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ABSTRACT

The retail sector in Kenya has recently faced significant challenges, resulting in the closure of several large supermarket chains. Following the COVID-19 pandemic, many retailers began to re-establish operations, driving interest in understanding recovery mechanisms used to enhance performance. This study examined the relationship between post-COVID-19 supply chain recovery strategies and the performance of large supermarkets in Nairobi County. It was anchored on the Resource-Based Theory. The target population included 162 participants made up of operations and supply chain or procurement managers from 81 branches of Naivas, Carrefour, and Quickmart supermarkets. Primary data was collected using a structured questionnaire. Descriptive and inferential statistics were employed, and multiple linear regression analysis was used to assess the effects of supply chain disruption responses, adaptation strategies, digital transformation, and supplier collaboration on supermarket performance. Data analysis was conducted using SPSS and findings were presented in table form. The results showed that adaptation strategies ($\beta = 0.491$, $p = 0.000$), supplier collaboration ($\beta = 0.341$, $p = 0.000$), digital transformation ($\beta = 0.309$, $p = 0.001$), and supply chain disruption responses ($\beta = 0.281$, $p = 0.002$) all have a positive and statistically significant effect on performance. The study recommends that supermarkets reinforce adaptive capabilities, strengthen supplier partnerships, invest in digital supply chain tools, and establish proactive risk mitigation systems to improve operational efficiency, customer satisfaction, and resilience against future disruptions.

Keywords: *Post-Covid, Retail Supply Chain, Recovery Strategies, Performance, Large Supermarket Retailers, Nairobi County, Kenya*

1.0 Introduction

COVID-19, well known as the coronavirus disease 2019, a global pandemic instigated by the SARS-CoV-2 virus that emerged in late 2019. It led to widespread health crises and severe disruptions in economic activities, including supply chain breakdowns, lockdowns, and shifts in consumer behaviour (Redda, 2024). The post-COVID-19 duration referred to the phase following the peak of the pandemic, where firms and economies began to recover and adapt to a new normal characterized by heightened digital transformation, evolving operational models, and the implementation of resilience-driven strategies to mitigate future disruptions (Khan & Ali, 2023).

The COVID-19 pandemic left a trail of disruption across global supply chains. The retail sector was among the hardest hit. In Nairobi, Kenya, large supermarket chains experienced severe operational setbacks, including stockouts, supplier delays, and drastic shifts in consumer behaviour (Musyoka, 2023). These challenges exposed vulnerabilities in supply chain structures and forced retailer's reconsideration of survival strategies (Wairimu, 2023). While some supermarkets embraced digital transformation, supplier diversification, and adaptive logistics. Many continued to grapple with fragmented recovery efforts and inconsistent performance outcomes. If these supply chain recovery challenges were not systematically addressed, large supermarket retailers risk prolonged inefficiencies, declining customer satisfaction, market share loss, and weakened competitiveness in a rapidly evolving retail environment (Chikwava, 2024). This underscored the urgent need to examine the effectiveness of post-COVID recovery strategies and how they influence the overall performance of large supermarket chains in Nairobi.

Several studies have pursued COVID-19 impact on global retail supply chains. For example, Ivanov (2024) investigated the supply chain disruptions in the retail sector and found that firms globally experienced major delays and cost escalations, prompting a shift toward digital supply chain solutions. Similarly, Kumar, (2024) examined consumer behaviour changes during the pandemic and highlighted the growing preference for e-commerce and contactless transactions. However, the researches chiefly focused on developed nations, exposing a significant research gap in understanding post-pandemic recovery strategies in developing countries like Kenya. Zhou et al. (2024) examined how IT capability and supplier collaboration enhanced resilience in China's manufacturing sector during COVID-19. Nevertheless, the research failed to focus on retail performance or the Kenyan context, creating a gap that this study addressed by exploring post-COVID recovery strategies and performance of large supermarket retailers in Nairobi.

