SUPPLY CHAIN DISRUPTIONS AND PERFORMANCE OF BEVERAGE DISTRIBUTORS IN NAIROBI COUNTY DURING THE COVID-19 PANDEMIC

BY

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DECLARATION

This research project is my original work and has not been submitted for the award of a degree in any other University.

Signed…  ……..…….. Date …12.11.2023……..……

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This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

COVID-19	Coronavirus Disease 2019
IT	Information Technology
KAM	Kenya Association of Manufacturers
MSMEs	Micro-, Small and Medium-sized Enterprises
NAT	Normal Accident Theory
SC	Supply Chain
SCT	Structural Contingency Theory
SEF	Swift and Even Flow
SPSS	Statistical Package for the Social Sciences

ABSTRACT

The primary objective of this investigative pursuit was to scrutinize the ramifications of supply chain disturbances triggered by the COVID-19 pandemic on the operational efficacy of beverage distributors within the confines of Nairobi County. In pursuit of this overarching objective, the research was meticulously crafted with a myriad of distinct objectives poised to be realized. These objectives encompassed gauging the magnitude of supply chain disruptions faced by beverage distributors in Nairobi County during the COVID-19 pandemic, pinpointing the strategies and measures employed to alleviate these disruptions, and assessing the repercussions of these supply chain challenges on the operational performance of beverage distributors in Nairobi during the pandemic. The study was guided by three theoretical frameworks: the swift and even flow theory, the normal accident theory, and the structural contingency theory. It employed a cross-sectional descriptive research design and focused on the 97 beverage distributors in Nairobi as its study population. The study employed a census approach. The Data analysis involved statistical approaches encompassing both descriptive and inferential methodologies, utilizing the SPSS statistical software. Regression analysis results indicated R^2 value of 0.630 which suggests the extent to which fluctuations in operational performance among beverage distributors in Nairobi occurred. The outcomes of the research indicate that the COVID-19 pandemic resulted in substantial disruptions within the supply chain of beverage distributors in Nairobi County. These disruptions had discernible adverse effects on their operational performance, influencing both financial and customer-related facets. However, distributors responded by implementing various mitigation strategies to navigate the challenges and minimize the adverse effects of disruptions. These findings emphasize the critical significance of establishing resilient supply chains and implementing contingency planning strategies to navigate unexpected disruptions effectively. The present study has furnished a valuable addition to the existing knowledge base. Nevertheless, there are possibilities for additional research to address existing voids in our understanding. While this research successfully demonstrated a significant relationship between supply chain distractions triggered by COVID-19 and resilience among beverage distributors in Nairobi, it is crucial to duplicate comparable studies in other cities across Kenya. This is crucial because disparities in operating environments and business conditions in different cities may influence the research findings. Furthermore, conducting similar studies in the service sectors is recommended, as differences in the nature of service-related businesses might render the findings of the current study less applicable in those contexts. One limitation of the research was the time constraints faced by respondents when completing the questionnaires. One limitation of the research was the time constraints faced by respondents when completing the questionnaires. The study also suggests that the beverage can actively contribute to enhancing supply chain resilience by working with suppliers and logistics providers to develop more robust and efficient supply chain networks.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Due to the complexity and high degrees of unpredictability in the business operating environment, organizations are vulnerable to supply chain disruptions (Parast & Subramanian, 2021). The most recent COVID-19 epidemic demonstrated how unexpected occurrences have an impact on typical demand and supply patterns, leading to significant sales losses and disruptions in supply and logistics networks (Deconinck, Avery & Jackson, 2020). The COVID-19 pandemic, which is endangering supply networks and generating unprecedented disruption, revealed the supply chain management's incapacity to cope with unforeseeable occurrences efficiently (Scheibe & Blackhurst, 2018). Companies' performance is impacted by supply chain interruptions since they have lower sustainability and profitability (Muzvondiwa, 2017). Costly supply chain interruptions result in the closure of some supply chain segments (Bowman, 2015). This study was built upon the theoretical frameworks of the "Swift and Even Flow" theory, the "Normal Accident Theory," and the "Structural Contingency Theory. According to the Swift and Even Flow Theory, a production system's efficiency rises as material flows through the process and falls as flow-related variability increases as established by Onofre, Martins, Dania, and Costa, (2020). The Normal accident theory posits that when interaction complexity is decreased, challenges are more obvious, which leads to fewer supply chain interruptions (Muzvondiwa, 2017). Since each difficulty is different and there are no universal answers to all comparable difficulties, the structural contingency theory suggests that supply chain interruptions result from a lack of compliance. As a result, consultants and managers are advised to build a contingency

strategy (Azadegan, 2020). These theories were selected to provide a solid foundation for this study because they align with the primary goal of the research.

The beverage distribution sector in Kenya holds considerable importance within the Kenyan economy, providing substantial employment opportunities., like many other developing countries (Muthoni & Mose, 2020). Beverage distributors in Kenya is potent for economic growth through youth employment and as a source of government tax (Mideva & Moronge, 2019). Nonetheless, beverage distributors have consistently faced supply chain interruptions because of increased distribution and operational costs, leading to reduced revenues (Muricho & Muli, 2015). Supply chains of distribution companies in Kenya are affected by inconsistencies, particularly in the supply chain process, such as concerns about product security and other disruptions that affect their operations (Mideva & Moronge, 2019). Hence, the study's findings held significant importance for all industries and organizations, not only those involved in the beverage sector but also across various sectors impacted by the COVID-19 pandemic in Kenya.

1.1.1 Supply Chain Disruptions

Disruptions in supply chain refer to occurrences or situations that impede the seamless movement of products and services within a supply chain system. It poses serious adverse effects on the company’s productivity at different levels, in addition to suppliers and clients (Parast & Subramanian, 2021). These disturbances are unanticipated and abrupt occurrences that disrupt the usual movement of products as well as materials within the supply chain, thereby subjecting companies' supply chains to operational risks (Porterfield, Macdonald & Griffis, 2012). Furthermore, it is feasible to provide a more precise characterization of disruptions within the supply chain, such as the loss of

partnerships, natural disasters, and shifts in customer preferences. These occurrences can have a substantial influence on the operations of the supply chain systems (Baymout, 2014).

There are multiple categories of supply chain disruptions with each having distinct characteristics. Christopher and Peck (2004) put forward three classes of disruptions: internal disruptions (process disruptions), supply chain network and external disruptions (demand and supply disruptions), and disruptions caused by external factors (environmental disruptions) (Parast & Shekarian, 2019). While supply-side disruptions are upstream of a company's supply chain, environmental disruption affects the downstream, upstream, or central company and all supply chain links and nodes (Parast & Subramanian, 2021). Demand disruption refers to a possible disruption in the flow of products and centralized company-to-company information, while process disruption is a series of management and value-added activities undertaken by a company (Muzvondiwa, 2017).

Disruptions in the supply chain show a discrepancy arising between supply and demand. Disruptions negatively affect a company's short- and long-term profitability (Bowman, 2015). Disruptions can lead to both immediate and prolonged financial setbacks, as well as market share losses. They can also result in decreased selling prices due to surplus inventory and hinder a company from taking advantage of high market demand due to product shortages (Hendricks & Singhal, 2003). Disruptions raise costs related to merchandise shipping premium, expedited settlement, obsolete inventory, replenishment operations, storage and handling, sales, and customer penalties (Parast & Shekarian, 2019). Furthermore, the loss of credibility and reputation linked to disruption may require

companies to increase marketing costs to restore reputation and credibility (Azadegan et al., 2020).

1.1.2 Operational Performance

Performance, within the business context, is intricately tied to the organization's capacity to achieve favourable operational outcomes, particularly when measured against its competitors.It gauges the productivity of an entity by assessing how a specific organization's performance compares to the industry average (Lee, 2021). Organizational performance indicates the extent to which an entity effectively positions itself in its operating market, with some knowledge of financing and human resources (Conţu, 2020). Performance is an indicator of an organization's actual outcomes or output as measured against the organization's expected yields of the entity (Almatrooshi, Singh & Farouk, 2016). In the context of a social system, performance relates to how well an organization accomplishes its objectives through designated methods and resources (Azadegan et al., 2020).

Operational performance measures how much each organizational unit is advancing the long-term objectives of the company (Wang & Cheng, 2020). An organization's operational performance is evaluated in relation to metrics for environmental responsibility (regulatory compliance, productivity, cycle time and waste reduction), effectiveness and efficiency. Organizations should match operational tasks with strategic business objectives in order to achieve operational performance.

Operational performance is assessed through various measures, which encompass quality, flexibility, speed, dependability, and cost. Quality, for example, evaluates a product's adherence to precise specifications, leading to streamlined processes, increased customer

satisfaction, and lowered expenses (Picincu, 2018). The cost target analyzes the differences in per-unit item costs due to various factors like changes in volume and diverse product offerings. Businesses should strive to lower their expenses internally by enhancing their operational objectives (Keita, 2015). The capacity of a business to modify its functional procedures to adjust to the highly evolving circumstances is referred to as flexibility. It entails the introduction of new or updated items, the manufacture of various products, adjustments to output levels, and modifications to delivery schedules (Shakir, 2014).

Speed measures how rapidly a company can fulfill deliveries and finalize sales. This objective concentrates on particular aspects such as the time required for manufacturing companies to produce single or multiple goods or the duration required for investigation and creation of new products (LaMarco, 2019). Reliability is assessed by a product's capacity to perform and function as intended for a particular period (Taylor, 2013). The research focused on adaptability, excellence, and expenditure as these factors were considered essential. This choice was driven by the need for businesses to be adaptable, produce high-quality products, and manage costs effectively to remain competitive in the dynamic and rapidly evolving business landscape (Biwer, Filipek, Ankan and Jammernegg, 2018).

