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Assessing the impact of supplier and customer relationships and third-party logistics on stock availability in Mahikeng grocery small and medium-sized enterprises

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Background: Grocery small and medium-sized enterprises (SMEs) in Mahikeng face significant challenges in maintaining competitive advantage due to limited resources and inefficient supply chain practices. The integration of third-party logistics (3PL) services, along with strong supplier and customer relationships, has been proposed as a potential driver of operational efficiency and faster stock availability.

Objectives: This study aimed to assess whether effective supplier-customer relationships, when integrated with outsourced transportation through 3PL providers, can accelerate stock replenishment and improve the competitiveness of grocery SMEs in Mahikeng.

Method: Employing an exploratory qualitative case study design, the research collected primary and secondary data through semi-structured interviews with SME owners and managers, and analysis of operational records. A deductive approach was used to develop theoretical insights into the role of inter-organisational collaborations in expediting inventory turnaround times.

Results: Findings indicate that grocery SMEs with strong supplier and customer relationships and strategic 3PL partnerships experienced reduced lead times and improved inventory management. Improved coordination facilitated more timely stock availability, which, contributed to increased customer satisfaction and stronger competitive positioning. However, limitations such as 3PL capacity constraints and communication challenges were also identified.

Conclusion: The study concludes that integrating 3PL services with effective supplier and customer relationships is a critical enabler of supply chain responsiveness among grocery SMEs in Mahikeng.

Contribution: This study contributes to the existing literature by providing a port-specific, contextually grounded analysis of how 3PL integration can improve competitiveness in emerging markets, offering a novel framework for operational improvement in the grocery sector.

Keywords: competitiveness; grocery small and medium-sized enterprises; inventory management; supplier relationships; third-party logistics.

Introduction

Mahikeng, the historic capital of South Africa's North West Province, is a dynamic hub where grocery small and medium-sized enterprises (SMEs) are instrumental in promoting economic growth and increasing local food accessibility. Mahikeng provides a distinctive context in which traditional business practices intersect with contemporary challenges, owing to its distinctive combination of cultural heritage and emerging market dynamics. For local grocery retailers that are striving to remain competitive, this city presents both opportunities and obstacles, as it is recognised for its rapidly evolving socio-economic environment and its historical significance.

Many SMEs in the grocery industry continue to depend on traditional supply chain practices that have previously satisfied their operational requirements. However, these practices are now unable

to meet the increasing demands of a contemporary consumer base. These businesses are confronted with the dual challenge of an underdeveloped logistics infrastructure and limited financial resources in an era characterised by heightened consumer expectations for speed, efficiency, convenience and rapid technological advancement (Freitag & Silva 2021). The dynamic requirements of contemporary retailing necessitate that grocery retailers pursue innovative solutions that can bridge the gap between traditional operational models and the evolving local market conditions.

The integration of third-party logistics (3PL) services is a promising solution that has the potential to improve inventory management, reduce lead times and streamline operations. Third-party logistics is the process of outsourcing critical supply chain functions, including transportation, warehousing and inventory management, to external providers who specialise in these areas (De & Singh 2022). Izikki et al. (2023) propose that 3PL facilitates the optimisation of operations and the reduction of expenses by allowing organisations to capitalise on advanced technologies and expert services. Competitiveness, as defined by Freitag and Silva (2021), is the capacity of a company to surpass its competitors by generating superior value through adaptive strategies, efficient resource management and innovation.

The broader relevance of context-specific logistics innovations in emerging markets is further exemplified by the case of Mahikeng. The successful integration of strategic supplier partnerships with 3PL solutions can act as a catalyst for change, addressing both local constraints and global competitive pressures, as this study indicates. The purpose of this research is to offer valuable insights into the ways in which customised logistics strategies can generate a competitive advantage in environments where conventional practices are rapidly being replaced by modern, technology-driven methods. The transformation of grocery SMEs in Mahikeng ultimately provides a compelling narrative for policymakers, practitioners and academics, emphasising the critical interplay between global business imperatives and local context.

Prior research has demonstrated that 3PL can improve operational efficiency and decrease costs in a variety of industries (De & Singh 2022; Izikki et al. 2023). Nevertheless, there is a substantial gap in the evidence regarding the precise impact of 3PL integration on the competitiveness of grocery SMEs, particularly in emerging market contexts such as Mahikeng. Although research has investigated the advantages of 3PL in larger organisations or manufacturing sectors, there is a scarcity of research on the direct impact of such logistics strategies on supplier-customer relationships and operational performance in small retail settings. The current body of literature fails to adequately address the unique challenges encountered by grocery SMEs in underdeveloped logistical infrastructures by applying tailored 3PL solutions. The purpose of this study is to address this gap by examining the role of 3PL in improving stock availability and competitive positioning. Consequently, it will offer a more sophisticated comprehension of how strategic logistics integration can lead to performance improvements in emerging markets.

