

The researcher explores the thorough results of this investigation, together with the conclusions and suggestions derived from it, in the next chapter.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The preceding chapter analysed and interpreted the data obtained from the interviews with SC experts. The research focused on exploring the impact of ordinary disruptions on the retail industry through insights gleaned from a broad range of professionals, including senior buyers, logistics managers, executive managers, planners, and industry experts. The research process involved a semi-structured approach that featured expert interviews to enable the collection of rich insights.

Chapter 1 introduced the research problem of ordinary disruptions in supply chain management. Chapter 2 reviewed the relevant literature and SC disruptions, providing a deeper understanding of SC challenges. Chapter 3 discussed the research methodology, design strategy, sampling techniques, population, framework, data collection methods, ethical considerations, validity, and reliability. Chapter 4 presented the findings and identified challenges of SC disruptions such as raw material shortages, production issues, packaging OOS, financial problems, and the lack of collaboration. The study aimed to develop ways in which retailers can mitigate these disruptions and improve business operations.

Based on the feedback of the participants and extensive research, the researcher has reached definitive conclusions and developed actionable recommendations. The study also suggests efficient and effective strategies to mitigate SC disruptions within the retail industry.

A summary of the most important elements of the research is presented at the beginning of this chapter. Following this, the chapter presents a comprehensive analysis of the most significant findings, conclusions, and recommendations. Finally, the chapter outlines the limitations of the study and provides avenues for future research.

5.2. Conclusion of key findings

The research findings indicated that ordinary supply chain disruptions in the retail sector were predominantly attributed to factors such as inaccurate forecasting, supplier delivery failures, MRP system inaccuracies, demand variability that results in out-of-stock, and insufficient communication both internally and with external stakeholders. Strategies identified to mitigate these disruptions included cultivating robust supplier relationships to enhance transparency and communication, execute contingency plans, employ rapid response systems to swiftly address potential risks, implement a robust supply chain, and

invest in technology to augment visibility and coordination within the supply chain. By confronting these difficulties directly, retailers can enhance their protection against possible interruptions and ensure the seamless transfer of products from suppliers to customers.

Additionally, the findings indicated that ordinary supply chain disruptions can be characterised as anticipated interruptions, unavoidable complications, supplier delays, and human errors that can affect the entire supply chain. Fernando (2022:1) highlights that effective SCM is critical in achieving various business objectives. By overseeing manufacturing processes, companies can improve the quality of their products, reducing the likelihood of product recalls and legal consequences while strengthening their brand reputation with consumers. Furthermore, Fernando (2022:1) postulates that the implementation of controls over shipping procedures can improve customer service by avoiding costly shortages or overstocking. In conclusion, managing the SC offers several opportunities for businesses to increase their profits, which is especially crucial for companies with extensive global operations.

In an article by Oracle (2023), SC activities encompass procurement, product lifecycle management, SC planning (including inventory planning, enterprise asset maintenance and production line management), logistics (including transportation and fleet management), and order management.

Manuj and Mentzer (2008:192) observed that the SC encounters many challenges and disruptions that must be addressed for successful and efficient functioning. It is imperative to note that, according to Manuj and Mentzer (2008:192), the management of SC risk should be a crucial component of strategy planning. Establishing processes to identify, prioritise, manage and mitigate significant risks is essential. Manuj and Mentzer (2008:192) categorise the SC risk into three factors that trigger disruptions within the SC. In the initial category, attention was directed towards Supply Risks and disruption factors centred on subpar quality of inbound goods and transit-time variability, leading to delivery delays. They suggest focussing on elements such as demand variability, forecast errors, and competitor actions, which can lead to more effective supply-and-demand processes. The final group was Operational Risks, which includes factors like inventory, asset and tool ownership, and product quality and safety (2008:192).

During the interview and data interpretation phase, the researchers identified these categories and risk factors and highlighted the findings in Chapter 4. These risk factors and disruptions address the study's main research question, which is “Identify how retailers can mitigate ordinary SC disruptions within the Cape Metropole”, followed by supporting research questions that this study aims to answer:

i. **What are the different types of SC disruptions that retailers in the Cape Metropole experience?**
ii. **What is the impact of ordinary SC disruptions on retailers in the Cape Metropole?**

This chapter presents the conclusions and recommendations drawn from the discussions related to the findings of the data analysis to make recommendations that respond to the research questions posed at the beginning of the study and to fulfil its objectives. As mentioned in the previous chapters, the study's main objective is to identify the strategies that retailers in the Cape Metropole can implement to mitigate ordinary SC disruptions. Consequently, the following supporting objectives that this study aimed to meet were the following:

i. **To identify the different types of SC disruption that retailers in the Cape Metropole experience**
ii. **To determine the impact of ordinary SC disruptions on retailers in the Cape Metropole.**

The study's main findings were examined in conjunction with the objectives and research questions.

5.2.1. Answering research objectives with recommendations

Sub-objective 1

To identify the different types of SC disruptions that retailers in the Cape Metropole experience.

This study explores the effects of ordinary SC disruptions in the retail industry. The research identified that SCs can face several ordinary disruptions such as delays, OOS products, system issues, product or service shortages, and incorrect planning, ordering, and delivery errors. These disruptions can lead to unintended consequences that can adversely impact business operations.