Locally, Soi and Muriuki, (2024) examined innovation strategies and sustainability among hospitality SMEs in Nairobi but did not address supply chain recovery or retail performance, creating a gap this research sought addressing in the supermarket sector. Additionally, a study by Kimani and Mutswenje (2023) focused on the control environment and financial risk mitigation among supermarkets in Nairobi during COVID-19, emphasizing internal controls and governance. However, the research presented a conceptual gap by not addressing supply chain recovery strategies, and a methodological gap as it primarily employed qualitative approaches, whereas the current research adopted a quantitative design in exploring post-COVID recovery strategies influence on supermarket performance. Despite the growing recognition of post-COVID recovery strategies, limited empirical evidence exists on how these strategies influence the performance of



large supermarket retailers in Nairobi County. Existing studies largely overlooked the retail sector's supply chain dynamics in a post-pandemic context, particularly in Sub-Saharan Africa. This research, thus, sought to address the gap by exploring the influence of post-COVID supply chain recovery strategies on the performance of large supermarket retailers in Nairobi.

2.0 Literature Review

This research was anchored on Resource based view (RBV) theory, supported by supply chain agility theory and resilience theory (Goldman et al., 1995). RBV Theory initially founded by Wernerfelt (1984) and later Barney (1991) refined is a strategy-based framework that hypothesizes firm's justifiable competitive edge stems primarily from its unique internal resources and capabilities, instead of from external market positioning. The theory argues that firms can outperform competitors by effectively acquiring, developing, and employing resources that are VRIN. The core RBV assumptions are resources are distributed transversely firms and that these resources may not be easily transferable or replicable. The resources might be tangible like technology infrastructure, logistics systems, and financial assets or intangible, such as knowledge, brand equity, organizational culture, and strategic supplier relationships (Ferreira & Ferreira, 2025). In this research context, the RBV theory was appropriate in explaining how internal capabilities, such as the digital technologies adoption and the strengthening of supplier affiliation, can serve as strategic assets that enhance the performance of large supermarket retailers in the post-COVID era (Monson, 2024).

In the context of post-COVID retail recovery strategies for large supermarket retailers in Nairobi, Kenya, the theory provided indispensable intuitions into how internal resources might be leveraged to build resilience and recover from disruptions. Supermarkets that developed strong relationships with suppliers, advanced inventory systems, and robust digital platforms (such as e-commerce) possessed valuable resources that enable them to better adapt to the post-pandemic landscape. These resources besides boosting operational efficiency too improved competitiveness by offering flexible procurement systems, efficient logistics, and innovative service models such as home delivery and click-and-collect services.

Sharma et al. (2025) pursued a quantitative study in India examining the role of smart supply chain systems in enhancing post-pandemic resilience among organized retail stores. Using survey data from 152 supply chain professionals and applying multiple regression analysis, the study found that firms leveraging real-time data systems, automation tools, and predictive analytics were more capable of responding to supply chain disruptions and sustaining operational performance. However, the study did not disaggregate performance outcomes into specific dimensions such as customer satisfaction or sales growth. Moreover, it was conducted in a different geographical context with more advanced digital infrastructure. The current study filled this gap by assessing how COVID-19 disruptions influenced multiple dimensions of performance including operational efficiency, customer satisfaction, and sales performance within the context of large supermarket retailers in Nairobi, Kenya, where digital adoption levels and recovery strategies varied significantly.

Koskei (2023) used descriptive survey design to explore emergency response planning mandate in 20 manufacturing firms in Nairobi. The findings showed that structured contingency plans and

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alternative sourcing arrangements enhanced supply continuity and reduced operational downtime. However, the study did not assess customer or sales performance. The present study built on this by linking emergency planning to a more comprehensive performance framework including efficiency, satisfaction, and sales. Hamdy (2024) used case study methodology in Egypt to explore how online ordering systems influenced performance in emerging retail markets. The study found that digital platforms enhanced order accuracy, customer access, and inventory responsiveness. While insightful, it focused solely on ordering systems and did not incorporate broader digital transformation tools such as analytics or real-time tracking.