1.1.3 Covid 19 Pandemic

The coronavirus disease, commonly denoted as COVID-19, was originally detected in December 2019 within the urban precincts of Wuhan, located in the Hubei province of China (Chowdhury et al.,2020). In a relatively brief time span, the COVID-19 pandemic rapidly disseminated worldwide, impacting numerous countries. The pandemic had a

sustained and uninterrupted impact on public health (Chowdhury et al., 2020). COVID-19 changed the operating environment of most business entities across the globe, accentuating the significance of responding, adapting, and establishing mechanisms for the management of crises (Nnadozie, 2020). Since the COVID-19 outbreak, many countries have continued to suffer economic losses, resulting in massive global trillions of dollars in trade losses (Kumar et al., 2020).

COVID-19 created many immediate challenges, placing unexpected strains on organizations (Deconinck, Avery & Jackson, 2020). In response to this impact, many nations around the globe undertook urgent strategies to make sure that the effect does not have major financial and economic consequences in the context of a rapid downturn (Odhiambo, Weke & Ngare, 2020). Quarantine measures, which encompassed actions such as business closures and guidelines for remote work, disrupted the flow of goods and services globally, compelling companies to alter their operational strategies. Additionally, the uncertainty stemming from the pandemic exerted pressure on various economic activities in different countries (Berry, 2019).

The COVID-19 outbreak led to unprecedented pressures on organization supply chains, with significant shifts in demand as well as bottlenecks in labour, transportation, processing, and logistics. Many of these disruptions arose from the policies undertaken to prevent the blowout of the disease (Deconinck, Avery & Jackson, 2020). The global economy encountered negative supply shocks due to the pandemic, causing factories to remain closed, thereby disrupting the global supply chain network (Chowdhury, 2020). In addition, supply chain disruptions resulted in significant distractions to the physical

goods flow, product mobility, and affected entire supply chains, resulting in downtime, late deliveries, reduced sales, and loss of reputation (Barman, Das & De, 2021).

1.1.4 Beverage Distributors in Kenya

Beverage distribution industries in Kenya belong to the food and beverage sector. Beverage distributors deal with the distribution of products ranging from non-alcoholic drinks, vegetable or fruit juices, soft drinks (carbonated drinks), and bottled water (Odhiambo, Weke & Ngare, 2020). The sector is key in the expansion and development of the Kenyan economy since it distributes manufactured goods leading to job creation, poverty alleviation, and wealth creation. This segment continues to make a positive contribution to economic growth in Kenya through employment and the distribution of goods to different parts of the country (Mideva & Moronge, 2019).

The distribution sector in Kenya faces different disruptions at any given time. Possible disruptions in the industry stem from multiple entities in the supply chain, such as clients, internal production, suppliers at different tiers, distribution and storage processes, storing, along with the external environment like political settings and war (Mideva & Morong, 2019). Further, the industry supply chain is affected by uncertainty, latency and risk trends since beverage industries are very dynamic (Muricho & Muli, 2015). The COVID-19 pandemic disrupted many distribution companies' mechanisms of distribution and transportation chains between suppliers, manufacturing entities, and clients (Odhiambo, Weke & Ngare, 2020).

The distribution sector witnessed a substantial decrease in service demand throughout the course of the COVID-19 pandemic. This drop was primarily attributed to diminished demand in the accommodation sector, which subsequently impacted the food and

beverage industry, as well as reduced purchases resulting from decreased travel, and reduced financial support from lenders (KAM, 2021). The industry has also experienced a decline in client satisfaction because of disruptions in the supply chain, characterized by concerns about food safety, unavailability, and growing prices (Muthoni & Moses, 2020). The virus led to a dramatic shift in consumer demand from eateries, food services, and other foods from restaurants to consumption at home, which required imperative changes by beverage distribution firms in Kenya (Odhiambo, Weke & Ngare, 2020).

1.2 Research Problem

Supply chain disruptions proliferate through the entire business system posing severe and devastating effects on companies' performance (Parast & Subramanian, 2021). Companies face supply chain disruptions from a variety of sources, including demand, product, strategy, and supply management risks that negatively affect their performance (Porterfield, Macdonald & Griffis, 2012). Disruptions of the supply chain often lead to reduced revenue, huge business losses, and adversely affect business performance and reduction of the entity's value (Macdonald & Corsi, 2013). The interruptions experienced among supply chains have a considerable and adverse impact on the overall functioning of a company (Bowman, 2015). Furthermore, disruptions have an impact on a company's financial and operational outcomes, leading to factors like lost sales, out-of-stock situations, and additional logistics expenses related to insurance and freight charges.

Ambulkar et al. (2015) posited that the disruptions within the supply chain have the potential to precipitate a deterioration in the performance of customer service. To attain customer satisfaction, it's crucial to enhance supply chain components such as communication, trust, compliance, dependence, commitment, and cooperation that link

all the stakeholders within the supply chain (Rajabzadeh, Khadivar, Kazemi, 2007). The presence of any factors that disrupt or compromise the fundamental components of interactions within the supply chain is anticipated to result in diminished customer service performance, subsequently giving rise to customer dissatisfaction. A multitude of research studies have probed the intricate dynamics of disruptions within the supply chain. An illustrative example of such research is found in the work of Hendricks and Singhal (2005), who conducted an extensive examination into the ramifications of supply chain disruptions on the valuation of shareholders, share price volatility, and overall profitability. Their study not only highlights the adverse consequences of such disruptions but also underscores the far-reaching impact of these disruptions on key financial indicators and, consequently, on the broader corporate landscape. It demonstrated how supply chain disruptions can influence a company's long-term business performance. The study also provided estimates of how these disruptions could affect shareholder value, share price volatility, and profitability, which serves as a measure of the company's risk.

In a study conducted by Ambayo (2012), an examination was conducted to explore the susceptibility of supply chains and the associated level of consumer contentment with petroleum products in Kenya. To evaluate the impact of supply chain vulnerability on customer satisfaction, a descriptive methodology was utilized in the implementation of this research. The study findings indicated a connection between elements that add to the susceptibility of supply chains and the extent of consumer dissatisfaction. Customers are less likely to be content with aspects like price, speed, and quality when supply chain vulnerabilities lead to a focus on efficiency at the expense of effectiveness.

Langat and Karanja (2021) conducted an extensive research study delving into the intricate dynamics of supply chain disruptions and their repercussions on customer service productivity within the Kenyan beverage industry. The study's findings unveiled a noteworthy impact of these disruptions on customer satisfaction, emphasizing the extensive repercussions on the relationship between businesses and their customers.

Furthermore, a previous investigation spearheaded by Langat and Ishmail (2018) sought to delve into the intricate correlation between supply chain vulnerabilities and the overall performance of logistics companies therein. The primary objective of this research was to elucidate whether inherent vulnerabilities within the supply chain ecosystem manifested a discernible influence on the operational effectiveness and efficiency of the logistics sector. The study made a substantial contribution to advancing an in-depth comprehension of how intricacies within the supply chain could mold the performance of crucial stakeholders, consequently influencing the overall dynamics of the supply chain. This exploration was conducted utilizing a descriptive cross-sectional research design, revealing that both supply failures and supply market risks had tangible effects on supply chain performance. The implications of risks associated with the operation of the supply chain were underscored by these results, emphasizing their profound impact. Despite the considerable body of research on this topic, numerous aspects remain inadequately understood concerning the origins of supply-related risks, interruptions of the supply chain, and the overall vulnerability of the supply chain. Notably, there has been limited attention devoted to comprehending the specific ways in which interruptions in the supply chain impact the operational performance of beverage companies. Consequently, the central research question of this study is articulated as follows: How did the various

forms of disruptions of the supply chain affect the operational efficiency and effectiveness of beverage distributors in Nairobi during the coronavirus pandemic? This study endeavours to elucidate the intricate relationship between supply chain disruptions and the operational effectiveness of beverage distributors in navigating the challenges posed by the coronavirus pandemic.

1.3 Research Objectives

The fundamental aim of this research endeavour was to conduct a thorough evaluation of how supply chain disruptions profoundly affected the operational performance of beverage distributors situated in Nairobi County, specifically in the demanding context of the COVID-19 pandemic.

The precise goals objectives of the study were as follows:

i) To establish the magnitude of disruptions to supply chains encountered by beverage distributors operating within Nairobi County during the coronavirus pandemic.

ii) To scrutinize the strategies and measures adopted to alleviate these supply chain disruptions within the beverage distribution sector in Nairobi during the COVID-19 pandemic.

iii) To evaluate the ramifications of supply chain disruptions on the operational efficacy of beverage distributors in Nairobi County, considering the challenges posed by the COVID-19 pandemic.

1.4 Value of the Study

The findings of this study have the potential to offer invaluable insights for the management and supervision of beverage distribution companies, enabling them to utilize

the study's recommendations to develop effective strategies for alleviating supply chain interruptions and enhancing performance. This is advantageous both for the firms themselves and their stakeholders.

Policymakers in Kenya can also benefit from the study's results by using them to craft legislation aimed at improving the performance of beverage distributors and initiating initiatives to prevent supply chain disruptions. This, in turn, can add to a stronger and efficient supply chain ecosystem in the country.

Scholars and academics stand to gain from this study as it applies management theories, the normal accident theory, and structural contingency theories, which can expand the knowledge base in the realm of supply chain management. Additionally, this research can supplement existing empirical literature regarding the link between supply chain interruptions and a company's performance, and serve as a foundation for further investigations into these concepts.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section is dedicated to reviewing pertinent literature, including an exploration of theories that offer insight into the study, an examination of the multiple expressions of supply chain disruptions, and an examination of empirical studies associated with the variables under investigation. The section concludes with a summary of the literature review and the elucidation of the conceptual framework.