The research objective for this study is to determine whether supplier-customer relationships enabled faster stock availability from product suppliers and outsourced transportation – 3PL – among grocery SMEs in Mahikeng, South Africa. The research question is as follows: To what extent do supplier-customer relationships enable faster stock availability from product suppliers and outsourced transportation among grocery SMEs in Mahikeng, South Africa?

The unique historical and socio-economic landscape of Mahikeng provides a compelling yet underexplored context for the examination of the relationship between supplier-customer relationships, 3PL integration and stock availability among grocery SMEs. The existing literature primarily concentrates on larger retail formats or manufacturing sectors, resulting in a substantial gap in understanding how smaller, resource-constrained businesses navigate supply chain challenges. This study is significant because it addresses this gap by investigating the ways in which contextual factors unique to Mahikeng affect logistics practices and competitive positioning. The study provides innovative insights into the ways in which tailored inter-organisational strategies can improve operational efficiency and market resilience by concentrating on grocery SMEs in this emerging market.

The significance of this study lies in its investigation of the role of 3PL as a catalyst for improving the competitiveness of grocery SMEs in Mahikeng. Competitiveness was incorporated, as it contextualises the operational benefits of supplier-customer relationships and 3PL integration, connecting improved market positioning to faster stock availability. This perspective significantly emphasises the direct contribution of improved logistics practices to the maintenance of competitive advantage among grocery SMEs. It explores whether integrating effective outsourced transportation with strong supplier-customer relationships speeds up stock availability. The study emphasises the potential of improved logistics to reduce lead times and improve inventory management, thereby ensuring timely product replenishment and increased customer satisfaction, despite the tight margins and operational challenges encountered by grocery SMEs. The results provide actionable insights for SMEs to improve supply chain performance, while also contributing to the academic literature on supply chain integration in emerging markets. Policymakers and logistics providers can leverage these insights to cultivate a more conducive business environment.

Literature review

This literature review critically evaluates the current body of research on the combined influence of 3PL,

supplier-customer relationships, and operational efficiency on the competitiveness and operational efficiency of grocery SMEs. This literature review is structured into three distinct, yet interconnected sections. Firstly, it introduces a pertinent relational view theoretical framework, which substantiates the significance of strategic partnerships and firm capabilities in the pursuit of a competitive advantage. Secondly, it investigates the role of 3PL in the optimisation of supply chain processes, with a particular emphasis on the ways in which outsourcing transportation functions can improve operational efficiency and expedite stock replenishment. Lastly, the review examines the dynamics of supplier-customer relationships, emphasising their critical role in improving stock availability and reducing lead times. This methodical approach not only covers every single element but also makes a clear connection between them and the purpose of the study, which is to ascertain whether supplier-customer relationships and efficient 3PL integration allow grocery SMEs in Mahikeng to have faster stock availability. A strong foundation for the study's investigation into these interdependent factors is established by this review, which identifies gaps in the current literature.

Relational view theory: Leveraging inter-organisational relationships for supply chain competitiveness

The relational view theory posits that inter-organisational relationships generate competitive advantages by means of coordinated actions, trust and shared resources (Nguyen & Ménoury 2022). Nevertheless, recent literature has emphasised a critical analysis of how these relationships specifically reduce lead times and improve stock availability among grocery SMEs, rather than merely describing these mechanisms (Leuschner et al. 2014). Although the resource-based perspective emphasises internal capabilities, the optimisation of logistics performance is contingent upon the interaction between internal assets and strong supplier-customer relationships. This study critically evaluates these frameworks by examining the effect of 3PL integration, which, when combined with strong inter-firm partnerships, expedites inventory replenishment in a resource-constrained environment. These theories are contrasted to address their respective limitations and to investigate potential trade-offs, such as dependency risks. This analytical perspective not only improves theoretical comprehension but also provides practical insights into the customisation of supply chain strategies to optimise operational efficiency in the dynamic market context of Mahikeng.

Application of third-party logistics adoption in the grocery sector

An important aspect of the literature that has been emphasised is the influence of supply chain responsiveness on customer satisfaction and development. Asamoah et al. (2021) emphasise that the successful integration of responsive supplier networks is essential for SMEs in the grocery sector, as it facilitates faster decision-making processes and improves the responsiveness of logistics processes. This is directly correlated with increased customer satisfaction and responsiveness. As noted by Monnagaaratwe and Mathu, the implementation of effective supply chain management optimises the flow of products from suppliers to customers by leveraging shared resources, thereby increasing cost-effectiveness and efficiency (Monnagaaratwe & Mathu 2022). The importance of this dynamic is that it enables grocery SMEs to adapt to the changing demands of consumers and the escalating competition in the market.