Naresho (2023) employed a case study approach in Tanzania's agricultural supply chain to investigate the outcomes of partner-based collaboration. The study revealed that commitment, information transparency, and streamlined transactions improved delivery reliability and efficiency. However, its agricultural focus limits its transferability to the urban retail context. The present study explored how supplier-retailer collaboration affects retail performance in Nairobi's supermarket chains.

3.0 Research Methodology

A descriptive correlational research design was used, targeting all 81 branches of Naivas, Carrefour, and Quickmart supermarkets in Nairobi County, Kenya. Two respondents were selected from each branch the operations manager and the supply chain/procurement officer totaling 162 participants. Data was collected using structured questionnaires administered both physically and electronically. A pilot test was conducted on 8 branches to verify the validity and reliability of the research tool, with internal consistency evaluated using Cronbach's alpha. Descriptive statistics (mean and standard deviation) and inferential statistics were applied in the data analysis process. Multiple linear regression was used to examine how each independent variable supply chain disruptions, adaptation strategies, digital transformation, and supplier collaboration affected the dependent variable, performance of large supermarket retailers.

4.0 Research Findings and Discussion

The research achieved a response rate of 88.27% after 143 out of 162 questionnaires issued were returned. This is regarded as excellent in the context of survey-based studies and enhances the robustness of the findings. Regarding supply chain disruptions, the respondents were asked to state how they agreed or disagreed with statements regarding supply chain disruptions in enhancing supply chain resilience in their supermarket. Table 1 exhibits the descriptive statistics results.

Table 1: Descriptive Statistics for Supply Chain Disruptions

| Statements | N | Mean | Std. Dev |
|--|------------|-------------|-------------|
| Our branch frequently experienced stockouts of essential products post the COVID-19 pandemic | 143 | 3.38 | 1.19 |
| Stockout incidents have continued to occur regularly even in the post-COVID period. | 143 | 2.99 | 1.11 |
| Our suppliers consistently delayed deliveries post the height of the COVID-19 pandemic. | 143 | 4.22 | 0.51 |
| Delivery lead times have remained unpredictable post the pandemic. | 143 | 3.58 | 0.90 |
| We experienced inconsistent supply quantities from our regular suppliers post the pandemic. | 143 | 3.49 | 0.95 |
| Supplier performance has been unstable, affecting our ability to plan inventory effectively. | 143 | 3.89 | 0.79 |
| Overall mean Score | 143 | 3.59 | 0.60 |

Table 1 designates overall mean score for supply chain disruptions was 3.59 with 0.60 standard deviation, signifying a moderately high agreement among respondents that disruptions remained a significant concern for large supermarket retailers in Nairobi County following the COVID-19 pandemic. This average suggests that, on balance, supply chain inconsistencies persisted even in the recovery period, affecting retail operations. According to Kioko (2023), many retail chains in Kenya continue to grapple with inventory instability and supplier unreliability due to lasting pandemic-induced logistical constraints and supplier adjustments. One of the most notable findings was the high mean score of 4.22 regarding delayed deliveries from suppliers, showing that respondents overwhelmingly agreed that supplier reliability was compromised post-COVID-19. This aligns with findings by Khan et al. (2023), who noted that many retailers experienced prolonged lead times due to global and local supply chain bottlenecks. Similarly, supplier performance unpredictability (mean = 3.89) and erratic delivery quantities (mean = 3.49) further illustrate the difficulty in inventory forecasting and replenishment, which are essential for meeting customer demand consistently.

Lower mean values for regular stockouts (2.99) and unpredictable delivery lead times (3.58) suggest varying experiences across branches, possibly depending on location, supplier partnerships, or internal mitigation strategies. While some stores may have developed coping mechanisms or alternative sourcing models, others remained vulnerable to persistent supply chain issues. Sharma et al. (2025) emphasize that the resilience of supply chain systems in Kenya's retail sector is uneven and largely determined by the extent of digital integration and supplier diversification. These findings underscore the continued relevance of strategic supply chain adaptations for post-crisis retail recovery.