2.2 Theoretical Foundation

The research was underpinned by three key theories: the "swift and even flow" theory, the "normal accident theory," and the "structural contingency theory." Among these, the primary theory guiding the study is the "normal accident theory." This theory is especially significant because it suggests that a breakdown in one component of a system can disturb the operations and functions of other parts within the system, highlighting the potential cascade effect of such disruptions.

2.2.1 Theory of Swift and Even Flow

The theory of "swift and even flow (SEF)" as conceptualized by Schmenner and Swink (1998) proposes that the output of processes is determined by the rate and variability of the flow. In this context, factors like bottlenecks, non-value-added work, or other obstacles to flow can have a detrimental impact on the rate of flow. Furthermore, issues related to quality and variability can disrupt the flow and lead to short-term bottlenecks in the process. The SEF theory emphasizes the importance of maintaining a smooth and

consistent flow in operations to optimize performance and efficiency (Mulder, 2019). This theory includes a principle often referred to as the "management of operations law." This law posits that variability negatively affects the smooth progression of a process (Fredendall et al., 2009).

This theory is employed to explore consequences of interruptions in the supply chain on business activities (Parast & Subramanian, 2021). Within the theory, process variability and uncertainty may arise from factors such as demand uncertainty, distribution challenges, unreliable supplier performance, and unstable scheduling (Halim, 2015). The theory posits that businesses exhibiting lower inventory turnover rates are inclined to encounter fewer disruptions in their supply chains due to pandemics. Such companies are also more likely to achieve enhanced performance in managing extended lead times and duty cycles, as suggested by Ağca (2020).Considering it from the viewpoint of an efficient and seamless supply chain approach, when a business encounters various disruption stemming from supply, demand, and environmental factors, such disruptions can adversely impact the company's performance. Consequently, the theory anticipates an inverse correlation between interruptions in the supply chain and a company's performance.

2.2.2 Normal Accident Theory

Normal accident theory (NAT) was propagated by Perrow (1999). The basic tenet of the theory is that accidents are unavoidable and arise from complex interactions and close coherence of a system. As such, failures arise in unanticipated ways, and to inhibit them from happening, executives must either enhance responsiveness or mitigate complexity (Scheibe & Blackhurst, 2018). The theory points to the frequency of interactions and the

degree of interconnection between the elements of a system as important factors affecting common accidents and argues that the size and interdependence of systems complexity make error-free systems management a possible task (Skilton & Robinson, 2009).

The theory suggests that a breakdown in one component of a system disrupts the functioning and activities of other components within the system (Greening, 2013). NAT theorists consider accident or disaster to be inevitable due to the complexity of interactions within organizations (Muzvondiwa, 2017). This theory provides a qualitative lens for examining the organizational behaviour of complex systems. The main drawback of NAT is that investigators have not yet experimentally verified the tight coupling and interaction complexity dimensions. Furthermore, the utilization of NAT in supply chain disruption literature has been limited, yet the theory assists in elucidating the propagation of supply chain disruptions (Scheibe & Blackhurst, 2018). In addition, NAT may be too pessimistic to conclude that accidents are inevitable in tightly coupled systems and interactive complexity (Chadist, 2012).

NAT describes the difference in performance between peaks where normal crashes occur due to the suboptimal configuration of the system (Bowman, 2015). It is theorized that supply chains with a high degree of interoperability complexity and that are closely interconnected have a higher frequency of disruptions (Chadist, 2012). The theory suggests that organizations can bolster their capacity to withstand supply chain interruptions by reducing the intricacy of their interactions (Greening, 2013). In this study, the theory lends credence to the idea that organizations and supply chains consist of flexible divisions and units capable of autonomously redefining the functions and objectives of the overall system. However, NAT has several significant limitations.

Firstly, it is applicable to only a limited subset of accidents. Secondly, its concepts are vaguely defined, resulting in substantial uncertainties regarding the scope of the theory. Thirdly, in certain critical aspects, it appears to be incorrect.

2.2.3 Structural Contingency Theory

Lorsch and Lawrence(1996) formulated the Structural Contingency Theory (SCT). It holds that there is no distinct structure or one type of structure that is best for all business entities. Instead, the most efficient system is one that matches certain factors, known as contingencies. Thus, a structure's effectiveness depends on how well it adapts to unusual circumstances. Some of the possibilities of organizational structure are the degree of uncertainty of the organizational environment, organizational size, and organizational strategy (Oh, Moon & Zhong, 2020). The theory predicts that corporate structures that meet environmental requirements outperform those that do not, and that underperforming firms implement a novel corporate model that is better suited to the existing environment (Holmes, 2013).

This model extends the contingency theory and explains how organizations should continue to evolve by ensuring that organizational structures adapt to the relevant external and internal environmental situations to stay afloat (Oh, Moon & Zhong, 2020). This theory argues that optimal decisions in a company depend on external and internal aspects, and that business performance is contingent on how entity resources are matched to the industry environment. Consequently, there is no single-size-fit strategy for all entities, and the suitability of a strategy depends on the external and internal environment (Muzvondiwa, 2017). Nonetheless, although SCT research is groundbreaking, it indicates that adaptability is effective when dealing with volatile and uncertain situations. Some

have identified a procedural approach as less effective in such conditions (Azadegan, Mellat Parast, Lucianetti, Nishant, & Blackhurst, 2020).).

According to the Structural Contingency Theory (SCT), the focal point in understanding the concept of supply chain management is to align various components within the supply chain seamlessly, aiming to optimize its operational efficiency. Key elements such as collaboration with supply chain associates, information technology integration, relational skills, and the incorporation of robust supply chain systems play a pivotal role in effectively navigating challenges such as those presented by the emergence of phenomena like COVID-19, ultimately contributing to enhanced business performance.

However, it is essential to note a limitation inherent in Structural Contingency Theory, namely the lack of empirical evidence establishing a clear connection between supply chain interruptions and subsequent impacts on business performance. Consequently, the impetus behind this research was to systematically scrutinize the predictions posited by Structural Contingency Theory concerning the correlation between disruptions in the supply chain and subsequent effects on operational performance

2.3 Supply Chain Disruptions

There are various categories of supply chain interruptions, including supply-related disruptions, demand-related disruptions, environmental interruptions, as well as disruptions related to processes. A demand disruption arises when a company struggles to accurately predict demand and supply or experiences ineffective coordination within the supply chain (Chadist, 2012). Companies might encounter demand disruptions as a result of disruptions occurring downstream within the supply chain. These fluctuations in

demand can be attributed to factors like delays in product delivery to customers due to logistical inefficiencies or other shipping delays, as well as unpredictable and fluctuating customer demand. Variations in demand, such as shifts in order quantities, the introduction of new products, and shorter product life cycles, present substantial risks for the company.

Supply-side disruptions occur because of poor supplier performance, logistics and transportation delays, deviations in product quality and quantity or poor coordination between suppliers and companies (Muzvondiwa, 2017). Supply disruptions arise from interactions between organizations in the chain. Such risks arise from lack of vision, chaos and lack of ownership, inaccurate forecasting and just-in-time execution (Bowman, 2015). Furthermore, suppliers need to have the ability to adjust to fluctuations regarding the demand in the market, including changes in customer choices, and maintain their competitiveness when introducing new products (Parast & Subramanian, 2021).

Process disruptions are those that occur within a firm which include system outages, inventory shortages, time delays, supply chain visibility, and quality issues (Muzvondiwa, 2017). Process disruptions arise due to disruption of the company's internal operations such as machine failures, capacity limitations and inefficient IT infrastructure and quality issues. As companies progressively depend on IT infrastructure to sustain their supply chains functionality, they are increasingly susceptible to process-connected aspects like cyberattacks or failure of hardware. Businesses can reduce process changes by improving cross-departmental communications, implementing cross-functional teams and using effective information-sharing procedures (Parast & Subramanian, 2021).

Environmental disruptions arise due to natural disasters, strikes, regulatory changes, terrorism and war (Parast & Subramanian, 2021). Environmental disturbances encompass occurrences like natural disasters, pandemics, economic downturns, epidemics, political turmoil, and acts of terrorism (Bowman, 2015). These incidents arise from external sources beyond the organization and its supply chain, occur frequently and exert a substantial influence on the supply chain of the company. The repercussions of supply chain disruptions caused by environmental factors notably affect transportation and logistics systems, as well as production facilities that can be vulnerable to either terrorist attacks or natural disasters (Parast & Subramanian, 2021).

2.4 Supply Chain Disruptions and Operational Performance

Customer satisfaction, order-filling capacity, delivery reliability and delivery speed have all been used to evaluate the distributors' success. The proportion of wholesale orders that are successfully completed is known as the order fill rate in supply chain (Nnadozie 2020). This indicator reveals how efficiently firms manage inventory and how successfully orders are completed. A greater order fill rate is preferred since it indicates that one has enough inventory on hand and an efficient enough fulfilment system to satisfy consumer demands. As the industry gets increasingly competitive, fill rate has grown to be a big concern for many wholesalers (Nnadozie 2020).

To be reliable, firms must be able to keep part of a deal. Infrastructure framework components and supply chain agility are also known to influence product reliability and time to market. As a value-added service, delivery speed relates to the duration required for an item to be placed and delivered to a customer's location (Parast & Subramanian,

2021). Typically, delivery speed is measured by the number of weeks it takes to get an order to its destination.

It is difficult to meet the delivery-speed demands of clients. For a company to succeed, it must work hard to exceed customers' expectations and compete in a highly competitive market. Logistics and supply chain networks exert a substantial influence on the overall customer experience, which relies on the configuration, personnel, processes, and technology that are in place (Hendricks & Singhal, 2016). One size does not fit all when it comes to how companies may speed up their delivery times. However, delivery software that accelerates supply and logistics operations can do no wrong. There are no logistical issues with this software when it comes to delivering to the last mile.