Based on the information obtained from the participants, the type of ordinary disruptions can be identified as:

i. **Late deliveries and delays**
ii. **OOS**
iii. **Systems problems**
iv. **Incorrect planning**

v. Incorrect product delivery

SC ordinary disruptions are events that can be avoided and expected. It involves human interactions.

The study revealed that late deliveries and delays can cause disruptions within the SC. Truck arrivals, supplier deliveries, and incomplete obligations from other departments can all lead to delays. Patel (2023:1) agrees with this argument by stating that disruptions occur when transportation inefficiencies such as traffic, documentation problems, and weather conditions, result in delayed deliveries. Incorrect planning and forecasting can cause delays in product orders. Shipping delays and port backlogs can result in late delivery at warehouses and retailers, leading to disgruntled customers. Delays can also occur due to variations in the product, such as incorrect orders or OOS items. These delays can trigger SC disruptions and affect the business efficiency.

Therefore, it was established through this research study that OOS refers to a product not being available in the store warehouse or the retail store shelf. It is the second most common type of SC disruption that disrupts operations. When OOS occurs, customers may postpone purchasing, resign, or buy from another retailer. Stock shortages can cause delays in production schedules and longer lead times. MRP systems and manufacturing issues may result in OOS items in retail stores. Product returns can affect the retailer's stock level. Warehouse damage can impact merchandise delivery to stores.

System problems are the most frequent disruptions in SC operations, with 94-97% of problems being generated from system errors, according to Jenkins (2022:1). ERP systems can commonly cause these disruptions, with challenges such as employee resistance, lack of integration flexibility, high maintenance costs, data migration issues, poor project management, and the inability to redesign processes (Seidor, 2022). Proper planning, change management programmes and maintenance schedules can prevent these disruptions. The participants reported system problems such as downtime, orders not being placed, stock backlog, and glitches in the MRP system. It was further discovered that implementing new systems can cause significant disruptions and affect store stock availability that can lead to customer dissatisfaction.

Additionally, studies revealed that SC disruption can occur due to incorrect planning, leading to incorrect ordering, overstock holding, and limited storage availability. ERP system errors and incorrect information from internal stakeholders can also contribute to incorrect planning. Demand-driven planning is suggested as a solution, focussing on responding to customer demand within their order cycle and forecasting aggregate volume rather than individual items.

Incorrect product delivery is a significant disruption to SCs; respondents identified it as the fifth-highest indication of disruption. Incorrect product delivery occurs when the product received differs from what was ordered, resulting in the need to return it to the supplier or warehouse. Delivery specification deviation is another issue, where the delivery is on time, but the supplier delivered the wrong colour, size, or quantity.

Sub-objective 2

To determine the impact of ordinary SC disruptions on retailers in the Cape Metropole.

An article by Randstad (2022) about the Cause and Effect of SC disruptions states that in recent studies, the most significant SC challenge is to procure and secure raw materials from suppliers. According to Randstad's findings, a crucial challenge that companies face is the inability to secure the required raw materials for production that leads to difficulties in meeting consumer demands. The impact of this SC deficiency is noticeable through the empty shelves witnessed in stores across the globe (Randstad, 2022).

This study revealed that SC disruptions impact the total business operation; when raw material is OOS, the manufacturer cannot produce the final product, impacting the lead-time schedule and delaying delivery at the retail stores.

Findings revealed that SC disruption can impact the following, but not limited to:

i. **Lead time**
ii. **Service delivery – unhappy customers**
iii. **Financial impact**

According to various experts interviewed, longer lead time can significantly impact the manufacturing process. Overall, this research study discovered that this delay could harm the business brand customer loyalty and lead to poor customer service delivery when the product is unavailable 24/7 for customers.

In agreement with this research study's findings, Randstad (2022) argues that even when a company secures the required raw materials for production, unforeseen circumstances such as delivery delays and talent shortages can still lead to longer lead times and order completion times. Also, Randstad states that retailers know that any delay in the production process can be costly and adversely affect production, customer trust, sales, and revenue. Although companies can typically handle a few hiccups in the SC, the current shortages significantly impact production and delivery across multiple industries, resulting in a bottleneck in production processes (Randstad, 2022).

In conclusion, the study revealed that longer lead times can cause operational disruptions. In SC disruptions, unnecessary downtime and wasted labour costs can occur. These disruptions can negatively impact the outcome of an event or product and delay the smooth flow of the business VC. When lead time increases for raw materials, it can negatively impact the supply of the BOM and the manufacturer's production schedule.

The findings revealed that SC disruptions can impede a business's efforts to boost profits and sales, reducing revenue and cash flow disruptions. The financial consequences of such disruptions can be far-reaching and necessitate using alternative strategies and procuring substitute products. These disruptions can often be traced back to human error, such as ordering errors or customer loss due to dissatisfaction. Therefore, efficient service delivery is crucial for businesses to meet customer expectations and maintain loyalty.

Main objective

Identifying the strategies that retailers in the Cape Metropole can implement to mitigate ordinary SC disruptions.