In conclusion, the descriptive results from the first objective reveal that retail supply chains continue to grapple with the lingering effects of COVID-19-induced disruptions. The overall mean score of 3.59 indicates a moderate to high level of supply chain instability, particularly in areas such as delayed deliveries, supplier inconsistency, and inventory planning difficulties. These disruptions have negatively impacted operational predictability and stock availability, suggesting that post-pandemic recovery remains uneven and requires strategic interventions to enlighten supply chain resilience and responsiveness. Regarding adaptation strategies, the respondents were asked to state how they agreed or disagreed with statements regarding adaptation strategies in enhancing supply chain resilience in their supermarket. Table 2 offers the responses.

Table 2: Descriptive Statistics for Adaptation Strategies

| Statements | N | Mean | Std. Dev |
|--|------------|-------------|-----------------|
| Our supermarket increased reliance on local suppliers to reduce dependency on international sources | 143 | 4.17 | 0.48 |
| Local sourcing initiatives improved the consistency and speed of product availability after the pandemic | 143 | 4.03 | 0.52 |
| We restructured our inventory management by increasing buffer stock levels to address future disruptions | 143 | 4.04 | 0.64 |
| Our branch adopted more flexible inventory practices (e.g., just-in-time or safety stock adjustments) in response to the pandemic. | 143 | 4.03 | 0.61 |
| Our supermarket implemented emergency supply chain plans to respond to future disruptions | 143 | 3.27 | 1.19 |
| We established contingency protocols (e.g., backup suppliers or alternative logistics routes) to enhance our resilience | 143 | 3.93 | 0.80 |
| | 143 | 3.91 | 0.51 |
| Overall mean Score | | | |

Table 2 indicates that the overall mean score for adaptation strategies was 3.91 with 0.51 standard deviation, reflecting a strong level of consensus amongst participants that their supermarkets adopted significant post-COVID-19 adaptation strategies. This relatively high average suggests that most large supermarket retailers in Nairobi County implemented deliberate supply chain modifications to enhance resilience and maintain performance amid continued uncertainty. According to Koskei (2023), local sourcing, inventory reconfiguration, and flexible stocking practices were pivotal in helping retailers absorb supply shocks and restore operational stability.

The highest-rated statement was the shift to local suppliers (mean = 4.17), underscoring the reputation of supply chain localization in the recovery phase. Respondents also agreed that local sourcing improved product availability (mean = 4.03) and that inventory management was enhanced through increased buffer stocks (mean = 4.04) and flexible practices like just-in-time adjustments (mean = 4.03). These strategies align with insights by Maulid (2022), who argue that agile inventory systems and proximity-based sourcing are key enablers of supply continuity in turbulent environments. Although emergency response plans (mean = 3.27) scored lower, indicating less uniform implementation, the high rating for contingency protocols (mean = 3.93) reveals widespread recognition of the need for structured backup options. These findings highlight

a proactive strategic orientation among retailers to mitigate future disruptions through diverse, adaptive approaches.

In conclusion, the descriptive findings on adaptation strategies indicate that large supermarket retailers in Nairobi County undertook deliberate and structured efforts to address supply chain disruptions brought about by the COVID-19 pandemic. These encompassed increased sourcing from local suppliers, inventory restructuring through buffer stock and flexible practices, and the introduction of contingency plans to ensure supply continuity. The overall mean score for adaptation strategies was 3.91 with 0.51 standard deviation, reflecting a high level of consensus among respondents concerning the adoption and perceived effectiveness of these measures. This suggests that supermarkets not only recognize the disruptions but also are undertaking proactive steps to build supply chain resilience in the post-pandemic period. Regarding digital transformation of large supermarket retailers in Nairobi County, Kenya, the respondents were asked to state how they agreed or disagreed with statements regarding digital transformation strategies in enhancing supply chain resilience in their supermarket. Table 3 offers the responses.