The adoption of 3PL can facilitate the acceleration of logistics processes and stock availability by encouraging stronger relationships between suppliers and customers. A systematic framework for supplier collaboration suggests that the operational efficiency and waste reduction of grocery retailers are improved by mutual understanding and shared goals (Mishra, Singh & Subramanian 2022). Collaborations not only improve performance metrics by facilitating faster replenishment cycles but also enable better alignment of logistics operations with changing customer expectations. Research has shown that the implementation of environmentally responsible practices through partnerships with suppliers not only improves the overall performance of a business but also establishes a sustainable and competitive advantage (Mishra et al. 2022).

Subsequently, the expansion of digital platforms presents grocery SMEs with both opportunities and challenges. Truden et al. (2022) have demonstrated that the integration of technology with 3PL increases operational capabilities and facilitates improved inventory management. The online grocery shopping experience has undergone a significant transformation, necessitating that retailer accelerate their adaptation to digital trends. This adaptability is essential for sustaining customer loyalty and trust, especially in the rapidly evolving grocery sector (Suhartanto, Dean & Farhani 2024). The integration of information sharing and responsiveness is of the utmost importance, particularly in light of the pandemic's impact on supply chain management (Sharma et al. 2022).

Role of third-party logistics in the optimisation of supply chain processes

Third-party logistics plays a critical role in the optimisation of supply chain processes, with a particular emphasis on the outsourcing of transportation functions, which is essential for the expediting of stock replenishment and the improvement of operational efficiency. Small and medium-sized enterprises in the grocery sector, including those in Mahikeng, are particularly affected by this function. Third-party logistics providers' expertise and resources can be utilised by firms to outsource logistics functions, resulting in increased stock availability and improved logistics operations. Third-party logistics providers deliver

specialised services that include transportation, warehousing, inventory management and order fulfilment. Businesses can improve their competitive advantage by outsourcing these services, which enables them to focus on their core competencies and reduce logistics costs (Diem, Chromjaková & Homolka 2022; Liu & Lai 2016). The integration of advanced technologies and data analytics by 3PLs allows for the improvement of the speed and reliability of deliveries, which in turn results in the expedited replenishment of stock (Izikki et al. 2023). The implementation of real-time data tracking can significantly improve inventory management by ensuring stock levels consistently align with market demands (Gm et al. 2024). Furthermore, the strategic delegation of transportation functions to 3PL providers enables companies to leverage their scale and expertise. The reduction of transportation costs, the improvement of delivery times and the improvement of overall service quality are frequently achieved by 3PLs, as they frequently have established networks. This is consistent with the findings of Liu and Lai, who emphasise that outsourcing allows companies to adapt to market changes and customer demands more quickly, thereby improving operational efficiency (Liu & Lai 2016). The integration of supply chain processes through 3PL relationships provides suppliers and customers with increased visibility and collaboration, resulting in faster stock turnover and improved performance (Mengistu, Dimitrov & Qureshi 2023). The significance of strong supplier-customer relationships, cultivated through collaborative frameworks offered by 3PLs, is paramount. Communication is facilitated and trust is improved by a strong relationship quality, which in turn improves order accuracy and reduces lead times (Chu, Wang & Lado 2016). Firms that effectively collaborate with their 3PL partners exhibit substantial performance improvements, as collaborative endeavours facilitate improved alignment of logistical capabilities with market demands. This partnership guarantees that supply chains can adapt to fluctuations in demand, thereby increasing stock availability (Alkhatib 2017). Finally, choosing 3PL providers is a crucial decision-making process. The effectiveness of the provider in optimising supply chain operations is significantly influenced by factors such as their technological capabilities, service flexibility and reliability (Karrapan et al. 2017). Firms must conduct comprehensive evaluations to guarantee that the chosen 3PL provider can satisfy their logistical requirements while simultaneously improving operational efficiency and stock availability.

Dynamics of supplier-customer relationships and their critical role in improving stock availability and reducing lead times

The overall performance of a business can be directly influenced by the effectiveness of these relationships, which in turn affect operational efficiency. A fundamental component of these relationships is the concept of trust and relational exchange, which is the foundation for successful interactions between suppliers and customers. Shanka and Buvik (2019) emphasise that trust is positively correlated with supplier satisfaction, which can subsequently result in improved performance outcomes in these relationships. This is because suppliers are more inclined to engage cooperatively when they trust their partners. This type of trust is crucial for the facilitation of timely communication and collaboration, which can result in reduced lead times and faster stock replenishment. Additionally, the effective management of supplier relationships is directly correlated with operational practices, including just-in-time (JIT) delivery systems. The literature suggests that JIT systems improve flexibility by reducing unnecessary inventory and ensuring prompt supplier responses (Suleiman, Huo & Ye 2021). Firms can improve their JIT processes by implementing dedicated relationship management strategies that cultivate a collaborative spirit. This approach ensures that inventory levels are closely aligned with actual demand, thereby reducing excess stock and associated holding costs.