In the previous chapter, the respondents identified five strategies and four methods to mitigate SC disruptions, in answer to the main research objective and question. The participants highlighted additional measures to improve SC operations and mitigate disruptions.

Below, the researcher summarises the strategies, methods, and measures that were found to reduce the impact of SC disruptions.

Planning strategies:

a) RRS
b) SCRM
c) Robust SC Strategy
d) Revisit the current SC Strategy

Various methods that were discovered:

a) Improve internal communication
b) Mitigation backup plans/dual supplier
c) Improve supplier relationship

Additional measures:

a) Risk identification strategies

b) Dual supplier

c) Refresher training on existing strategies

d) Upskill and development programmes for employees

e) Multi warehouses

f) Smart Strategy = be **S**pecific - is it **M**easurable – is it **A**chievable – **R**elevant – is the project **T**ime-bound?

Research study strategies

The findings reveal that it is essential to implement forward planning strategies such as ordering raw materials well in advance, and monitoring stock levels to effectively mitigate SC issues. Accurate supply and demand planning is crucial, and a reliable SC planning and execution system is necessary. The SC planning process involves sales and operations plans and integrated business planning, and forecasting is a statistical task that informs decisions about production, transportation, personnel, and long-term planning. Choosing the correct planning strategies and implementing competent planning skills can help mitigate risk and SC disruptions. Visual aids and predictive models can be integrated into strategic planning to ensure future success.

Therefore, risk management is an essential aspect of project risk management. A risk response plan outlines strategies to mitigate adverse risks. A good risk response starts with suitable risk identification. There are four risk response strategies: risk avoidance, reduction, transfer, and acceptance. Avoiding risks means avoiding a specific action or deciding not to initiate it. Taking action to mitigate potential losses is crucial. Transferring risk by assigning responsibility to a third party is possible. Risk acceptance is when a risk is acknowledged and accepted without any action to mitigate it. It is essential to recognise that acknowledging a risk does not equate to disregarding it; the risk should be closely observed to guarantee that the outcomes do not become overly serious.

Research reveals two elements for **SCRM**: reactive- and proactive strategies. Proactive strategies involve identifying and assessing potential risks before they occur, which allows organisations to develop mitigation and contingency plans. Risk management is critical for businesses to predict and assess potential threats from financial instability, legal issues, natural disasters, cyber-attacks, and more. A comprehensive risk management plan should cover all aspects of the business, including customer information, intellectual property, and corporate data. Proper risk management enables businesses to safeguard themselves and mitigate risks that would prevent significant losses.

A robust SC strategy is necessary to mitigate disruptions and identify possible risks. Building and maintaining solid relationships with suppliers, communicating, diversifying the SC, starting with good data, instituting integrated systems, balancing flexibility and resiliency with cost-effectiveness, and having a backup plan are vital tips for building a robust SC. Technology can be used to forecast and mitigate risks, but it is essential to exercise caution and prioritise interpersonal relationships for success. Monostori asserts that robustness is integral to all business operations and constitutes an essential part across all corporate levels, manufacturing processes, and extending to supplier chains and networks (2018:110). Sawik characterises a robust solution that includes the supplier portfolio and customer schedules, as one that can effectively optimise supply chain performance in both average- and worst-case disruption situations (2017:211-236). Sawik examined the robust supply portfolio to spread the total demand for components among the chosen providers. The goal is to set up an equitable and efficient schedule of client orders ahead of time for every possible interruption scenario (2017:211-236).

Furthermore, the study revealed that current strategies must be reviewed regularly to evolve and move with an increasing competitor market. The study by Chin et al. indicates that retailers and suppliers must review and identify their strengths and core competencies, effectively outsource and enhance their performance by benchmarking best practices to address future supply chain challenges, and navigate competitive environments (2017:803-810). As a result, Chin et al. state that a revised supply chain architecture is necessary to provide quick and effective responses to changes in a revolutionary era of SCM. These authors also indicate that modifications to business models aimed at reducing production costs, enhancing customer value, improving product quality, increasing flexibility, and leveraging the extensive influence of IT are progressively presenting significant challenges for business sustainability (2017:803-810).

Over the above-recommended strategies indicated by the participants, participants also recommend that businesses revisit existing SC strategies, identify improvement, and implement improved strategies aligned with the business goals and objectives.

Research study methods

Maintaining a good relationship with suppliers and SC professionals is crucial for customer satisfaction. Establishing a solid and respectful relationship between the parties involved in the SC can facilitate quick negotiations of alternative options in case of disruptions. Moeller et al. (2006:72) argued that supplier relationships need to be actively maintained by means of supplier relationship management (SRM) and monitored by the purchasing division to optimise every interaction. Moeller et al. (2006:73) define supplier relationship management

(SRM) as the process of initiating, cultivating, maintaining, and terminating connections with in-suppliers, alongside monitoring out-suppliers, to generate and augment value within these partnerships. However, Forkmann et al. posit that supply chain management acknowledges the significance of supplier relationship management for efficient and successful operations. The establishment of enterprises and the patterns that reconfigure the supply base design facilitate the efficient management of supplier relationships (Forkmann et al., 2016:185).