According to Berry (2019), customer satisfaction can be described as the extent to which an individual is content or discontent with the performance of a product or service. Similarly, Parast and Shekarian (2019), depict the concept of customer satisfaction as an assessment of the customer's emotional reaction to the entire post-purchase experience of using a product or service. Both subjective and objective factors can influence an individual's satisfaction level. Subjective factors include elements like a customer's desires and emotions, while objective factors encompass the characteristics of a product or service (Baymout, 2014). The transactional perspective, which is centred on a solitary purchase and consumption encounter, is considered less valuable and reliable as an analytical tool. In contrast, a series of purchases and consumption instances contributes to cumulative satisfaction, whereas the transactional approach is dependent on a single event. Customer satisfaction with a company's offerings can be assessed based on the

user's evaluations of those items or services after they have been utilized (Bowman, 2015).

2.5 Strategies for Mitigating Supply Chain Disruptions

Supply chain disruptions continue to happen for a wide range of reasons and have serious repercussions for supply chain businesses and customers despite technological advances (Haloukas, 2019). Supply chain managers have been forced to implement various disruption mitigation strategies as a result. According to Roberts (2018), technology provides supply chain entities with numerous opportunities, including ensuring operational efficiency, strengthening inventory management, boosting supply chain performance, improving communication with business partners and implementing electronic payment systems to streamline financial transactions. Technological advancements have led to improved information exchange among supply chain participants, potentially enhancing the supply chain's ability to withstand disruptions (Siegel, 2018). Furthermore, Bowman (2015) found out that preserving the capabilities of an organization during a crisis can result in a profitable return on investment. Training on how to handle supply chain disruptions in an organization can assist people develop these competencies.

Organizational leaders are working to improve collaboration across supply chains as a result of increased global competition by utilizing the skills and resources of suitable suppliers and loyal customers. This decreases uncertainty, reduce transaction costs, develop core competencies, optimize learning opportunities, and strengthen competitiveness (Siegel, 2018). Information sharing among supply chain partners can promote greater commitment and long-term contentment with supplier relationships

while discouraging unethical behaviour. Collaboration that results in an affordable return to operations is a key component of successful supplier relationships. Cultivating strategic alliances with suppliers can establish a connection that exists between the approach to supply chain efficiency and its adaptability (Bowman, 2015).

When examining their resilience strategies, businesses should take into account the ripple effect. Resilience can help mitigate disruptions, especially when managing the intricacies of the supply chain (Birkie and Trucco, 2020). Collaborative endeavours, such as sharing information and facilitating communication, boost the robustness of the supply chain by improving visibility, punctuality, and flexibility (Scholten and Schilder, 2015). Enhancing network resilience involves adding redundancy alongside operational flexibility. Simulations provide a comprehensive approach to assessing supply chain resilience. Employing multiple sources, maintaining quality, and ensuring flexibility can facilitate effective coordination throughout the network, fostering varying degrees of collaboration to enhance supply chain integration and sustainability (Vlachos and Dyra, 2020).

2.6 Empirical Literature Review

This segment presents a concise overview of pertinent research exploring the implications of supply chain disruptions on operational outcomes, conducted by various researchers. Hendricks and Singhal (2016) conducted an empirical study in Canada to investigate the ramifications of supply chain disruptions on price risk and long-term performance of stock value. Their primary objective was to evaluate how supply chain disruptions affect a company's long-term stock value performance and price risk in the Canadian context. The research analyzed 885 disruptions disclosed by publicly traded

companies. The findings revealed that, during the year of disruption, companies experienced an average decline of 10% in operational revenue, 114% in revenues, and 93% in total assets. Companies that faced disruptions had, on average, 6.92% less growth in sales. The study also indicated that changes in operating profits, total costs, sales, and inventory over the two years following the disruption were not statistically significant. Furthermore, the research demonstrated that regardless of the cause or source of the disruption, as well as the industry of the company, the impact was consistently negative across firms. Both disruptions originating from the supply side and disruptions stemming from the demand side were found to have a negatively impact on performance.

Mbothu (2014) explored the repercussions of challenges and risks in the management of the supply chain faced by major food production companies in Nairobi, Kenya, and how they affect operational efficiency. The research aimed to examine the hazards and obstacles impacting food manufacturing companies in Nairobi, Kenya. A descriptive survey approach was employed, involving a comprehensive study of all food-producing businesses. Through regression analysis, the study determined that demand risk, security risks, operational risks, and supply risks significantly influenced firm performance. The study's conclusion highlighted that effective management of supply chain risks could lead to enhanced performance. According to the research, disruptions in demand and supply stemming from these risks had a detrimental impact on performance, particularly in terms of product delivery.

Muricho and Muli (2015) embarked on a research initiative aimed at probing into strategies adopted to enhance supply chain flexibility as well as their role on the performance of beverage and food manufacturing companies in Kenya. Employing a

cross-sectional survey methodology, they collected data from a sample of 102 respondents. The gathered information, acquired through meticulous questionnaires, underwent thorough analysis using a regression model. The outcomes of the research revealed a positive impact on a firm's productivity in the presence of effective mitigation of risks in the supply chain, cultivation of adaptability in the supply chain, enhanced collaboration among partners in the supply chain, and the seamless integration of various supply chain components emerged as pivotal factors significantly influencing levels of productivity. Additionally, it was found that disruptions in processes were closely associated with collaboration and coordination within the production network. The research findings further underscored the considerable impact of process disruptions on customer satisfaction.

Ochieng (2018) conducted a scrutiny into the repercussions of supply chain resilience on the performance of the pharmaceutical sector in Nairobi. Data was collected from 23 companies by means of questionnaires administered within a descriptive research framework. Statistical methods were employed, revealing that the most common approach to enhancing supply chain resilience was through the establishment of supply chain partnerships. This approach was followed by the cultivation of a risk management culture, maintaining an agile supply chain, and, lastly, restructuring the supply chain.

Furthermore, the research brought to light that restructuring the supply chain, fostering collaboration within the supply chain, and enhancing supply chain agility had significant positive effects on the operational effectiveness of the companies. The study's results emphasized that a strong and resilient supply chain significantly contributed to improving overall company performance.

Chowdhury, Sarkar, Paul, and Moktadir (2020) carried out a research to assess the influence of COVID-19 on the food and beverage sectors in China and India. Their research delved into the short-term and intermediate-term consequences of the virus and explored approaches to alleviate potential consequences associated with a pandemic. A multiple case study approach was utilized, and data was gathered from 14 participants from eight Bangladesh companies. The study noted that short-range effects included covid-19 product expiration, lack of working capital, and restrictions on distributors' operations, while long-term effects included reduced performance on beverage firms. The study also suggested that companies might have to restructure their supply chains and establish new partnerships with different trading partners and distributors. According to the research, Covid-19 was an environmental disruption that was beyond the control of most businesses. The results demonstrated that environmental disruptions, exemplified by Covid-19, had an adverse effect on performance because the delivery of products became challenging as a result of the lockdown measures implemented to mitigate the transmission of the virus.

Nnadozie (2021) examined COVID-19 effects on Nigerian firms' supply value chain. The researcher used secondary data collected through analysis of content and documents from articles, textbooks, corporate documents, an official government, the internet, and newspapers. The study noted that COVID-19 affected transportation, domestic production capacity, dependence on imports, delays in port transfers and currency difficulties. The study also emphasizes that the pandemic had an adverse impact on the operational efficiency of supply chains, particularly in industries such as energy, food and beverage, oil and gas, and manufacturing. The study specifically observed that

environmental disruptions, exemplified by COVID-19 had a harmful impact on the distribution of products within the food and beverage sector, subsequently impairing its overall performance.

Clearly, there exist conspicuous gaps in our understanding concerning the degree to which disruptions in the supply chain, induced by the COVID-19 pandemic, have impacted the operational landscape of beverage distributors in Nairobi. Many studies on this topic are primarily applied in nature, and there is limited focus on pure research. The majority of these studies adopt an exploratory and qualitative methodology, with limited descriptive and quantitative studies. The current study aims to enhance the existing understanding or knowledge by evaluating the repercussions of disruptions triggered by the COVID-19 pandemic on the operational facets of beverage distributors in Nairobi. It is important to acknowledge that this empirical study is based on a subset of papers retrieved from online databases, which may not encompass the entirety of research on this subject. Furthermore, the analysis is inherently subjective and may be influenced by the authors' personal experiences and perspectives. As a narrative review, it involves a qualitative exploration of the content found in the selected papers, rendering it susceptible to various biases.

2.7 Summary of Literature Review

This section provides a brief summary of the literature that was reviewed for the study. Table 2.1 below offers a summarization of the literature review, including details about the researchers, objectives, methodology, key findings, research gaps, and the ways in which this study addresses those gaps.