Table 3: Descriptive Statistics for Digital Transformation

| Statements | N | Mean | Std. Dev |
|--|------------|-------------|-------------|
| Our supermarket adopted online ordering platforms to enhance customer access during and after the COVID-19 pandemic. | 143 | 4.14 | 0.50 |
| The use of online ordering systems has improved order processing and customer convenience. | 143 | 4.13 | 0.55 |
| We use digital inventory systems to monitor stock levels in real time | 143 | 4.15 | 0.67 |
| The adoption of digital tools has enhanced inventory accuracy and reduced stockouts | 143 | 4.03 | 0.72 |
| Mobile payment platforms have been fully integrated into our checkout process to support contactless transactions. | 143 | 4.10 | 0.69 |
| The use of mobile payments has improved the efficiency and speed of transactions in our supermarket | 143 | 4.16 | 0.72 |
| Overall mean Score | 143 | 4.12 | 0.50 |

Table 3 indicates that the overall mean score for digital transformation was 4.12 with 0.50 standard deviation, signifying strong agreement among respondents that large supermarket retailers in Nairobi County significantly embraced digital tools post-COVID-19. This high average reflects broad adoption of technologies such as online ordering, mobile payments, and digital inventory systems to enhance operational efficiency and customer convenience. According to Oyugi (2022), this digital shift in Kenya's retail sector was essential to maintaining service continuity during and after the pandemic period. Notably, mobile payment platforms emerged as a key adaptation, with a mean score of 4.16 for improving transaction speed and efficiency. The adoption of real-time inventory monitoring (mean = 4.15) and the use of online ordering platforms (mean = 4.14) further demonstrate that retailers invested in digital infrastructure to support both back-end operations and customer-facing services. These results align with findings by Sumarliah and Al-Hakeem (2023),

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who reported that e-commerce and digital payment tools served a pivotal role in upholding supply chain flow and customer engagement during health-related disruptions.

Slightly lower scores were recorded for the impact of digital tools on inventory accuracy (mean = 4.03) and integration of mobile payments at checkout (mean = 4.10), indicating that while adoption was widespread, there may still be areas for improvement in system optimization. As noted by Kamau et al. (2024), full digital transformation in retail requires continuous upgrading of infrastructure, staff training, and supplier alignment to fully realize the benefits of technological innovation. Overall, the results affirm the central role of digital transformation in booting supply chain resilience and service delivery during disruptive periods.

Therefore, the descriptive findings on digital transformation demonstrate that large supermarket retailers in Nairobi County strategically embraced technology to stabilize and optimize the supply chains in the post-COVID-19 period. With an overall mean score of 4.12 and 0.50 standard deviation, there was a strong consensus among respondents that digital initiatives such as online ordering systems, mobile payments, and real-time inventory monitoring significantly improved efficiency, accuracy, and customer service. These technological advancements not only addressed pandemic-related disruptions but also positioned supermarkets for greater resilience, agility, and competitiveness in a swiftly growing retail sector. In relation to supplier collaboration, the respondents were asked to state how they agreed or disagreed with statements supplier collaboration in enhancing supply chain resilience in their supermarket. Table 4 offers the results.

Table 4: Descriptive Statistics for Supplier Collaboration

| Statements | N | Mean | Std. Dev |
|--|------------|-------------|-----------------|
| Our supermarket has increased the frequency of communication with key suppliers post the COVID-19 pandemic. | 143 | 3.69 | 0.85 |
| Regular communication with suppliers has improved supply coordination | 143 | 3.99 | 0.59 |
| We engage in joint planning and forecasting activities with our suppliers to improve supply chain alignment | 143 | 4.03 | 0.52 |
| Collaborative forecasting with suppliers has enhanced our inventory planning and product availability. | 143 | 4.05 | 0.52 |
| Our supermarket has established long-term strategic partnerships with key suppliers to ensure supply stability | 143 | 4.08 | 0.52 |
| Contractual agreements with suppliers have been revised or strengthened to enhance post-pandemic resilience. | 143 | 4.13 | 0.46 |
| Overall mean Score | 143 | 4.00 | 0.45 |

Table 4 presents descriptive statistics on supply chain collaboration strategies adopted by supermarkets post-COVID-19. The responses suggest strong consensus on the importance of closer partnerships with suppliers in the aftermath of the pandemic. Establishing long-term strategic partnerships had the highest agreement (mean = 4.13, SD = 0.46), followed closely by collaborative forecasting (mean = 4.08) and joint planning activities (mean = 4.05). These findings

indicate that retailers increasingly relied on shared planning and coordination with suppliers to guarantee continuity and responsiveness in the supply chains. Similar observations were made by Wairimu (2023), who emphasized that strategic partnerships and collaborative forecasting significantly enhanced the agility of retail operations during the recovery period.