Based on the information obtained, the participants recommended that effective communication systems can help businesses identify early warning signs and pinpoint risk areas. Improving organisational communication can create a healthier structure, leading to smoother internal functions and better customer results. Clear communication clarifies the responsibilities and expectations across departments. The study conducted by Fawcett et al. (2006:44) demonstrated that frequent and open communication channels within business and cross-functional teams are essential for the effective administration of the supply chain and its success.

Furthermore, having business continuity plans can help mitigate SC disruptions and risks. The significance of business continuity management (BCM) was demonstrated in the Azadegan (2020:2) study. BCM is a comprehensive management programme that is designed to identify risks that could affect operations and to establish a framework for the development of capabilities in the effective mitigation and response to disruptions (Azadegan, 2020:2). Azadegan defines BCM as a framework that encompasses disruption recovery plans, continuity planning, and risk assessment and mitigation (2020:2). Expert 14 suggests using a dual supplier method as a backup plan to fill in when one supplier is OOS. Yang et al. (2012:205) suggest that the increased expense of having a diverse (dual) supplier exceeded the potential advantage of preventing disruption-related losses, as previously cited. Thus, it allows for splitting risk with the second approved supplier and eliminates the risk of OOS, delivery delays, and packaging OOS.

Research Study additional measurement

Concerning the abovementioned findings, risk identification enables businesses to identify potential SC risks and disruptions early on. The process of identifying possible risks that could have an impact on an organisation, such as business, operational, and strategic risks, is known as risk identification, according to Niazi (2024:1). Therefore, risk identification is a critical measure that should be implemented to proactively identify potential SC risks and disruptions and to be adequately prepared to implement mitigation strategies. Thus, dual supplier implementation, transparent supplier relationships and risk identification allow

businesses to take corrective action promptly to prevent major SC disruptions from happening. Furthermore, retailers must regularly upskill their employees for business continuity and best practices. As previously cited, Menon (2012:781) agrees that businesses can create a more responsive and agile supply chain that can promptly adjust to changing market conditions by investing in the skill development of their employees.

Additionally, using a "SMART Strategy" allows SC experts to ask relevant risk-mitigating questions before any significant risk and disruption happens. "SMART strategy" is a goal-setting method that is defined in an On Strategy (2023:1) article to be intended to assist the organisation in the development of actionable objectives that will help to attain its long-term destination. Menezes and Robertson (2024:1) argue that the SMART strategy can be defined in connection with the supply chain. Performance is a critical factor in the success of any business that depends on the efficient and effective delivery of products and services to consumers. Menezes and Robertson (2024:1) posit that the establishment of distinct, realistic, and relevant objectives that are consistent with the strategic objectives of the organisation and the expectations of the stakeholders is necessary for the assessment and enhancement of supply chain performance. Menezes and Robertson (2024:1) emphasise the importance of identifying criteria for selecting appropriate metrics in order to customise your performance indicators to reflect the unique characteristics of your supply chain. Inventory turnover and order cycle time are precise metrics that guarantee that you are monitoring the most critical metrics. According to Menezes and Robertson (2024:1), the process of deconstructing smart goals involves the transformation of ambitious objectives into feasible tasks. For instance, a business should strive to enhance customer communication through automated updates within a month, thereby establishing measurable and achievable progress.

5.3. Recommendations

During the interviews, it was discovered that some retailers have strategies and methods to mitigate ordinary SC disruptions and SCRM. Despite having measures in place, they are not being fully utilised and require improvement to become more effective. The findings show that to mitigate disruptions in the SC effectively, businesses should evaluate and identify their specific disruptions and execute the best suitable technique for each individual case. Overall, the study highlights the need for businesses to review and optimise their risk mitigation strategies to cope with ordinary disruptions in the SC.

This study identified several strategies and methods to manage disruptions and mitigate risk within the retail SC. Considering the findings, it is recommended that retailers should think about implementing the recommended strategies as illustrated in Figure 5.1 to prevent

frequent disruptions to the SC. These strategies include the adoption of contingency plans, the diversification of suppliers, the establishment of communication protocols, and the adoption of automated inventory management systems. By implementing these measures, retailers can minimise the impact of disruptions on their operations and maintain a reliable SC.

According to Hunter, the future of the SC only partially relies on the existing business models (2022). However, it integrates strategic sourcing, efficient and streamlined procurement processes, supply agreements, and the maintenance of new buffer stocks within the country to cater to all the essential requirements for business continuity (Hunter, 2022). Concurrently, the organisation devises and executes long-term plans to ensure sustainable growth and development.

5.3.1. Based on the findings, the research recommends the following:

The research found that the primary factor contributing to SC ordinary disruptions in the retail sector of Cape Metropole is an inaccurate forecasting plan. This error results in raw material shortages and delivery delays. Consequently, the researcher recommends retailers to implement effective and efficient planning strategies and the correct ERP systems for the industry. Proper ERP systems are necessary for system-driven forecasting, which involves the processing of forward planning to review and concentrate on the implementation of demand-driven planning. It is crucial to recognise that retailers must select the appropriate ERP solution for their industry to optimise their inventory investment and achieve profitability.

