
Navigating the Challenges Experienced by Informal Retailers in Managing Supply Chain Practice

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Abstract:

Purpose: This study aimed to explore the challenges encountered by informal retailers in managing their supply chain practices.

Design/methodology approach: South African informal retail sector (spaza shop and street vendors) is reported to have a significant contribution on GDP and low-income households. The role of this sector is not limited to the distribution of goods to low-income households but also plays a major role in alleviating poverty. Despite this contribution, the sector is marked with challenges in professional management to drive supply chain efficiency. The qualitative method and an exploratory research design were employed to collect primary data through semi-structured interviews.

Findings: The findings reveal that demand fluctuations, high transportation costs, and limited access to technological innovations account for supply chain inefficiency in informal retailers. These challenges impact inventory management, customer service delivery, and overall business sustainability.

Practical implications: This study suggests that the sector should adopt advanced demand forecasting tools to accurately predict both online and in-store demand, particularly during peak times such as pay days. Enhanced demand forecasting could optimise inventory levels, minimise the risk of stockouts or overstocking, and improve overall supply chain efficiency.

Originality value: Thematic analysis of data was conducted using NVivo software. The study has the potential to contribute to theory, practice and strengthening municipal policy guiding the development and support given to spaza shops and street vendors.

Keywords: Spaza shops, street vendors, supply chain management, infrastructure, technological innovation.

JEL Classification: L81, M11, D22, O17, R30.

Paper Type: Research paper.

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1. Introduction

Street vendors refer to the person who sells goods or food items on public sidewalks, streets, or other outdoor spaces (Grangxabe, 2024). While spaza shop refers to the small, informal retail business, that operates within the low-income residential areas, that sell basic goods (Willie, 2023). Drawing from ASC Consultants (2024) in South Africa, both spaza shop owners and street vendors are regulated which means they are required to be in possession of a valid trading license and health certificate to warrant compliance.

These informal retail sectors are key toward development of local economy in South Africa. According to Brand and Brand (2023) in the year 2021, spaza shops have made a significant contribution of 5.2% to South Africa's Gross Domestic Product (GDP) through employment of 2.6 million people, this expanded economy of these informal convenience shops is at around R600 million in constant GDP numbers.

The South African Township Marketing Report published by Roger Wilco, found that spaza shops contribute as much as 5.2% to South Africa's Gross Domestic Product (GDP), employing 2.6 million people, this expanded economy of these informal convenience shops is at around R600 million in constant GDP numbers.

The role of this informal retailer is not limited to the distribution of goods to low-income households but also play a major role in alleviating poverty. Additionally, their role in meeting the consumption needs of exchanging consumer products, integrating into urban life numerous low-income groups, and providing employment opportunities, cannot be ignored.

Furthermore, around 2020, South African banking group established a partnership with the informal retail sector, which is aimed at improving operations and financial inclusion. This partnership has benefited the informal retail sector in improving the financial supply chain efficiency through the betterment of procurement, payment flows, inventory management, and local distribution, which strengthens the overall resilience.

However, the use of technology in this sector remains limited in ensuring informal retail sector accessibility to suppliers. The current technology use does not give the retailers (including spaza shop and street vendors) the ability to explore multiple suppliers to purchase the stock at a lower price and good value, which could have a positive contribution towards guaranteed improvement in profit margin and affordability in customers.

This constraint undermines the potential of spaza shops in contributing meaningfully to the local economy. However, informal retail sector in South Africa received limited attention from supply chain scholars, this is evidence by the knowledge gap in practices.

This study aimed to explore the challenges encountered by informal retailers in managing their supply chain practices. Understanding these challenges grants the study the potential to contribute to the achievement of Sustainable Development Goal 8 and 12 by improving supply chain efficiency, enhance competitiveness, and strengthening the sustainability of spaza shops.

The result of this study also presents an improved strategy in providing essential goods and services to low-income communities while operating within resource-constrained environments.

2. Underpinning Theory

This study is anchored in Supply Chain Management (SCM) theory, initially advanced by Oliver and Webber in the early 1980s and subsequently conceptualised by Mentzer *et al.* (2001) as the strategic and systemic coordination of business functions across organisations to improve long-term supply chain performance. In this study, SCM is not treated merely as an operational framework, but as an analytical lens for exploring the challenges encountered by informal retailers in managing their supply chain practices.