However, supplier centrality is crucial in optimising inventory levels. Kim and Fortado (2021) demonstrate that suppliers in a central position within a supply chain are more capable of delivering innovative solutions and swift responses to customer demands, thereby augmenting value and improving stock availability. This centrality establishes a dependency dynamic that encourages suppliers to operate at their highest potential to preserve their competitive advantage. Sharing information and communicating effectively are indispensable components of these relationships. As a result of effective communication strategies, inventory management can be improved, as forecasting capabilities are improved. The operational efficiency of supply chains can be enhanced through the effective integration of quality and collaboration, although specific studies on this integration are limited (Zhang et al. 2019). The likelihood of stockouts is reduced by the alignment of stock levels with market needs, which is facilitated by clear expectations and information flow between suppliers and customers.

Engaging 3PLs enables numerous SMEs to improve their flexibility and access logistics solutions that may otherwise be unaffordable. Research has demonstrated that the utilisation of 3PL can improve the speed of service and decrease logistics costs, both of which are essential for the preservation of operational efficiency and stock availability (Raut et al. 2018). This supply chain network is capable of rapidly adapting to evolving market conditions as a result of the relationship between suppliers, customers and logistics providers.

Research methods and design

Methodology

This section outlines the methodological approach that was implemented to determine whether the integration of 3PL and supplier-customer relationships facilitates the availability of stock more rapidly among grocery SMEs in Mahikeng. It offers an overview of the research design, data collection

techniques and analysis methods that collectively guarantee a thorough examination of the research objective of the study.

An exploratory qualitative research design is implemented in this study to explore whether the integration of 3PL and supplier-customer relationships results in a more rapid availability of stock among grocery SMEs in Mahikeng. The research design was chosen to provide a comprehensive understanding of the significant experiences of SME owners and managers with respect to their logistics practices. A qualitative study was selected because of its ability to enable a comprehensive examination of the complex dynamics between suppliers and customers and the integration of 3PL in small and medium-sized grocery businesses. This method improves both theoretical comprehension and practical relevance by capturing significant, context-specific insights that quantitative methods may overlook.

Participants who were directly involved in operational decision-making within grocery retail were selected through purposive sampling. The principle of data saturation was employed to select a total of 16 participants from a target population of 20 grocery SME owners and managers in Mahikeng, thereby guaranteeing that new information would not be significantly added through additional interviews. Sixteen participants were chosen after reaching data saturation, ensuring diverse perspectives while maintaining depth and manageability in the qualitative analysis. The target population was comprised of owners and managers of grocery SMEs in Mahikeng, who were chosen to represent a variety of viewpoints within this industry.

The purpose of semi-structured interviews was to encourage open dialogue while simultaneously addressing specific research questions. The interviews, which lasted approximately 45 min each, were designed to explore participants' perspectives on stock management practices, 3PL integration and supplier-customer relationships through a set of pre-determined, yet flexible questions. Detailed interview questions and protocols are provided for transparency.[1] Provisions were established to document the sessions with participants' consent throughout the 2-month interview period in mid-2024. The interviews were transcribed verbatim and imported into NVivo software for data analysis. This process allowed for systematic thematic coding to identify recurring patterns and themes that were directly related to the research objective. The methodology was conducted in accordance with the most rigorous qualitative research practices (Lincoln & Guba 1985), which guaranteed the validity, credibility and management of the data.

Ethical considerations

An application for full ethical approval was made to the Economic and Management Sciences Research Ethics Committee, and ethics consent was received on 01 July 2024. The ethics approval number is NWU-00727-22-A4.

1.Interview schedule: *Question 1:* How would you describe your suppliers' reliability in consistently delivering products on time and in good condition? *Question 2:* Can you share an example where the reliability of a supplier significantly affected your ability to maintain continuous stock availability? *Question 3:* What measures or practices do you implement with your suppliers to ensure consistent and dependable delivery, especially during high-demand periods?