Table 2.1: Summary of Literature Review and Knowledge Gaps

Scholar(s)	Objectives	Methodology	Major Findings	Research Gaps	The focus of Current Study
Hendricks and Singhal (2003)	supply chain disruptions and operational performance	Descriptive statistics and regression analysis	Disruptions negatively impact affected performance across the board	The context of the study was publicly traded firms and the study focused on several disruptions	The context of this study is beverage distribution firms. This study focused on a single disruption
Mbothu (2014)	Supply chain management risks and performance	Regression analysis	Demand supply and operational risks significantly affected firm performance	The study's context was food-manufacturing firms	The context of this study is beverage distribution firms.
Muricho and Muli (2015)	supply chain resilience practices and performance	Regression analysis	Performance is affected by how supply chain risks, integration, and agility are managed.	The study was performed in the setting of food and beverage manufacturing firms.	This study emphasizes within the framework of beverage distribution companies.
Chowdhury et al. (2020)	COVID 19 impacts on business performance	Multiple-case-study methodology	Covid-19 impacts included product expiry and Working capital shortage	The study did not incorporate supply chain disruptions and focused more of Covid-19 impacts	This study involves an inquiry into the impact of supply chain disruptions on performance amidst the backdrop of the COVID-19 pandemic.
Nnadozie (2020)	COVID-19 effects on Nigerian firms supply value chain	Content and documentary analyses	COVID-19 affected transport and production capacity	The study used secondary data which is does not incorporate qualitative views	This research relied on primary data to gather input from the participants
Scholar(s)	**Objectives**	**Methodology**	**Major Findings**	**Research Gaps**	**The focus of Current Study**

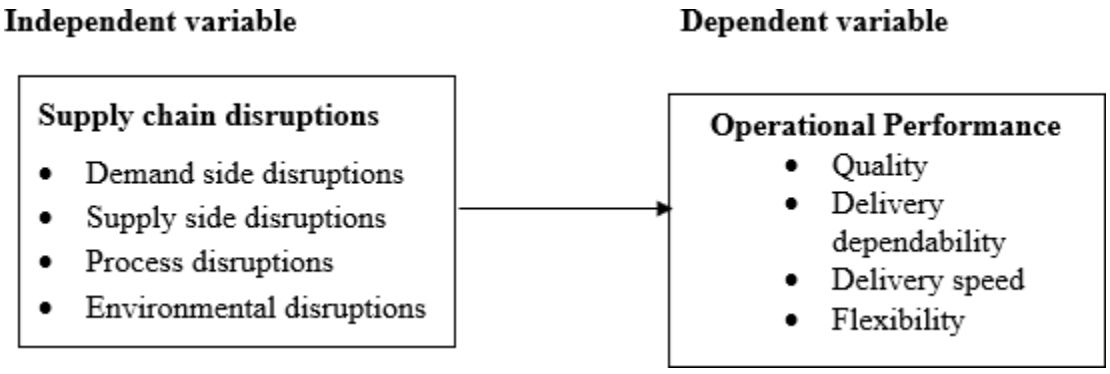
Kiwara (2021)	The influence of the COVID-19 pandemic on the operational efficiency of supply chains in the service sector, particularly concentrating on micro, small, and medium-sized enterprises situated in Nairobi County.	Systemic review approach	The emergence of COVID-19 within the realm of MSMEs has resulted in the loss of jobs, a reduction in profit margins, and a slowdown in economic activity.	The study used primary data	This research involved an examination of supply chain disruptions and their impact on performance in the midst of the COVID-19 pandemic.

Source: Researcher (2023)

2.8 Conceptual Framework

In this research, the various categories of supply chain disruptions are considered as independent variables. These encompass interruptions experienced on the supply side, the demand side, as well as those that disrupt processes and those from environmental disruptions. The dependent variable (y) is the performance of the companies sampled in the study. The performance indicators include order-fill capacity, delivery reliability, delivery speed, and customer satisfaction. These components are illustrated graphically in the conceptual model depicted in the chart presented in Figure 2.1 below.

Figure 2. 1 Conceptual Model



Source: Researcher (2023)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter delineates the research methodology employed in the study, commencing with the research design, followed by an exploration of the study population, elucidation of data collection methods, and concluding with an explanation of data examination technique.

3.2 Research Design

The research methodology involved the application of a cross-sectional descriptive research approach. This approach permits the researcher to assess potential variations in population groups at a specific point in time. As outlined by Wang and Cheng (2020), a cross-sectional design provides a comprehensive snapshot of design patterns and is particularly well-suited for capturing the characteristics, circumstances, and perspectives of the current study population at a specific moment. The choice of a cross-sectional design aligns with the research's use of a questionnaire as the primary data collection instrument. This approach is deemed suitable for the study as it facilitates the examination of the variables under investigation.

3.3 Population

The research concentrated on the study population of 97 beverage distributors in Nairobi, specifically those licensed by the Nairobi City County Government as of June 30th, 2023 (as described in Appendix II). Because of the relatively small population size, a full census was conducted.

3.4 Data Collection

This study utilized primary data acquired through a survey. The survey was structured into four sections: Part A gathered demographic information, Part B collected data related to supply chain disruptions, Part C centred on approaches to alleviate supply chain interruptions., and Part D collected data regarding operational performance. The survey respondents consisted of supply chain managers or their equivalents from the 97 distribution organizations, and the questionnaire featured questions measured on a Likert scale. The questionnaires were distributed and then collected two weeks later. Questionnaires are acknowledged as an effective approach for gathering a wide range of data from a sizable sample, and they are typically easy to analyze (Saunders, Lewis & Thornhill, 2009).

3.5 Data Analysis

The data analysis process employed a combination of descriptive and inferential statistical techniques, facilitated by the SPSS statistical software. Descriptive statistical methods were applied to analyze demographic information and assess the magnitude of supply chain disturbances. The correlation between supply chain interruptions and operational effectiveness underwent scrutiny through regression analysis, utilizing the following regression equation.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where,

Y = Operational Performance as measured by quality, dependability, speed and flexibility

X_1 = Demand side disruptions

X_2 = Supply side disruptions

X_3 = Process disruptions

X_4 = Environmental disruptions

β_0 = Constant

β_1- β_4 = Coefficients

ε = error term

Table 3. 1: Summary of data collection and data analysis Techniques

Objective	**Questionnaire**	**Data analysis**
General data	Section A	Descriptive statistics
Extent to which disruption of supply chain occurred in beverage distributors in Nairobi during the COVID-19 pandemic	Section B	Descriptive statistics
Supply Chain Disruptions mitigation strategies	Section C	Descriptive statistics
Effect of supply chain disruptions on the performance of beverage distributors in Nairobi during the COVID-19 pandemic	Section D	Regression analysis

Source: Researcher (2023)

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section encompasses the procedure of data analysis and the display of the results. It commences with an overview of the data related to demographics of the selected sample participants. The following section outlines the results in alignment with the goals of the study. The results are then discussed in relation to the research goals.

4.2 Response Rate

The research aimed to collect information from 97 potential participants, of which 85 actively participated, leading to a response rate of 87.63%. In spite of strenuous efforts by the researcher to obtain responses, 12 surveys were not returned. It's worth noting that this response rate aligns with the recommendation by Mugenda and Mugenda (2003) that a response rate above 70% is considered favourable for presenting and analyzing the findings.

Table 4. 0: Response Rate

Sample Size	Response	Percentage	Nonresponse	Percentage
97	85	87.63	12	12.37

Source: Field Data (2023)

4.3 Demographic Information

To gain insight into the study participants, their demographic data was collected. The researcher conducted an extensive examination of the demographic details provided by the participants, encompassing gender, age, educational level, and their tenure within the beverage distribution company.

4.3.1 Gender of the Respondents

The collection of participants' gender information aimed to discern the gender distribution among employees in the beverage distribution companies. This inquiry was

based on the presumption that the transport and delivery sector is typically male-dominated, with fewer females involved. The results are displayed in Table 4.1.

Table 4. 1: Table Gender of the Respondents

Gender	Number	Percentage
Male	61	72%
Female	24	28%

Source: Field Data, (2023)

Table 4.1 illustrates that a significant proportion of respondents, 72% (61), were male, while a smaller portion, 28% (24), were female. Due to the higher representation of male respondents, the findings are susceptible to gender bias.

4.3.2 Age of the Respondents

The researcher gathered information concerning the participants' ages, which was crucial for understanding the age distribution among delivery personnel in beverage distribution companies. This was essential for assessing whether the companies primarily employ younger or older individuals, particularly considering that the transportation sector often demands substantial physical energy, a trait often associated with younger individuals. The findings are displayed in Table 4.2.

Table 4. 2: Age of the Respondents

Age (Years)	Frequency	Percentage
18-30	17	20%
31-40	35	41.2%
41-50	27	31.8%
Over 50	6	7.0%
Total	**85**	**100**

Source: Field Data (2023)

Table 4.2 illustrates that all respondents were adults, as they were above the age of 18, which is the legal adulthood age according to the Constitution of Kenya (2010). Among the respondents, the majority (41.2%) fell within the 31-40 years age range, followed by 31.8% aged 41-50 years, 20% aged 18-30 years, and 7.0% aged over 50 years. The age distribution within the beverage distribution sector was diverse, with a significant number of employees falling within the 31-50 years range. These individuals were perceived to be experienced and competent for effective beverage distribution. The age group of 21-30 years was seen as moderately experienced, while those aged over 50 years were considered to be highly experienced and competent for their roles. From the findings, all of the age groups were represented.

4.3.3 Level of Education

The investigator gathered and examined data regarding the educational qualifications of the participants, and a condensed overview of the findings are presented in Table 4.3.

Table 4. 3: Level of Education of the Respondents

Level of Education	Frequency	Percentage
Secondary	5	5.9%
College	39	45.9%
Undergraduate	22	25.9%
Masters	17	20.0%
Doctoral	2	2.3%
Total	**85**	**100**

Source: Field data (2023)

Majority of the participants 45.9% (39) had acquired a college level of education. The respondents who had attained undergraduate studies were 25.9% (22). The respondents who had a master's degree 20.0% (17); secondary education 5.9% (5); doctoral 2.3% (2). It's important to highlight that every participant had attained a particular educational level. This suggests that most of the participants had completed at least a college diploma.

4.3.4 Duration of Service in the Beverage Distribution Company

To assess the participants' familiarity with the research questions, the researcher inquired about the number of years they had been employed by various beverage distribution companies. The results are showcased in Table 4.4.

Table 4. 4: Duration of Service in the Beverage Distribution Company

Duration of Service in the Beverage Distribution Company	Frequency	Percentage
Less than 2 years	15	17.6%
3-5	26	30.6%
6-8	29	34.1%
Aged 9 years and older	15	17.7%
Total	**85**	**100**

Source: Field data (2023)

Table 4.4 demonstrates that 17.6% (15) of the participants had less than two years of work experience in beverage distribution companies. The majority of participants had over two years of expertise: 30.6% (26) with 3-5 years, 34.1% (29) with 6-8 years, and 17.7% (15) with 9 years or more. This indicates that a significant portion of the respondents had considerable industry experience, which enhances the reliability of their responses.