Contemporary SCM literature emphasises that effective supply chain performance depends on integration, coordination, and information sharing across supply chain actors (Tan *et al.*, 2023; Żywiołek, *et al.*, 2025; Baah, *et al.*, 2022; Christopher, 2016).

However, informal retailers often operate within fragmented and loosely structured supply chains characterised by limited resources, weak supplier relationships, and minimal formal coordination.

From an SCM perspective, these challenges reflect low levels of supply chain integration and visibility, which constrain the ability of informal retailers to plan, control, and optimise supply chain activities. To deepen the analytical focus, the study draws on supply chain resilience theory, which highlights the capacity of supply chains to cope with, adapt to, and recover from disruptions (Hosseini, Ivanov, and Dolgui, 2019).

Informal retailers are particularly exposed to disruptions such as price volatility, inconsistent supply, and regulatory uncertainty. SCM theory, viewed through a resilience lens, enables a systematic exploration of how these challenges affect continuity, reliability, and responsiveness within informal retail supply chains.

In addition, insights from sustainability-oriented SCM are used to contextualise challenges related to long-term economic viability and socially embedded supply relationships (Kurniawati and Cakravastia 2023; Reshad *et al.*, 2023).

3. Literature Review

3.1 Supply Chain Management in Informal Retailing

Supply chain management is the integration of key business processes from the end user through original suppliers that provide products, services and information to add value to partners and the ultimate customer (Bowersox *et al.*, 2024). The important components to supply chain practices are procurement, distribution, and inventory control, which increase the accessibility of products to a business customer (Hugos, 2024).

Supply chain management is likely to empower informal retailers to improve their business and retail operations, thus enhancing their sustainability and competitiveness in the competitive environment (Winata *et al.*, 2019).

Sibanda *et al.*, (2020), indicate that the informal and semi-informal businesses in developing countries often lack professional management to drive supply chain efficiency. Informal retail businesses experience increased competitiveness daily through the formalisation of the retail industry and increasing competition. Informal retailers are competing for the same or similar customer base in proximity.

Access to infrastructure, training and education, as well as business loans, is limited. Retailers often manage their retail enterprises with a minimal level of knowledge or experience in retail management. Because of the informal traders' inability to obtain basic resources to manage their businesses professionally, they are unable to add value to their customer relationships (Makhitha and Soke, 2021).

3.2 Drivers of Supply Chain Performance

The success of supply chain management (SCM) is largely determined by the effective management of the SCM drivers such as inventory, transportation, sourcing, facilities, pricing, and information. The SCM drivers' impact both operational efficiency and customer satisfaction, shaping the overall competitiveness of supply chains (Chopra & Meindl 2019). The success of SCM in the informal retailer depends on the owners who manage SCM drivers. The section below provides relevant literature on three SCM drivers:

Transportation: Transportation is one of the biggest logistical expenses businesses that can impact the success of any business supply chain in which the business operates and should therefore be managed effectively and cost-efficiently. The study Kamyabi and Fekrazad (2025) indicates that a rise in fuel price increases transport costs which results in food at home and food away from home expenditures dropping by about 3% and 6%, respectively. The distance between informal retailers and suppliers can influence the timeous delivery of goods, transportation and logistical costs, flexibility, and service levels.

Therefore, informal retailers can benefit economically by using local suppliers (Makhitha, 2016).

Furthermore, formal retailers that benefit from dedicated fleets and optimised distribution networks, informal retailers rely on suppliers or third-party transport services (Boulaksil *et al.*, 2019). This dependence decreases flexibility and prevents the application of cost-minimisation or route-optimisation strategies commonly assumed in analytical SCM models (Kerzhner, 2022; Palaniappan, 2025).

Unreliable transportation planning results in delayed stock replenishment and restrain market expansion further than immediate communities (Eicker and Cilliers, 2019). Therefore, transportation in informal retail supply chains functions less as an optimised decision variable and more as a structural constraint, limiting overall supply chain effectiveness.

Inventory: Informal businesses have limited resources and encounter challenges such as tight cashflows, limited storage space, and higher risk of stockouts when managing inventory effectively (Parayil Iqbal *et al.*, 2023). Therefore, it is important for these businesses to implement technologies and focus on improving the expertise of employees and business owners in inventory management practices (Panigrahi *et al.*, 2024).