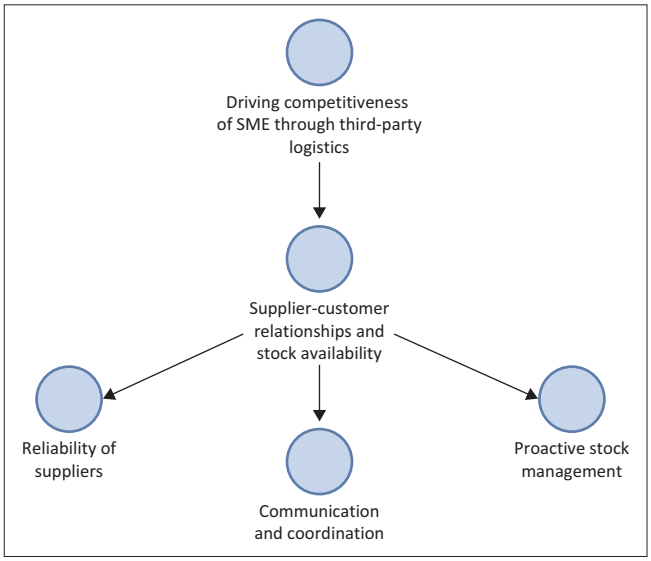
Results

Key findings from the thematic analysis of interviews with grocery SME owners and managers in Mahikeng are presented in this section. The research objective was to ascertain whether the integration of effective 3PL and strong supplier-customer relationships contributes to faster stock availability. Consequently, the analysis was guided by this framework. The results are structured around a few fundamental themes, such as proactive stock management, communication and coordination, and supplier reliability (Table 1). Each theme is substantiated by participant insights and is intended to demonstrate how customised logistics strategies improve operational efficiency and competitiveness in an emerging market context.

Figure 1 was produced by conducting a systematic thematic analysis of the interview data with NVivo software. It visually illustrates the fundamental themes that emerged during the investigation, including proactive stock management, communication and coordination, and supplier reliability. This figure was developed to concisely illustrate the dynamic relationship between supplier-customer relationships and the integration of 3PL in the acceleration of stock availability. Figure 1 presents these themes in a connected format, which provides readers with an immediate, accessible overview of the critical factors that influence operational efficiency among grocery SMEs in Mahikeng.

TABLE 1: Theme and sub-themes.

Theme	Sub-themes
Supplier-customer relationships and stock availability	1. Reliability of suppliers
	2. Communication and coordination
	3. Proactive stock management



SME, small and medium-sized enterprise.

FIGURE 1: The model shows the themes of supplier and customer relationships, and stock availability.

Theme: Supplier-customer relationships and stock availability

Sub-theme 1: Reliability of suppliers

Many participants highlighted the importance of a reliable relationship with their suppliers, ensuring that stock is delivered on time and in good condition. This reliability is key for maintaining continuous stock availability, preventing out-of-stock situations and ensuring customer satisfaction:

> 'Every time I place an order it always gets delivered on time.' (Participant 11, male, buyer)

> 'We don't want our customers to wait forever for a product they need urgently.' (Participant 12, female, buyer)

> 'They must come on time, especially month end.' (Participant 16, male, buyer)

Codes: Reliability and consistency.

Sub-theme 2: Communication and coordination

Effective communication with suppliers and 3PL providers is often mentioned as a key factor in ensuring timely deliveries and avoiding out-of-stock situations. Regular check-ins, pre-orders and maintaining a good rapport with suppliers are key practices:

> 'They help me to make my life a little bit easier.' (Participant 13, female, buyer)

> 'I call them to check if they are on their way and they will deliver on time.' (Participant 15, female, buyer)

Codes: Communication and coordination.

Sub-theme 3: Proactive stock management

Participants frequently mentioned the practice of ordering stock in advance, especially for fast-moving consumer goods (FMCG) to prevent shortages. Some participants also discussed the importance of stocktaking and ordering more of high-demand items:

> 'Weekly check which products sell fast, and then which products are in demand we stock more.' (Participant 12, female, buyer)

> 'I pre-order a week before. The things I ordered can get to me on time.' (Participant 14, male, buyer)

Codes: Preordering and stocktaking.

Discussion

Within this section, the results are critically evaluated and interpreted in the context of the existing literature and theoretical frameworks. The integration of 3PL and strong supplier-customer relationships can accelerate stock availability among grocery SMEs in Mahikeng, as the discussion synthesises insights from the themes of supplier reliability, communication and coordination, and proactive stock management. The empirical data is contextualised within established theories, including the resource-based and relational views, in this analysis. Additionally, the broader implications for operational efficiency and competitive positioning in emerging markets are examined.

Sub-theme 1: Reliability of suppliers

Supplier reliability has a direct effect on the consistency and speed of stock availability. Research demonstrates that strong supplier relationships cultivate trust and satisfaction, which are key for attaining positive relational outcomes and improving performance (Caspi et al. 2017; Leuschner et al. 2014). Grocery SMEs can anticipate a more consistent flow of products when they establish reliable connections with their suppliers. This is key for maintaining stock levels and meeting customer demand. This is especially pertinent in the field of 3PL, where the integration of logistics services can improve inventory management and diminish lead times (Monnagaaratwe & Mathu 2022). The collaborative nature of these relationships enables improved communication and coordination, which in turn enables more rapid responses to market changes and customer needs.

The replacement of returned products is another area in which supplier reliability is imperative. The capacity to effectively manage returns and guarantee that replacements are promptly provided can provide significant value to grocery SMEs. This process not only improves customer satisfaction but also improves the business's overall competitiveness by reducing losses associated with unsold or returned inventory (Heydari, Bakhshi & Nikoofal 2023). Research indicates that a well-defined return policy, strengthened by dependable suppliers, can alleviate the risks linked to product returns, thus improving the financial stability of SMEs (Shevchenko et al. 2020). The competitiveness of grocery SMEs can be significantly improved by shared 3PL transportation in terms of cost savings. By utilising the services of dependable 3PL providers, these companies can decrease transportation expenses while improving service delivery (Chen, Pai & Hung 2010).