The research found that if retailers could regulate supply chain complexity and recognise risk and disruption early on, they could easily reduce significant SC risk drivers. Thus, the researcher suggests that retailers implement a risk response strategy (RRS), which enables them to avoid, transfer, reduce, and accept risk. RRS works well for big projects where the analysis of SC disruption and risk must be the primary focus prior to project initiation.

In addition, the study discovered that although retailers are aware of supply chain risk management (SCRM), they are not taking advantage of this tactic to their benefit. SCRM facilitates both proactive and reactive strategies. The literature on supply chain risk management (SCRM) mostly emphasises catastrophic incidents rather than ordinary supply chain disruptions and risks. This research, however, indicates that implementing Supply Chain Risk Management (SCRM) may significantly mitigate common supply chain disruptions by prioritising risk detection, assessment, analysis, and risk management measures. Proactivity enables the firm to minimise risk, while reactivity facilitates the early rectification of interruptions before they escalate significantly.

The study discovered that ERP system problems, ineffective communication, late deliveries, and poor planning were key factors in the retail sector that led to supply chain disruptions; thus, the researcher recommends the establishment of a robust supply chain strategy. The researcher's findings identify Thomas's (2018) robust SC seven steps as the most applicable strategy to mitigate SC ordinary disruptions. The seven steps of the robust SC strategy of Thomasnet.com (2018) cover all possible risks and identify solutions for ordinary disruptions and associated risks. A robust supply chain strategy focusses on establishing strong relationships, transparent communication, diversifying suppliers, maintaining correct data, integrating systems, promoting flexibility and resilience, and developing contingency plans. Consequently, this research study recommends a robust, effective, and resilient supply chain strategy.

Furthermore, the participants suggested that retailers review and evaluate the current SC process, which enables businesses to identify areas for development and implement modifications to transition to an updated process for business continuity. Supply chain dynamics are constantly evolving. As such, it requires retailers to adapt their existing processes and strategies to efficiently address the demands of consumers. Furthermore, the research indicated that existing strategies require frequent evaluation to adapt to an evolving competitive market. This will allow the retail establishment to execute enhancements and reorganise strategies that are familiar to the personnel.

A further recommendation is to maintain good relationships with suppliers and SC professionals to resolve SC disruptions and ensure customer satisfaction. Clear department communication also ensures team members understand their responsibilities and expected outcomes.

The research study has found three effective techniques to solve the research topic after detailed analysis of the data. The study proposed techniques include developing a solid, robust supply chain strategy, implementing supply chain risk management (SCRM) applicable for ordinary SC disruptions, and conducting a thorough assessment of current procedures.

A comprehensive summary of the strategies discovered is presented in Figure 5.1 below.