4.4 Extent to which disruptions of supply chain occurred among beverage distributors in Nairobi County during the Covid 19 pandemic

The primary goal of the study was to evaluate the occurrence of supply chain interruptions within Nairobi County's beverage distribution sector throughout the Covid-19 pandemic. The researcher examined four aspects of Covid-19-related supply chain disruptions, focusing on disruptions related to demand, supply, operational processes, and environmental factors. Data related to these four variables were gathered using a Likert scale, and the results are detailed in Table 4.5.

Table 4. 5: Supply Chain Disruptions

	Mean	Std Dev
Supply Side Disruptions	3.984	0.711
Demand Side Disruptions	3.852	0.612
Environmental Disruptions	3.683	0.563
Process Disruptions	3.416	0.748

Source: Field Data (2023)

From Table 4.5, it is evident that, overall, supply-side disruptions (Mean = 3.984 out of 5, Standard Deviation = 0.711) were found to have occurred to a significant extent among beverage distributors in Nairobi County, followed by demand-side disruptions (Mean = 3.852 out of 5, Standard Deviation = 0.612), environmental disruptions (Mean = 3.683 out of 5, Standard Deviation = 0.563), and process disruptions (Mean = 3.416 out of 5, Standard Deviation = 0.748). This suggests that the beverage distributors under study experienced a substantial level of supply chain disruptions.

4.5 Measures taken to mitigate the supply chain disruptions that occurred aiming beverage distributors in Nairobi during Covid 19 pandemic

The secondary goal of the study aimed to identify the steps taken to mitigate the supply chain disruptions experienced by beverage distributors in Nairobi during the COVID-19

pandemic. These measures were represented by six statements, and participants were requested to indicate their level of agreement using a Likert scale. Detailed results are available in Table 4.6.

Table 4. 6: Supply Chain Disruptions Mitigation Strategies

Supply Chain Disruptions Mitigation Strategies	Mean	Std Dev
Shifting from a global supply chain model to the one that is more regionally based has ensured business continuity.	4.48	0.613
Automation has enabled the firm make onshore distribution and processing economically viable	4.44	0.650
Regular training of workers has prevented workers inaccuracy	4.41	0.647
The firm increasing the number of suppliers has prevented over dependence on one supplier	4.35	0.674
Investing in improved information system has decreased information delay in the firm	4.15	0.631
Preparation of optimal inventory has enabled the firm curb the rising material prices and stock outs	4.14	0.693
Average	**4.33**	

Source: Field Data (2023)

Table 4.6 indicates that on overall, shifting from a global supply chain model to the one that is more regionally based had ensured business continuity (Mean = 4.48 out of 5; Std Dev = 0.613), followed by automation that had enabled the firm make onshore distribution and processing economically viable (Mean = 4.44 out of 5; Std Dev = 0.650), regular training of workers had prevented workers inaccuracy (Mean = 4.41 out of 5; Std Dev = 0.647), the firm increasing the number of suppliers had prevented over dependence on one supplier (Mean = 4.35 out of 5; Std Dev = 0.674), investing in improved information system had decreased information delay in the firm (Mean = 4.15 out of 5; Std Dev = 0.631) and preparation of optimal inventory had enabled the firm curb the rising material prices and stock outs (Mean = 4.14 out of 5; Std Dev = 0.693).

The findings indicated that the beverage distributors recognized the need for training to prepare their employees to offer effective services especially during times of disruptions.

Having a trained team in risk management goes a long way in ensuring that an organization remains competitive.

4.6 To determine the effect of supply chain disruptions on the performance of beverage distributors in Nairobi during the Covid 19 pandemic

The third objective of the study aimed to evaluate how supply chain disruptions affected the performance of beverage distributors in Nairobi amid the Covid-19 pandemic. The analysis employed regression techniques, and the resulting findings can be observed in Tables 4.7, 4.8, and 4.9.

Table 4. 7: Regression Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
	Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.p-value**
1	(Constant)	2.379	0.871		2.731	0.008
	Demand Side Disruptions	-0.475	0.215	0.401	-2.209	0.030
	Supply Side Disruptions	-0.441	0.087	0.296	-5.069	0.000
	Process disruptions	-0.554	0.098	0.211	-5.653	0.000
	Environmental Disruptions	-0.591	0.034	0.193	-17.382	0.000

Source: Field data (2023)

Based on the data in Table 4.7, the regression model is as follows;

$Y= 2.379 -0.475X_1 -0.441X_2 -0.554X_3-0.591X_4$

Y = Operational Performance as measured by quality, dependability, speed and flexibility

X_1= Demand side disruptions

X_2= Supply side disruptions

X_3= Process disruptions

X_4 = Environmental disruptions

This suggests that while keeping all other factors unchanged, a rise in disruptions within the supply chain affected the performance of beverage distributors in Nairobi amid the Covid-19 pandemic, causing a 2.37-unit reduction in magnitude. The findings indicate that, if there was a one-unit increase in disruptions on the demand side, operational performance would decline by 0.475, assuming all other factors remained unchanged. Likewise, a one-unit increase in disruptions on the supply side would lead to a 0.441 reduction in operational performance. An uptick in process disruptions would result in a 0.554 unit decrease in operational performance, and a one-unit increase in environmental disruptions would correspond to a 0.591 unit decline in operational performance. This underscores that each independent variable had a detrimental impact on operational performance. These results are in accordance with the findings from Bowman's (2015) study, which concluded that disruptions have an adverse impact on both a company's immediate and sustained financial success. At the 5% significance level, demand side disruptions (X_1= 0.030), supply side disruptions (X_2= 0.000), process disruptions (X_3= 0.000), and environmental disruptions (X_4= 0.000) had p-values ($p<0.05$), Highlighting their substantial influence on operational performance for beverage distributors in Nairobi County, this is corroborated by the t-values, all of which surpass the critical value of 1.96. The model summary can be found in Table 4.8 as presented below.

Table 4. 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.793	0.630	0.611	0.935

Source: Field Data (2023)

The value of R^2 is 0.630, indicating that 63.0% regarding the fluctuation in operational performance among beverage distributors in Nairobi can be linked to the independent variables integrated into the model. The remaining 37.0% of the variation is unexplained and may be due to factors not considered in the model and random chance.

The ANOVA findings came next in the regression analysis and are provided in Table 4.9.

Table 4. 9: Summary of One-Way ANOVA results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.83	4	30.957	34.066	0.000
	Residual	72.7	80	0.908		
	Total	149.35	84			

Source: Field Data (2023)

The table indicates a p-value of 0, which is less than the 5 percent critical value, indicating that the complete model holds statistical significance. Additionally, the F value of 34.066 further supports this. With a critical value of 5 percent, 4 degrees of freedom in the numerator (df) and 80 in the denominator (df), the critical F value is 1.66. The calculated F value exceeds this critical value. In practical terms, this suggests that the four independent variables are influential factors of operational performance for beverage distributors in Nairobi County.

4.7. Discussion of Findings

The study was motivated by three goals. The first objective aimed to evaluate the degree to which supply chain disruptions occurred in beverage distributors in Nairobi County during the Covid-19 pandemic. The findings revealed that beverage distributors faced significant disruptions due to the Covid-19 pandemic. This challenge was not restricted to the beverage distribution sector but affected various business sectors as well.

According to Chadist (2012) demand side disruptions occur when a company faces challenges in accurately predicting demand and supply, or encounters inefficiencies in coordinating its supply chain. The findings showed that some of the demand-related disruptions faced by beverage distributors involved making last-minute order changes, delayed receipt of goods, increased competition from new products, and unpredictable shifts in demand. The findings were similar to results by Mbothu (2014) who concluded that performance is negatively impacted by disruptions in both demand and supply resulting from supply chain risks. According to the findings, beverage distributors struggled to predict demand accurately due to restricted mobility, limiting people's ability to purchase beverage drinks. On the supply side, disruptions occurred due to inadequate supplier performance, delays in logistics and transportation, discrepancies in product quality and quantity, or inadequate coordination between suppliers and companies (Muzvondiwa, 2017).

Suppliers play a vital role as key stakeholders in any organization. Consequently, cultivating positive relationships with suppliers has a beneficial effect on an organization's functioning. As per the study results, the challenges on the supply side disruptions that beverage distributors faced encompassed delays in product deliveries, sluggish coordination between the organization and its suppliers, receipt of subpar materials, and difficulties in meeting financial obligations to suppliers. The findings indicated that these supply disruptions were exacerbated by financial constraints experienced by the beverage distribution companies. The results align with the findings of Chowdhury et al. (2020), who also concluded that companies might consider

restructuring their supply chains and forming new collaborations with distributors and business associates.

According to Muzvondiwa (2017) Process disruptions within a company encompass issues like system failures, low inventory levels, time delays, supply chain transparency, and quality concerns. Likewise, the study's findings indicated that beverage firms faced shortages of products, encountered delays in distributing products to customers, and had to suspend their round-the-clock distribution operations during the Covid-19 pandemic. These results imply that the operational processes of beverage distributors suffered negative consequences due to the pandemic. These findings align with the conclusions drawn by Muricho and Muli (2015), who noted that process disruptions could arise from issues related to collaboration and coordination within the production network. Their study also emphasized that such process disruptions significantly affected customer satisfaction, which is a pivotal indicator of a company's performance. Nevertheless, the pandemic also brought about some opportunities, as evidenced by the findings, where beverage distributors adopted technology, such as circulars and email, for communication. This suggests that, while the Covid-19 pandemic primarily had adverse effects, it also created opportunities that, if leveraged effectively, could lead to enhanced performance.