In a competitive market where cost efficiency is of the utmost importance, the collaborative approach to logistics enables SMEs to capitalise on economies of scale. This is particularly advantageous. Research has demonstrated that SMEs that participate in shared logistics services experience a decrease in delivery expenses, which results in a stronger competitive position in the grocery industry (Mathu 2021). This collaborative model optimises resource utilisation and improves overall supply chain efficiency, thereby contributing to business sustainability.

Sub-theme 2: Communication and coordination

The correlation between stock availability and supplier-customer coordination can be interpreted in the context of effective supply chain practices. According to research, effective communication and information sharing are facilitated by strong supplier relationships, which are key for maintaining stock levels efficiently and meeting

customer demands. Wang et al. emphasise the significance of supplier-customer coordination in mitigating customisation challenges, resulting in improved inventory management and responsiveness to market demands (Wang et al. 2017). Jayaram, Xu and Nicolae (2011) also emphasise the significant impact of coordination mechanisms between suppliers and customers on operational performance, particularly in the areas of quality and flexibility, which are key for stock availability.

The communication and coordination processes can be improved through the integration of 3PL services. The utilisation of shared transportation systems not only diminishes expenses but also improves the efficiency of inventory restocking. Pirmanta, Tarigan and Basana (2021) emphasise the importance of external integration, which encompasses customer and supplier integration to accurately capture demand and respond promptly to changes, thereby improving stock availability. Small and medium-sized enterprises that may not possess the necessary resources to independently manage logistics may find this particularly pertinent. Utilising 3PL, these grocery stores can improve their supply chain efficiency, resulting in expedited stock availability and increased competitiveness. The replacement and recovery of returned products can also be viewed as a component of effective communication and coordination in terms of the value they provide. Efficient management of returns not only mitigates potential losses but also improves sustainability initiatives. The research conducted by Yang et al. suggests that positive supplier relationships improve responsiveness, which is key for the effective management of returns and, as a result, adds value to grocery SMEs (Yang et al. 2020).

The recycling of returned products can reduce environmental damage, which is consistent with the current sustainability objectives, as emphasised by Govindan in his discussion of the advantages of vendor-managed inventory systems in fostering sustainable practices (Govindan 2013). The comparative analysis of shared outsourced transportation demonstrates that it can significantly reduce delivery costs, a critical factor in the competitiveness of grocery SMEs. Cost-sharing among multiple businesses is enabled by the collaborative nature of 3PL arrangements, which results in reduced operational expenses. The findings of Setia et al. indicate that effective communication and coordination via IT systems can improve the value co-creation process between suppliers and customers, thereby benefiting the entire supply chain (Setia, Richardson & Smith 2015).

Sub-theme 3: Proactive stock management

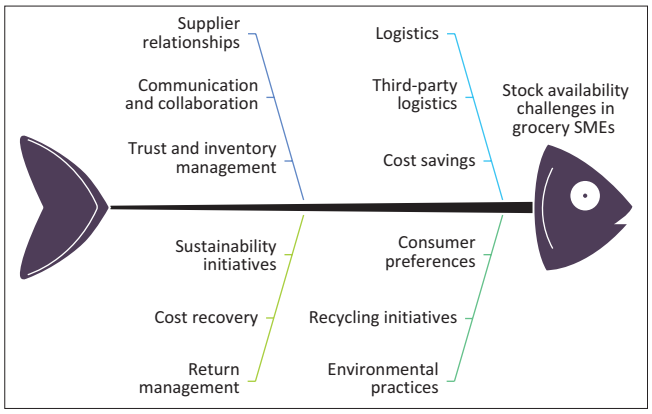
The relationship between stock availability and supplier-customer dynamics is of the utmost importance. A strong supplier relationship can improve communication and collaboration, which is key for prompt stock replenishment. Research suggests that improved stock management practices are associated with trust in supplier relationships, which allows grocery stores to maintain optimal inventory levels and minimise stockouts (Sarantidou 2018). Furthermore, stock availability can be improved by establishing effective supplier relationships, which can enable more rapid responses to fluctuations in consumer demand (Matsa n.d.).This is especially pertinent for SMEs that may not possess the resources to independently manage comprehensive inventory systems.