Respondents also affirmed the importance of regular communication with suppliers, scoring means of 3.99 and 4.03 for communication frequency and improved supply coordination, respectively. Contractual agreements were revised to enhance resilience, with a mean score of 4.00, highlighting a shift toward formalizing collaboration mechanisms. These practices reflect the broader industry movement toward integrated supply chain management. According to Naresho (2023), improved communication and updated contracts have helped retail organizations build stronger, more transparent relationships with suppliers, thereby reducing risks associated with future disruptions. Overall, the results suggest that collaborative strategies have been instrumental in restoring and strengthening retail supply chains in the post-pandemic context.

In conclusion, the findings on supply chain collaboration reveal a strong commitment by large supermarket retailers in Nairobi County to strengthen resilience and performance through enhanced partnerships with suppliers. With a high overall mean of 4.00 and low standard deviations, the responses show consistent agreement that post-pandemic recovery efforts involved intensified communication, joint planning, and contractual restructuring. These strategies contributed to improved supply coordination, inventory alignment, and overall stability in supply chain operations. The long-term supplier relationships incorporation and collaborative forecasting practices has positioned supermarkets to better withstand future disruptions and sustain efficient retail delivery. Inferential statistics were utilized to examine the relationships between the research variables.

Table 5: Model Fitness

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1 | .853 | .728 | .720 | .245 |

The model summary results show that the regression model has a strong explanatory power, with an R value of 0.853 indicating a high degree of correlation between the independent variables and performance. The R Square value of 0.728 implies that approximately 72.8% of the variation in performance of large supermarket retailers in Nairobi County can be explained by the four predictors: supply chain disruptions, adaptation strategies, digital transformation, and supply chain collaboration. The adjusted R Square value of 0.720, which accounts for the number of predictors in the model, confirms the model's robustness. The standard error of the estimate is 0.246, indicating that the model predictions are relatively precise and close to the actual observed values.

Table 6: Analysis of Variance

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1 | Regression | 22.325 | 4 | 5.581 | 92.344 | .000 ^b |
| | Residual | 8.341 | 138 | .060 | | |
| | Total | 30.666 | 142 | | | |

Table 6 ANOVA results indicate that the regression model is statistically significant ($F = 92.344$, $p = 0.000$), meaning that the combined effect of supply chain disruptions, adaptation strategies, digital transformation, and supply chain collaboration significantly predicts performance. The large F-value and the p-value less than 0.05 confirm that the overall model fits the data well and the predictors collectively explain a significant portion of the variance in supermarket performance post-COVID-19.

Table 7: Regression Coefficients

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|----------------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .504 | .211 | | 2.390 | .018 |
| | Supply Chain Disruptions | .256 | .047 | .331 | 5.488 | .000 |
| | Adaptation Strategies | .491 | .061 | .543 | 7.993 | .000 |
| | Digital Transformation | .180 | .073 | .195 | 2.451 | .016 |
| | Supply Chain Collaboration | .348 | .074 | .338 | 4.684 | .000 |

a. Dependent Variable: Performance

The multiple regression model used is illustrated below:

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

$$Y = 0.504 + 0.256X_1 + 0.491X_2 + 0.180X_3 + 0.348X_4$$

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Table 7 presents the regression coefficients, indicating the distinct contributions of every predictor variable to the performance of large supermarket retailers in Nairobi County. All four predictors were at the 5% statistically significant. Supply chain disruptions ($B = 0.256, p < 0.05$), adaptation strategies ($B = 0.491, p < 0.05$), digital transformation ($B = 0.180, p < 0.05$), and supply chain collaboration ($B = 0.348, p < 0.05$) each had a positive and significant influence on performance. Among them, adaptation strategies had the strongest impact, followed by supply chain collaboration. These findings suggest that retailers who responded to the pandemic by implementing strategic adjustments, embracing digital tools, managing disruptions effectively, and enhancing collaboration with supply chain partners experienced improved operational efficiency, customer satisfaction, and sales growth in the post-COVID-19 period.