Environmental disruptions result from events such as natural calamities, labor strikes, shifts in regulations, acts of terrorism, and conflicts (Parast & Subramanian, 2021). The Covid-19 pandemic acted as a worldwide environmental disruption, affecting the entire globe. The detrimental consequences of environmental disruptions on supply chains notably impact transportation and logistics systems, along with production facilities that

are susceptible to natural disasters (Parast & Subramanian, 2021). This is supported by the research findings, which revealed that the environmental disruptions encountered by beverage distributors involved supply interruptions and the rise in beverage prices, causing adverse consequences for customers. The escalation in beverage prices was a result of increased production costs, compelling manufacturing companies to raise their prices, ultimately affecting the end consumers. According to Ochieng (2018) the environmental disruptions, exemplified by Covid-19, negatively influenced the distribution of products in the food and beverage sector, consequently exerting a detrimental influence on overall performance. Further, Nnadozie (2021) revealed that the environmental disruptions, specifically in the form of Covid-19, had an adverse effect on performance, primarily because product deliveries faced challenges due to lockdown actions implemented to mitigate the virus's spread.

The second goal of the study aimed to pinpoint the approaches used to ease the supply chain disruptions encountered by beverage distributors amid the COVID-19 pandemic. The results indicated that the pandemic had an adverse impact on the supply chain of beverage distributors, necessitating the adoption of effective strategies. Notably, many businesses turned to technology as a way to tackle the disruptions brought about by the COVID-19 pandemic. These results are consistent with the research carried out by Roberts (2018), which emphasizes that technology provides supply chain organizations with a wide range of opportunities, ensuring operational efficiency, enhancing inventory management and improving the overall performance of the supply chain.

Additionally, the results indicated that the beverage distributors used training as a strategy of improving the performance of the organizations especially during times of

disaster. The results aligned with the Bowman (2015), which revealed that safeguarding an organization's capabilities during a crisis can yield a profitable return on investment. Providing training to individuals within an organization can help them acquire the necessary skills and competencies to manage supply chain disruptions. Additionally, Siegel (2018) observed that in response to heightened global competition, organizational leaders are actively enhancing collaboration across supply chains. They achieve this by utilizing the knowledge and assets of like-minded suppliers and committed customers to minimize uncertainty.

The third objective of the study aimed to assess the correlation between supply chain disruptions and operational performance. This objective was assessed by conducting a regression analysis. The results showed that supply chain disruptions, which manifest as demand-related issues, supply-related problems, process interruptions, and environmental challenges, all have an adverse impact on operational performance. According to Hendricks and Singhal (2016) disruptions experienced in a company lead to an average decline of 10% in operational revenue. The research also uncovered that irrespective of the instigator, the root cause, or the industry of the entity involved, the impact consistently had negative consequences for all firms. Additionally, Mbothu (2014) found that demand risk, security risks, operational and supply risks had significantly affected company performance.

The research was grounded on the conceptual framework of the Swift and Even Flow (SEF) theory developed by Schmenner and Swink (1998). This theory suggests that the rate and consistency of process flow directly affect the output. It implies that obstacles like bottlenecks, non-value-added activities, or other hindrances to the flow can have a

detrimental impact on the flow rate. The research was underpinned by the concepts of Normal Accident Theory (NAT), introduced by Perrow (1999). According to this theory, accidents are inexorable consequences that emerge from complex interactions and substantial interdependencies within a system. As such, failures arise in unanticipated ways, and to inhibit them from happening, executives must either enhance responsiveness or mitigate complexity (Scheibe & Blackhurst, 2018). The research identified an inverse relationship between supply chain disruptions resulting from COVID-19 and the operational performance of beverage distributors in Nairobi. One could contend that because the disruptions were unprecedented, they placed significant strain on the operational performance of beverage distributors, leading to the negative correlation.

Furthermore, the study was founded on the concepts of Structural Contingency Theory (SCT) initially put forth by Lorsch and Lawrence (1996). This theory suggests that there is no universally ideal organizational structure applicable to all businesses. The study revealed an adverse relationship between supply chain disruptions caused by COVID-19 and the operational performance of beverage distributors in Nairobi. This implies that, despite the adaptability of their capabilities, specific disruptions may be excessively demanding to endure in the immediate term. Contingency Theory emphasizes that a company's capacity to survive and thrive depends on its capability to adapt to evolving environmental circumstances.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section serves as the culmination of the project, encompassing a summary of the findings, derived conclusions, recommendations aligned with the study's objectives, an evaluation of the methodology, acknowledgment of the study's limitations, and suggestions for future research.

5.2 Summary of Findings

The initial goal of the study was to determine the magnitude of supply chain disruptions experienced by beverage distributors in Nairobi County amid the COVID-19 pandemic. The research findings revealed that the emergence of the Covid-19 pandemic presented substantial challenges to a wide range of businesses, including beverage distributors. As indicated by the study, these challenges encompassed disruptions on multiple fronts for beverage distributors, which included demand-related disruptions (such as delays in goods receipt, reduced purchase volumes, and last-minute order changes), supply-related disruptions (such as delayed product deliveries, slow coordination with suppliers, receipt of substandard materials, and financial difficulties in paying suppliers), process-related disruptions (such as product shortages, delayed deliveries, and interruptions in distribution systems), and environmental disruptions (including rising beverage product costs and interruptions in the supply chain).

The second objective aimed to identify the actions implemented by the beverage distributors to mitigate supply chain disruptions. The results indicated that as a reaction to the challenges presented by disruptions caused by Covid-19, beverage distributors adopted technological solutions, incorporating automation into their delivery processes. Furthermore, the study highlighted that diversifying their supplier base and concentrating on local and regional markets were strategies implemented by the beverage distributors to reduce the adverse effects of the Covid-19 pandemic disruptions.

The study's third aim was to evaluate the influence of supply chain disruptions on beverage distributors. The results indicated that all the scrutinized supply chain disruptions had an adverse effect on operational performance. This was ascribed to these disruptions prompting a deviation from the typical operational practices of beverage distributors.

5.3 Conclusion

Supply chain disruptions spread to all parts of a business. The first reported case of COVID-19 occurred in 2020, causing a lot of panic to both individuals and businesses. From a business perspective, the pandemic caused disruptions in the day-to-day functioning of a majority of businesses. The supply chain is a critical component for any organization, especially businesses like beverage distributors, as it significantly impacts their overall performance. The findings demonstrate that during the pandemic, these distributors faced various disruptions, encompassing demand-side, supply-side, process, and environmental disruptions. The research indicates that these disruptions had an adverse impact on the operational performance of the beverage distributors due to the resulting slowdown in their company activities.

5.4 Recommendations of the Study

In light of the results, the study proposes the following recommendations. First, the beverage distributors should establish comprehensive risk management strategies to prepare for unforeseen disruptions or disasters like the Covid-19 pandemic. These strategies should include risk assessment, contingency planning, and crisis response protocols to ensure business continuity.

Additionally, building strong relationships with multiple suppliers is essential to reduce dependency on a single source. This diversification of suppliers ensures a continuous and reliable flow of resources and products, even if one supplier faces challenges or disruptions.

Embracing technology in supply chain and inventory management systems can greatly enhance the efficiency and agility of beverage distributors. By integrating these systems and automating processes, companies can respond more swiftly to customer demands, optimize their operations, and ensure faster service delivery.

These recommendations are designed to help beverage distributors improve their preparedness, adaptability, and operational efficiency, ultimately minimizing the impact of disruptions and enhancing their overall resilience.

5.5 Limitations of the Study

The researcher came across difficulties in obtaining confidential business data from concerned employees, primarily due to concerns about potential repercussions from management executives. To mitigate these challenges, the researcher guaranteed sampled participants that the information collected would be maintained confidential, and no names would be disclosed in the final report.

Another limitation was the limited availability of studies conducted in the developing world with relevant information for the Kenyan context. This limitation can be addressed through further research and consultation with relevant stakeholders in the beverage industry and with the guidance of the supervisor.

The study's scope was confined to beverage distributors in Nairobi, which represents a narrow focus. This limited scope implies that the findings are specific to beverage firms in Nairobi and may not be broadly applicable to other sectors.

5.6 Suggestions for Further Studies

The present study has furnished a valuable addition to the existing knowledge base. Nevertheless, there are possibilities for additional research to address existing voids in our understanding. While this research successfully demonstrated a significant relationship between supply chain disruptions caused by Covid-19 and resilience among beverage distributors in Nairobi, it is crucial to duplicate comparable studies in other cities across Kenya. This is crucial because disparities in operating environments and business conditions in different cities may influence the research findings.

It's worth noting that many studies related to Covid-19 have followed a predominantly conceptual approach. Therefore, there is a need for additional empirical investigations to provide more concrete evidence. Furthermore, conducting similar studies in the service sectors is recommended, as differences in the nature of service-related businesses might render the findings of the current study less applicable in those contexts.

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APPENDIX I: RESEARCH QUESTIONNAIRE

This instrument aims to obtain information on Effect of Supply Chain Disruptions on Performance of Beverage Distributors in Nairobi County during The Covid 19 Pandemic.

i. This questionnaire is categorized into Four. The demographic questions about the respondents will be covered in section A. Section B will collect data on the study variables, Section C will focus on Supply Chain Disruptions mitigation strategies while Section D will focus on operational performance: Confidentiality and privacy will be maintained in handling the responses provided.

ii. Information acquired will only be exploited for scholarly use and will be taken care of by definitive confidentiality.