Another critical component of proactive stock management is the management of returned products. Small and medium-sized enterprises in the grocery industry can gain a lot from being able to handle returns effectively. Studies have demonstrated that efficient return management not only recovers costs associated with unsold or returned products but also contributes to sustainability initiatives by encouraging recycling and reducing waste (Pantano et al. 2020). This is consistent with the increasing consumer preference for environmentally responsible practices, which has the potential to improve the competitiveness of grocery stores (Allcott et al. 2019). The replacement of returned products can be strategically managed to ensure that SMEs recover their investments and attract environmentally conscious consumers. In terms of logistics, shared 3PL transportation can be a game-changer for small and medium-sized grocery businesses. These businesses can realise significant cost savings by outsourcing transportation to third-party providers, which can be allocated to the improvement of product offerings or the improvement of customer service (Caspi et al. 2017).

Research indicates that collaborative logistics can decrease delivery expenses, enabling SMEs to compete more efficiently with larger retailers (Blackwell et al. 2016). Furthermore, the strategic implementation of 3PL can improve stock availability by guaranteeing that products are delivered more efficiently, thereby reducing the likelihood of stockouts and the occurrence of delays (Reiner, Teller & Kotzab 2013). It is imperative to consider the environmental consequences of proactive stock management. Integrating sustainable practices in inventory management, including recycling returned products and optimising transportation routes, can significantly diminish the environmental impact of grocery operations (Olzenak et al. 2020). This is becoming more significant as consumers become more cognisant of environmental concerns and prefer to patronise retailers that exhibit a dedication to sustainability (Schneider et al. 2021). As a result, proactive stock management not only improves the operational efficiency of grocery SMEs but also aligns with broader societal values regarding environmental stewardship.

A framework for improving stock availability in grocery small and medium-sized enterprises

Figure 2 continues the insights from Figure 1 by providing a conceptual framework that integrates the identified themes into a cohesive model. The purpose of this diagram was to visually illustrate the collective improvement of stock replenishment processes by the interconnected elements,



SMEs, small and medium-sized enterprises.

FIGURE 2: Improving stock availability in grocery small and medium-sized enterprises.

which were derived from both empirical data and theoretical insights. It bridges the gap between theory and practice by emphasising the interdependencies between logistical processes, supplier-customer dynamics and the role of 3PL. This framework functions as a strategic tool for stakeholders, demonstrating how customised 3PL strategies can be utilised to improve operational performance and competitiveness in emerging market contexts.

The diagram labelled as Figure 2 identifies and categorises the primary factors that influence stock availability in grocery SMEs, demonstrating how supplier relationships, communication, collaboration and trust in inventory management collectively influence timely replenishment. The diagram emphasises the significance of logistics and 3PL services by visually mapping these interconnected elements, which enable cost savings and reduce lead times. The diagram emphasises that strong partnerships and transparent communication channels promote efficient inventory flow, minimising stock-outs and improving competitiveness, in relation to research objective one, which investigates the impact of supplier-customer relationships on faster stock availability. Furthermore, the evolving market demands and regulatory pressures are reflected in the significant considerations of sustainability initiatives, consumer preferences, recycling and return management. In relation to the study, these factors collectively influence the operational strategies of grocery SMEs, which in turn encourage them to implement integrated supply chain solutions and 3PL partnerships to maintain an optimal inventory level and more effectively meet customer needs generally.

Figure 2 emphasises preliminary disruption-mitigation strategies for improving supply chain resilience, with a particular emphasis on the ability of strong supplier relationships, communication and collaboration to ensure stock availability, considering the findings. Proactive engagement is facilitated by the maintenance of trust and inventory management, as emphasised by the research objective of this study. This enables enterprises to anticipate vulnerabilities and prepare for disruptions. Third-party logistics offers cost-effective, adaptable solutions during disruptions, necessitating speed responsiveness and parallel proactive and reactive behaviour. These logistics partnerships facilitate buffer management, which guarantees the uninterrupted flow of goods and reduces operational uncertainties. Through strategic revamping and transformation of the supply chain, adaptability facilitates recovery following disruption. Grocery SMEs improve their competitiveness and resilience by aligning consumer preferences, recycling initiatives and sustainability efforts. Consequently, the diagram emphasises that the end-to-end visibility, knowledge management and supplier-customer collaboration collectively fortify inventory flow, thereby mitigating disruption impacts and achieving the overarching objective of improved stock availability.

Theoretical and practical implications

The study contributes to the theoretical literature on supply chain management by incorporating insights from the relational view and the resource-based view. The results indicate that the integration of strategic 3PL with strong supplier-customer relationships significantly improves operational efficiency and expedites stock availability. This integration not only extends existing theories by illustrating the dynamic relationship between outsourcing logistics and relationship management, but it also reinforces the concept that unique firm capabilities and inter-organisational ties encourage competitive advantage. In an emerging market context, the conceptual framework developed in this study bridges the gap between abstract theory and empirical evidence, indicating that future research should further refine integrative models that account for both logistical efficiency and relational quality. Modern logistics solutions are rapidly transforming traditional practices in sectors where these theoretical advancements provide a foundation for rethinking competitive strategies.