These findings reinforce the indispensable integrated supply chain recovery strategies mandate in enhancing performance within the retail sector. The strong effect of adaptation strategies echoes insights by Chikwava (2024) and Koskei (2023), who emphasized that strategic reconfiguration of supply chains enables firms to navigate post-pandemic uncertainty effectively. The positive influence of supply chain collaboration backed Mahadevan et al. (2023) and Nareshe (2023), that emphasize the significance of joint planning, information sharing, and long-term supplier relationships in restoring stability and responsiveness. Similarly, the impact of digital transformation supports findings by Hamdy (2024) and Onikoyi (2024), who observed that leveraging technology enhances agility and visibility across supply chain functions. Lastly, the role of disruption management corresponds with conclusions by Sharma et al. (2025), showing that proactive mitigation of supply interruptions contributes significantly to operational continuity. Overall, the research affirms that adopting a multi-pronged approach encompassing digital, strategic, and collaborative measures offers a robust framework for improving supply chain performance in Kenya's retail supermarket landscape.

5.0 Conclusion

The study concludes that post-COVID-19 supply chain recovery strategies significantly influence the performance of large supermarkets in Nairobi County. The findings reveal that adaptation strategies, supplier collaboration, digital transformation, and effective responses to supply chain disruptions all contribute positively to operational efficiency, customer satisfaction, and overall retail performance. Adaptation strategies emerged as the most influential factor, followed closely by supplier collaboration, showing that proactive restructuring and strengthened supplier partnerships are essential for resilience. Digital transformation and disruption management also demonstrated notable effects, confirming the value of technology and preparedness in sustaining service continuity. Overall, the results underscore the importance of adopting an integrated approach to recovery in order to enhance competitiveness and maintain stability in a dynamic retail environment.

6.0 Recommendations

Based on the findings, the study recommends that supermarket retailers continue enhancing adaptive practices such as localized sourcing, flexible inventory management, and contingency

planning to cushion against future disruptions. Strengthening supplier collaboration through joint planning, consistent communication, and long-term partnership agreements should be prioritized to improve supply consistency and reliability. Further investment in digital technologies, including online ordering platforms, real-time inventory systems, and contactless payment solutions, is encouraged to optimize operations and enhance customer service experiences. Additionally, supermarkets should implement robust risk mitigation frameworks that support early detection of potential supply chain threats. By adopting these strategies, supermarkets can reinforce their resilience, improve performance, and sustain competitive advantage in the evolving post-pandemic retail landscape.

7.0 Recommendations for Further Research

This research explored four post-COVID retail supply chain recovery strategies: disruption responses, adaptation mechanisms, digital transformation, and supplier collaboration and their influence on the performance of large supermarket retailers in Nairobi County. Future research could examine additional recovery levers such as supply chain financing, predictive risk analytics, and demand forecasting using AI or big data. These tools are increasingly important in building resilient and agile supply chains, especially in the face of future global or regional disruptions. Moreover, upcoming studies could analyze how government interventions, public-private partnerships, and policy shifts impacted supply chain stabilization and recovery in the post-COVID landscape.

Secondly, this research was limited to large supermarket retailers within Nairobi County. Further research could expand the geographical scope to include secondary cities or rural supply chain networks in Kenya, or conduct comparative studies between countries in East Africa to assess regional disparities in post-pandemic supply chain resilience. Additionally, longitudinal studies could assess how sustained recovery strategies evolve over time, especially with e-commerce and omnichannel retailing. Incorporating qualitative approaches, such as interviews with supply chain managers or customers, would also enrich understanding of recovery challenges, innovation adoption, and stakeholder coordination in a post-pandemic retail environment.

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