Section: A: Demographic Information

1. Please tick against your age range.

   i. 18 years to 29 years old [ ]

   ii. 30 years to 40 years old [ ]

   iii. 41 years to 50 years old [ ]

   iv. Above 51 years old [ ]

2. Please select Gender

   i. Male [ ]

   ii. Female [ ]

   iii. Other [ ]

3. Please indicate the highest level of education attained. (Tick as applicable)

   i. Secondary [ ]

ii. College Diploma [ ]

iii. Undergraduate [ ]

iv. Master [ ]

v. Others (specify)……...

4. Please indicate your period of service in this organization

i. Below 2 years [ ]

ii. 3 to 5 years [ ]

iii. 6 to 8 years [ ]

iv. 9 years and above [ ]

5. Please indicate your employment or ownership status

i. Business-owner [ ]

ii. self-employed [ ]

iii. employed [ ]

iv. retired [ ]

6. Please indicate your nationality

i. Kenyan [ ]

ii. Non Kenyan [ ]

Section: B. Supply Chain Disruptions

7. To what extent do you agree with the following statements in relation to supply chain disruptions. Using a scale of 1 - 5, tick the appropriate answer from the alternatives provided. 1 = Very small extent 2 = Small extent 3 = Moderate 4 = Large extent and 5 = Very large extent

Demand Side Disruption	**1**	**2**	**3**	**4**	**5**
The firm has been buying few goods during the Covid -19 pandemic					
The firm makes last minute order changes during the Covid -19 pandemic					
The firm has been receiving goods late during the Covid -19 pandemic					
The entity has faced competition from new products during the Covid -19 pandemic					
The entity has experienced shorter life cycle products during the Covid -19 pandemic					
The entity demands have become unpredictable during the Covid -19 pandemic					
Supply Side Disruptions	**1**	**2**	**3**	**4**	**5**
The firm has been receiving products late during the Covid-19 pandemic period					
The entity has faced slow coordination between the supplier					

and company during the Covid -19 pandemic					
During the Covid -19 pandemic, the entity has been served with substandard materials					
The entity has not catered for transportation costs for raw materials during Covid -19 pandemic					
The Firm has not paid for supplies received during the Covid -19 pandemic					
Process disruptions	**1**	**2**	**3**	**4**	**5**
The firm has faced shortages of products during the Covid -19 pandemic period					
The firm has distributed late some of its products to customers during the Covid -19 pandemic					
The firm's departments communicate via circular and email following the emergence of the Covid-19 pandemic					
The firm's machines maintenance has been poor during the Covid -19 pandemic					
The firm has produced poor quality products during the Covid -19 pandemic					
The firm's 24/7 distribution system has been halted during the Covid -19 pandemic					
Environmental Disruptions	**1**	**2**	**3**	**4**	**5**
The firm has experienced derail of supply of the beverage					

products during the Covid-19 pandemic					
The firm's beverage products prices have gone up during the Covid-19 pandemic					
The firm has failed to comply with legal regulations and frameworks during the Covid -19 pandemic					

Section: C. Supply Chain Disruptions Mitigation Strategies

8. To what extent do you agree or disagree with the following statements in relation to measures put in place to mitigate Supply Chain Disruptions. Kindly indicate on a scale 1 to 5 (where: 1 = Very small extent 2 = Small extent 3 = Moderate 4 = Large extent and 5 = Very large extent

Supply Chain Disruptions Mitigation Strategies	**Rating scale between 1-5**				
Automation has enabled the firm make onshore distribution and processing economically viable					
Preparation of optimal inventory has enabled the firm curb the rising material prices and stock outs					
The firm increasing the number of suppliers has prevented over dependence on one supplier					
Investing in improved information system has decreased information delay in the firm					
Shifting from a global supply chain model to the one that is more regionally based has ensured business continuity.					

Regular training of workers has prevented workers inaccuracy					

Any other mitigation measures? Kindly

explain……

……

……

Section: D. Operational Performance

8. To what extent do you agree or disagree with the following statements in relation to organizational Performance. Using a scale of 1 - 5, tick the appropriate answer from the alternatives provided. 1 = Very small extent 2 = Small extent 3 = Moderate 4 = Large extent and 5 = Very large extent

Operational Performance	**1**	**2**	**3**	**4**	**5**
Quality					
The firm is able to meet all the client's orders					
The firm is able to accommodate immediate orders					
The firm has adequate vehicles to distribute different orders at the same time					
Delivery dependability	**1**	**2**	**3**	**4**	**5**
The firm ensure beverages distributed are and in good condition					

The firm experiences minimal time in complaint handling arising from clients					
Delivery speed	**1**	**2**	**3**	**4**	**5**
The firm experiences timely delivery of orders					
The firm enjoys shortened lead time					
Flexibility	**1**	**2**	**3**	**4**	**5**
The firm has repeat customers					
The firm enjoys customers referrals from the existing clients for our products					
The firm's customers do not mind paying more money for improved/new products					
The firm's customers give positive feedback on the distribution of the products					

THANK YOU FOR YOUR TIME

APPENDIX II; LIST OF BEVERAGE DISTRIBUTORS IN KENYA

1. Maxam Kenya Limited
2. Genomak Pepsi Distributors
3. Viva Global Ltd
4. Nyambe Keg Distributors
5. Rwathia Distributors Ltd
6. Kabisa Energy Drink
7. GreenTeaKenya
8. Coca Cola Distributor-Mastrod Suppliers
9. Mahitaji Enterprises Ltd
10. Beverage Industries Africa Ltd
11. Keg Pump Kenya Supplier
12. NAIROBI DRINKS - Alcohol Delivery Kenya
13. Tsavo Keg
14. Trashaki Distributors
15. Kamahuha Ltd
16. Barken Distributors Coca Cola Depot- Parklands
17. Highlands Drinks Limited
18. Fystar Wines and Spirits Limited
19. Drinks Vine
20. East African keg pump
21. Bounty Limited
22. Dial A Drink Kenya- Alcohol Delivery Nairobi - Drinks Delivery
23. Heineken
24. Magnum Ventures Limited
25. Experian Coca Cola Distributors
26. Dalali Wholesalers
27. Corporate Beverages Ltd
28. Coca Cola Distributor-Enterprise
29. Algarve Distributors Limited
30. Coca Cola Distributor-Nairobi West
31. Associated Beverages Limited
32. Coca Cola Distributor-Jireh Distributor
33. Kbl Beer and VML Distributors
34. Bakhson Distributors Limited
35. Crywan Enterprises Ltd
36. Kenafric Beverages & Bottling Ltd
37. Brava Food Industries Ltd
38. Mbote Beer Distributors Limited
39. Jukoma Enterprises Limited
40. Muwaca Enterprises Kbl Beer Stockist
41. Kamahuha Limited
42. Ishano Distributors
43. Nganjo house ltd keg distributor
44. WOW Beverages Wine Shop Kileleshwa
45. coca cola distributors
46. Royyale Beverages Ltd
47. Pekay Brothers Ltd
48. Slater & Whittaker
49. Savannah Brands / Kenyan Originals
50. Drinks supplier
51. Njepa Distributor
52. Chandaria Industries
53. Coca Cola Distributor-Rosinje Distributors
54. Abluun Distributors Kenya Limited
55. Coca Cola Distributor-Kiritu Distributors
56. Coca Cola Distributor-Roche Distributors
57. Coca Cola Distributor-Bachu Distributors
58. nestol distributors
59. Coca Cola Distributor-Wakiige Investment
60. Mweru Soda Distributors
61. Sham Distributors
62. Coca Cola Distributor-Map Distributors
63. Coca Cola Distributor-Eastleigh Distributor
64. Coca Cola Distributor-Nestol Distributors
65. Benue Enterprises
66. Mt. Kenya Beer Distributors, Siakago Store
67. Adamji multi supplies ltd.

68. Consumer Line Distributors
69. Nairobi Bottlers LTD
70. Kenafric Industries Ltd
71. Kemiwanji Enterprises
72. Alpha Dairy Products Ltd (Head Office)
73. Soda Distributors
74. IMCD Kenya (Ltd)
75. Brava food Industries Limited
76. Bio Food Products
77. Domaine Kenya Ltd
78. Aquamist LTD
79. Africa Food Manufacturing & Safety Summit (AFMASS)
80. Takow Distributors
81. Top Aof Form
82. Delmonte Kenya Ltd
83. Twiga Foods Ltd
84. Ayoti Distributors Ltd Main warehouse
85. Manji Food Industries Ltd (Head Office)
86. Africa Spirits Limited
87. East Africa Glassware Mart Ltd
88. Highlands Mineral water company
89. Diri Wines and Spirits
90. Coca Cola Distributor-Tosi General Suppliers Ltd
91. Yako Supermarket
92. Agro-Chemical & Food Co Ltd
93. Gold Crown Foods EPZ Ltd
94. Coastal Bottlers Ltd
95. Miwani Sugar Company Ltd.
96. Kioru Wine $ Spirit
97. Kahuro Liquor Suppliers

Source: (KAM,2023)

APPENDIX III: DATA COLLECTION LETTER

UNIVERSITY OF NAIROBI
FACULTY OF BUSINESS AND MANAGEMENT SCIENCES
OFFICE OF THE DEAN

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Our Ref: **D61/72917/2014**

November 10, 2022

TO WHOM IT MAY CONCERN

RE: INTRODUCTION LETTER: NANCY WANJIRU NDUATI

The above named is a registered Master of Business Administration Student at the Faculty of Business and Management Sciences, University of Nairobi. She is conducting research on: **"Effects of Supply Chain Disruptions on performance of Beverage Distributor in Nairobi County during Covid -19 Pandemic."**

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the Project.

The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.

PHILIP MUKOLA (MR.)
FOR: ASSOCIATE DEAN, GBS & R
FACULTY OF BUSINESS AND MANAGEMENT SCIENCES

MBA final NANCY

ORIGINALITY REPORT NAME: **DR. MICHAEL K. CHIRCHIR** SIGN:  Date: 14/11/2023

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