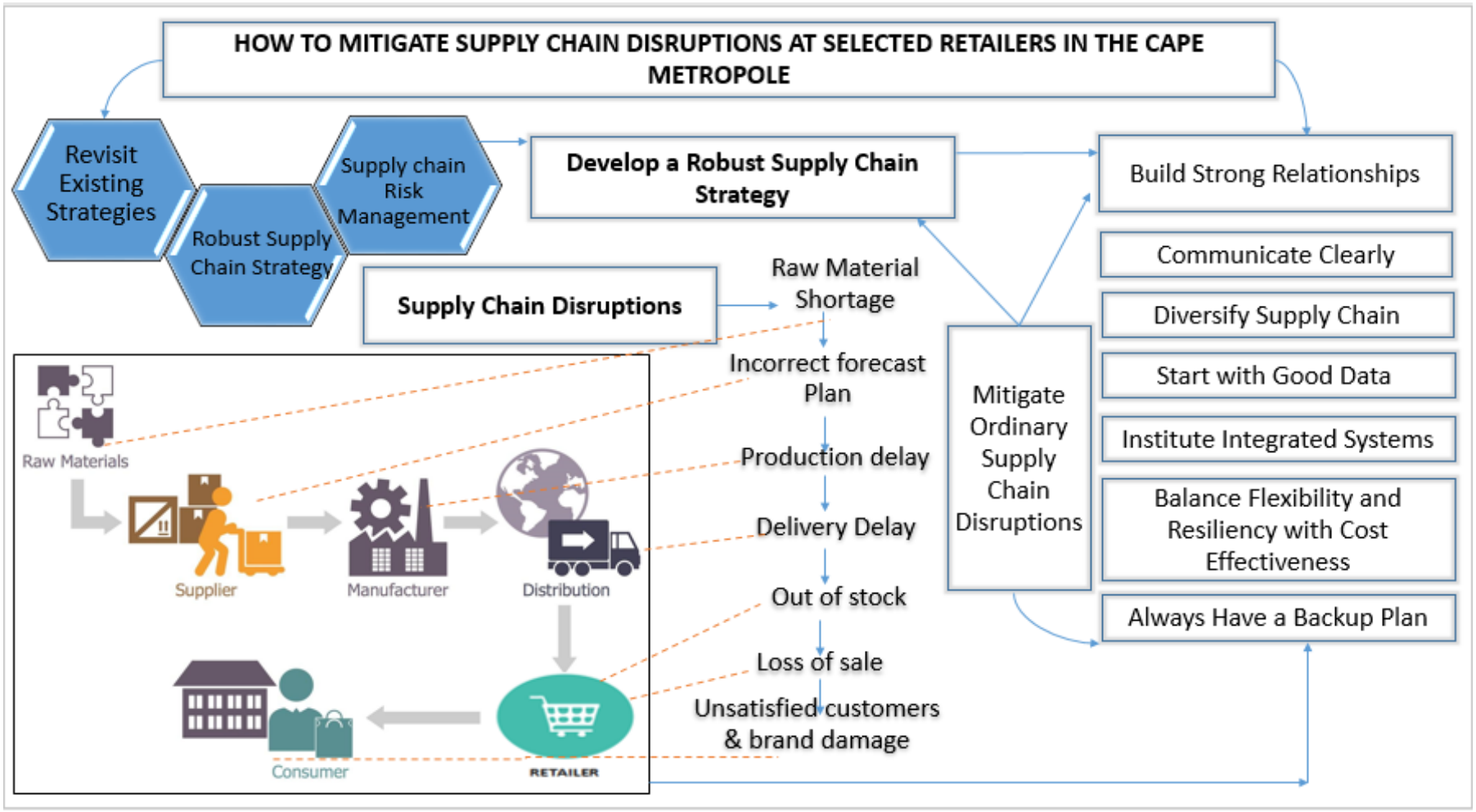


Figure 5.1: Strategies and steps to mitigate ordinary supply chain disruption

Source: Author's own construct

5.4. Theoretical Implications

Evidence from the current study confirms that ordinary SC disruptions exist within Cape Metropole retailers, such as delivery delays, out-of-stock products, system issues, product or service shortages, and incorrect planning, ordering, and delivery errors. Mitigating these disruptions can prove to be exceedingly challenging in the absence of suitable risk management strategies. Although this study elucidates traditional risk strategies and supply strategies documented in the literature that can be employed to mitigate disruption, it appears that retailers are not fully leveraging these strategies. This research will make a substantial contribution to the existing body of knowledge, as it underscores the need for retailers to critically assess and improve their risk mitigation strategies in order to effectively manage ordinary disruptions within the retail supply chain.

The study's findings point to the possibility of improving the supply chain future by focussing on current supply chain risk management models, investigating the underlying causes of supply chain disruptions, and prioritising the development of a supply chain risk management framework tailored to the retail sector and focussing on the specific risk area. The data support the focus on crucial areas and the re-evaluation of approaches to efficiently mitigate supply chain disruptions. Retailers can improve their ability to anticipate and mitigate possible risks that increase the overall efficiency and resilience of their supply chains in practice.

The findings of this investigation suggest that retailers within the Cape Metropole may benefit from the adoption and re-assessment of particular strategies outlined in the study, which are deemed to be the most effective in addressing common challenges. These include delivery issues, out-of-stock situations, lead times, supplier complications, and delivery delays. Furthermore, retailers operating within the Cape Metropole may find considerable advantages in adopting strategies such as the implementation of a mitigation backup or dual supplier diversification approach. This strategy enables retailers to engage suppliers from various regions, thereby minimising lead times and mitigating delivery delays. In instances where a supplier experiences stock shortages, the alternative supplier can fulfil the demand. In addition, fostering collaboration with local suppliers, establishing a robust inventory management system, and integrating RRS are also recommended practices that could enhance operational efficiency.

This research will not only benefit individual retailers within the Cape Metropole, but can also contribute to the broader field of supply chain management by offering valuable insights and practical solutions for addressing disruptions in the retail sector. Overall, this study has the

potential to drive positive change and innovation in the way retailers approach risk management within their supply chains.

5.5. Practical Implications

This study could benefit South African retailers and supply chain departments by alleviating potential disruptions through improved supplier relationships, incorporating long-term contracts, establishing partnerships, and implementing collaborative risk-sharing initiatives. Additionally, retailers may discern potential opportunities to enhance forecasting accuracy and inventory management through improved visibility by adopting forward planning strategies. These include pre-emptively ordering raw materials and closely monitoring stock levels to effectively mitigate supply chain issues, alongside employing data analysis and technology integration to develop superior enterprise resource technology. Businesses may use this research to formulate plans for enhancing and refining their risk management approaches by performing frequent risk assessments and identifying important vulnerabilities via the implementation of risk identification measures.

This research should aid South African retailers and corporate supply chains to understand the significance of reassessing their current tactics and adopting an updated supply chain risk management plan to more effectively alleviate stock shortages and disruptions in the future. The objective was to enhance guidance in a resilient supply chain strategy by integrating localisation elements such as diversification, and to foster strong ties with both internal and external stakeholders.

5.6. Conclusion

It is commonly acknowledged that the weakest link determines the strength of an SC. Extensive research by experts has highlighted the importance of SCRM. However, it is crucial to understand SC's ordinary disruptions within a business and how to adapt SCRM strategies to ensure growth and development. Recent studies and historical data have identified various vulnerabilities that can cause disruptions. These vulnerabilities reveal that our SCs are more prone to risks and weaknesses than we previously thought.

The SC is critical in any business that involves various activities. From sourcing raw materials and work-in-progress resources to delivering finished products to customers, each step is essential. If one process in the SC fails to deliver on time, it can cause a ripple effect. A missing link can lead to material shortages, decreased revenue, potential market share loss, cost

volatility, and a negative impact on the organisation's reputation and customer confidence (Fan & Stevenson, 2018).