The practical implications of this study are substantial for grocery SMEs that operate in resource-constrained environments, such as Mahikeng. The study provides actionable insights for improving supply chain performance by illustrating that strategic 3PL integration and strong supplier-customer relationships can accelerate stock availability. Managers are advised to establish strong communication channels with suppliers and invest in dependable logistics partnerships to mitigate stock-out risks and reduce lead times. The findings also indicate that outsourcing non-core logistics functions enables SMEs to concentrate on their core competencies, thereby improving their competitiveness. Policymakers and industry stakeholders can leverage these insights to develop regulatory frameworks and capacity-building initiatives that encourage contemporary logistics practices. The study therefore offers a strategic decision-making framework and operational improvements, thereby enabling grocery SMEs to navigate the competitive pressures of emerging markets more effectively.

Limitations

This study offers valuable insights into the role of 3PL integration and supplier-customer relationships in improving stock availability among grocery SMEs in Mahikeng. Nevertheless, its findings are restricted by a few constraints. The generalisability of the findings to broader contexts is restricted by the purposive sampling of 16 participants and the qualitative research design. The focus on a single geographic area restricts external validity, and self-reported data may introduce bias. Additionally, the absence of quantitative measures does not allow for statistical confirmation of observed relationships. The depth of understanding may have been further restricted by temporal constraints and the use of semi-structured interviews. These limitations should be resolved in future research by employing a variety of methodologies and larger sample sizes.

Conclusion and recommendations

This study concludes that the integration of strategic 3PL solutions with effective supplier-customer relationships significantly improves stock availability among grocery SMEs in Mahikeng. Thematic analysis of in-depth interviews demonstrated that the proactive management of stock, efficient communication and coordination, and strong reliability of suppliers are essential for the timely replenishment of stock and the reduction of lead times. These findings are consistent with the research objective, demonstrating that the symbiotic relationship between outsourced logistics and strong inter-organisational ties can promote operational efficiency and competitive advantage in an emerging market context.

The evidence collected suggests that SMEs that implement 3PL are more effectively able to address the logistical challenges that are typically associated with traditional supply chain practices. Participants observed that outsourcing transportation and warehousing not only alleviates operational bottlenecks but also allows them to allocate scarce resources to core business functions. The study also emphasises the importance of strategic supplier-customer interactions in the maintenance of consistent inventory flows. The conceptual framework presented in Figure 2 visually integrates the empirical themes into a cohesive model, thereby bridging the gap between theoretical constructs and practical application, thus substantiating these insights. While previous research has investigated the advantages of 3PL in larger organisations, this study offers a context-specific examination of how grocery SMEs in Mahikeng can utilise these services to surmount local logistical challenges. The findings underscore the potential of tailored logistics strategies, when combined with strong relational dynamics, to act as catalysts for improved service quality, increased stock availability, and, in the end, a more competitive market position.

Future research can further develop these discoveries by utilising mixed methods designs that incorporate both qualitative and quantitative methodologies, thereby improving statistical rigour and generalisability. Comparative studies conducted in a variety of sectors and geographic regions would elucidate the validity of the observed dynamics in various contexts. Insights into the changing market conditions could be obtained through longitudinal research that monitors changes in supplier-customer relationships and 3PL integration over time. Further investigation into the impact of advanced analytics and emerging digital technologies on logistics performance presents an additional promising opportunity. The study's conclusions would be further validated and understood in future research contexts by increasing the sample size and incorporating multiple stakeholder perspectives.

For the successful integration of 3PL services, grocery SMEs must implement a strategic approach that aligns internal processes with external logistical capabilities. The initial step for SMEs is to conduct thorough cost-benefit analyses to comprehend potential efficiencies, including improved inventory management and reduced lead times. Real-time tracking and seamless communication between SMEs, suppliers and 3PL providers are imperative, necessitating the investment in robust IT systems. Optimising operations and mitigating risks associated with supply chain disruptions can be achieved by establishing long-term, trust-based partnerships with clearly defined performance metrics. The integration process is further facilitated by standardised operating procedures and staff training programmes, which ensure that the benefits of 3PL are fully realised.

Overall, the study reinforces the importance of a strategic emphasis on both 3PL integration and inter-organisational relationship management to achieve operational excellence. The convergence of these elements not only improves the responsiveness of supply chains but also establishes a resilient competitive advantage for grocery SMEs in Mahikeng. This provides valuable insights for future research and practical implementation in similar emerging market contexts.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

Both B.K. and A.S. have significantly contributed to the conception, design, analysis and interpretation of the research article. B.K. and A.S. confirm that the manuscript represents honest work and that no significant contributors have been omitted.

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Data availability

The data supporting the findings of this study are available within the article. Any additional data that support the findings of this study are available from the corresponding author, A.S., upon reasonable request. Because of privacy and ethical considerations, access to raw data may be restricted.

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