This research study established that businesses need to review their disruptions regularly and implement the correct strategy for each particular risk to mitigate SC disruptions. The researcher recommends strategies such as accurate forecasting, risk response strategy, supply chain risk management, robust SC strategy, and revisiting current strategies to manage SC risks and ordinary disruptions. Dual supplier methods can help split risk and eliminate OOS situations, delivery delays, and packaging OOS issues. Maintaining good relationships with suppliers and SC professionals is also recommended. A robust SC strategy should cover all issues and have plans in place to mitigate all disruptions. SCRM enables a more proactive and reactive approach, and revisiting current strategies enables the retailer to implement improvements and restructure its strategies.

5.7. Directions for Further research

This study laid the groundwork for exploring potential solutions and strategies to mitigate supply chain disruptions in the retail industry. Future studies may concentrate on logistical disruptions and their effects on South African retailers and global marketplaces. By delving into the specific challenges faced by retailers, such as inventory management and supplier relationships, future research could provide valuable insights to improve supply chain resilience. Additionally, investigating the role of technology and data analytics in the management of disruptions could offer practical recommendations to improve supply chain efficiency and sustainability.

1. *Investigate how emerging technologies, such as blockchain and artificial intelligence, can be utilised to track and optimise inventory levels in real time*, reducing the risk of stockouts and overstock situations. Analyse the impact of regional events and natural disasters on supply chain disruptions in the retail sector and propose contingency plans to minimise the effects of such disruptions. Examine the importance of building strong relationships with suppliers and implementing transparent communication channels to ensure timely deliveries and minimise disruptions in the supply chain.

2. *Explore the role of predictive analytics in forecasting* demand and improving inventory management in the retail industry. Investigate the benefits of implementing sustainable practices in the supply chain, such as reducing carbon emissions, sustainability, and promoting ethical sourcing, to attract environmentally conscious consumers. Discuss the challenges and opportunities presented by e-Commerce and omnichannel strategies in modern retail supply

chains, including the management of multiple distribution channels and meeting customer expectations for fast delivery.

3. *Explore case studies of companies* that have successfully *integrated sustainable practices* into their supply chain and examine the impact on their brand reputation and customer loyalty.

4. *Conduct a quantitative study* with a broader population to gather data on the effectiveness of different supply chain management risk strategies in reducing disruptions and improving overall efficiency. By implementing these recommendations, retailers can proactively address supply chain challenges and improve their operational performance.

5. *Conduct a qualitative study* with a larger sample size to gain a deeper understanding of the factors that contribute to supply chain disruptions and the most effective ways to mitigate them. This will provide valuable insights into the specific needs and priorities of retailers in different sectors, allowing for more tailored risk management strategies. Additionally, future research can be conducted using a comprehensive approach that combines both quantitative and qualitative research. This could help retailers make informed decisions and adapt quickly to changing market conditions.

5.8. Researcher's Own Reflections

Conducting this research study was extremely difficult, exhausting, and time-consuming, but it was also extremely rewarding. The researcher carefully preplanned various methodological approaches to assure that the study and conclusions were accurate and credible.

This study was conducted by using an inductive approach and qualitative research design and an interpretive philosophy to give a full understanding of SC disruptions and how to mitigate those disruptions in the retail sector in the Cape Metropole. Data were collected through semi-structured interviews with senior supply chain experts.

One of the most difficult hurdles the researcher faced was scheduling interviews with the participants, which was a very difficult obstacle that the researcher encountered throughout the study process. It was very difficult for participants to commit to face-to-face interviews, and when COVID-19 occurred, obtaining firm interviews became even more difficult.

Virtual interviews were conducted to mitigate virus transmission, and participants reported feeling safer and more comfortable in their own environments throughout these sessions.

Furthermore, due to the large amount and complexity of the data collected, it was equally difficult to effectively analyse the data. However, it was successfully concluded with

determination, the literature guidance of using “interpreting the meaning of the theme/description technique”, and the Atlas.ti version 22.02 tool. While using these techniques and methods, the researcher was able to overcome this challenge and produce meaningful results. This taught the researcher the valuable need of flexibility in research, and it considerably improved her problem-solving abilities.

Furthermore, this study discovered a tendency in the data that indicated a substantial relationship between a robust SC strategy that addresses issues and has strategies in place to mitigate all disruptions; SCRM, which enables a more proactive and reactive approach; and lastly, revisiting current strategies that can enable the retailer to implement improvements and restructure its strategies. The researcher's comprehension of the retail industry in Cape Town was expanded as a result of the experience and insights gained, and in addition, the researcher developed an interest in doing future studies on supply chain resilience. This experience not only broadened technical abilities, but it also helped the researcher to develop and grow personally as a researcher and as a procurement expert.

The researcher experiences the same unethical behaviour from participants who gave biased answers during the interview process. This was resolved by guaranteeing confidentiality for privacy reasons and eliminating biased data prior to data analysis. This experience highlighted the importance of handling ethical issues with sensitivity, transparency, and clear communication.

Furthermore, another challenge for the researcher was balancing time management. Time management became difficult to manage between responsibilities as a parent, spouse, and employee. Despite these challenges, the researcher prioritised the research and allocated time each night from 22:00 until 01:00, and a few hours during the weekend to work, which required discipline and sacrifice. The researcher's determination to further her knowledge in supply chain management has proven invaluable in her professional life, enabling her to effectively manage multiple tasks. The researcher learnt to overcome difficulties and adapt to unanticipated problems in both personal and academic life. Thus, future studies may explore further into the role of technology in improving supply chain resilience with some focus on the influence of sophisticated data analytics and artificial intelligence.

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APPENDICES

APPENDIX A: INFORMED CONSENT FORM

Faculty of Business & Management Sciences

Graduate Centre for Management

4th Floor, Engineering Building

Cape Town Campus, Cape Town

021 460 3833

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Category of Participants (tick as appropriate):

Staff/Workers		Teachers		Parents		Lecturers		Students	
Other (specify)									

You are kindly invited to participate in a research study being conducted by Maresa Bonita Booysen from the Cape Peninsula University of Technology. The findings of this study will contribute towards (tick as appropriate):

An undergraduate project		A conference paper	
An Honours project		A published journal article	
A Masters/doctoral dissertation	✓	A published report	

Selection criteria

You were selected as a possible participant in this study because you are:

(a) Buyer, Senior Buyer, Merchandise manager, Category Manager

(b) Part of the Value Chain of Supply Chain and Logistics

(c) Working in Retail, Manufacturing, or Wholesaler

The information below gives details about the study to help you decide whether you would want to participate.

Title of the research:

How to mitigate supply chain disruptions at selected retailers

A brief explanation of what the research involves:

The interview will underline on why supply chain disruptions happen and to better understand how to mitigate supply chain disruptions. Hence, the study will investigate the selected businesses to establish at which point these disruptions happen and how to mitigate ordinary supply chain disruptions.

There will be seven (7) questions regarding your experience and this will only take a few minutes of your time.

The research consists of interviewing the whole Value chain: Supply Chain, Logistics participants in manufacturing, wholesalers and retail.

Procedures:

If you volunteer to participate in this study, the following will be done:

The researcher will describe the main research procedures to you in advance, so that you are informed about what to expect;

Conduct an introduction with the interviewee;

All the interviewees will be asked for permission to record the interviews and also take some note where applicable;

In a case where there is no clarity, the interviewees will be allowed to ask for confirmation or clarity of words/sentences/phrases to ensure accuracy of the data collected;

Participant's data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs;

Participants will be given the option of omitting questions they do not want to answer or feel uncomfortable with;

The interview questions do not pose any realistic risk of distress or discomfort, either physically or psychologically, to them;

At the end of each interview, all the interviewees will be thanked for their time and information provided for this study;

Participants will be debriefed at the end of their participation (i.e., give them a brief explanation of the study).

You are invited to contact the researchers should you have any questions about the research before or during the study. You will be free to withdraw your participation at any time without having to give a reason.

Kindly complete the table below before participating in the research.

Tick the appropriate column		
Statement	Yes	No
I understand the purpose of the research study as outline in this document.		
I understand what the research requires of me.		
I volunteer to take part in the research.		
I know that I can withdraw at any time.		
I understand that there will not be any form of discrimination against me as a result of my participation or non-participation.		
Comment:		

Please sign the consent form. You will be given a copy of this form on request.

Signature of participant	Date

Researcher contact details

	Name:	Surname:	Contact details:
1.	Maresa Bonita	Booysen	071 383 4505

Contact person: Maresa Bonita Booysen	
Contact number: 071 383 4505	Email: maresabooysen@gmail.com

APPENDIX B: INTERVIEW QUESTIONS

1. Which type (s) of delays are you experiencing in your business units that cause disruption in the supply chain, and why?

2. In your in own opinion, why do you think these delays happen?

3. What impact does these disruptions have on the SC and the organization? (For example, on financials, lead-times, operation, unhappy customers, credit applications with suppliers, legal, staff, quality, delivery, supplier performance, brand quality, data sharing, product mix)

4. Explain in your own words your understanding of ordinary supply chain disruptions

5. In your opinion, what method and strategies can be used to improve and mitigate SC disruptions?

6. In addition, why that method?

7. Do you have any additional measurement that can be implemented to mitigate supply chain disruptions?

APPENDIX C: ETHICS APPROVAL

Office of the Chairperson Research Ethics Committee	Faculty: **BUSINESS AND MANAGEMENT SCIENCES**

The Faculty's Research Ethics Committee (FREC) on **19 November 2019**, ethics **Approval** was granted to **Maresa Bonita Booysen (206139918)** for a research activity for **Master of Retail Business Management** at Cape Peninsula University of Technology.

Title of dissertation/thesis/project:	**HOW TO MITIGATE SUPPLY CHAIN DISRUPTIONS AT SELECTED RETAILERS IN THE CAPE METROPOLE** Lead Supervisor (s): Dr V Mugobo

Comments:

Decision: Approved

	**20 November 2019**
Signed: Chairperson: Research Ethics Committee	**Date**

APPENDIX D: GRAMMARIAN LETTER