Eicker and Cilliers (2019) state that businesses hold inventory in supply chains to balance supply and demand of products. However, the challenge is finding the right balance between the amount of inventory that businesses should keep satisfying unpredictable customer demand and the cost of carrying additional inventory (Atkins *et al.*, 2021).

Paul *et al.* (2014) signify that due to change to customer expectation led to demand increase and decrease frequently and unpredictably. Moreover, inventory misalignment often translates into products waste, stockouts, and lost sales, undermining sustainability (Muir *et al.*, 2019).

Consequently, this reflects structural departure from analytically modelled inventory systems, highlighting the need for alternate conceptual approaches that account for uncertainty, informality, and constrained decision-making (Chopra and Meindl, 2019).

Information: Information is the integrative driver that allows coordination across supply chains. Digital technologies are implemented to support real-time inventory visibility, predict demand, and analytics-driven decision-making. Nevertheless, informal retailers frequently struggle to obtain accurate and timely information. Most rely on verbal exchanges, manual documentation, or outdated information from suppliers, which hampers their ability to forecast and coordinate effectively (Ebrahim and van den Berg 2024).

Furthermore, the absence of digital information systems in the informal retail sectors hinder the implementation of coordination mechanisms assumed in analytical supply chain models, reinforcing fragmentation and inefficiency within informal retail supply chains (Holloway, 2024).

It is therefore significant that alternative methods of information sharing are introduced in the informal retail sector. Informal retailers cannot afford digital systems such as enterprise resource planning (ERP) platforms or blockchain like formal sectors. Nevertheless, this does not imply a complete absence of digital capability.

In practice, many informal retailers can access to basic digital tools such as internet connectivity, email services (e.g., Gmail), computers, and smartphones, which can support low-cost communication and information sharing across supply chain members, supporting incremental developments in supply chain sustainability, decrease waste, and environmentally responsible coordination without imposing prohibitive technological (Nweje and Taiwo, 2025).

4. Challenges Associated with Supply Chain Practices in Informal Retail Sectors

4.1 Supply Chain Logistical Issues

Logistical issues are concerned with transportation, warehousing and distribution of inventory and stock, and the inefficiencies in these areas are expected to harm the operational effectiveness across the supply chain. Informal retailers struggle with inefficient infrastructure and the unavailability of very expensive delivery centres (Tawodzera, 2019).

Imperial evidence form Informal retailers in Nigeria discovered that their reliance on an inefficient and incomplete delivery system causes stockouts of up to 30% of inventory (Onikoyi, 2024).

Geographical constraints further reduce supply chain effectiveness, with studies estimating a 25% decline in performance due to limited access to supply centres and poor road infrastructure (Wegerif, 2020).

Although informal retailers in South Africa benefits from the ability to buy in small quantities frequently (Ligthelm, 2008; Charman *et al.*, 2012). However, these advantages are offset by higher supply chain costs, anticipated to rise by between 10% and 20%, with parallel decreases in sales and turnover (Makhitha and Soke, 2021).

Such conditions emphasis the deviation between analytically optimised logistics systems and the realities of informal retail networks.

4.2 Economic and Funding Barriers

Informal sectors create employment for millions of people. However, it has largely been missing from economic analysis and policy discourse not only in South Africa but globally (Fourie, 2018). In countries such as Thailand and India, home-based enterprises are protected.

Viljoen and Ledingoan (2020), indicate that the Street vendors in Ghana and India are legalised, and have been upgraded with the assistance of the municipalities. Access to finance is a vital belief in many supply chain optimisation and coordination models, allowing firms to invest in inventory, transportation, and technology.

However, some countries including South Africa access to credit for the informal retail sectors remains one of the most major challenges for supply chain growth. Financial institutions are often hesitant to extend credit to informal sectors due to concerns involving business feasibility and repayment risk (Nguyen and Canh, 2021; Ali *et al.*, 2020; Williams, 2019).

This results in the informal retailers operate with cut down inventory levels, restricted supplier relationships, and constrained procurement options. These financial barriers hinder precise demand forecasting and prevent incorporation into formal wholesale supply chains (Tuomala and Grant, 2022).

High operational costs further require retailers to focus on low-cost, low-margin products, reinforcing survival-oriented rather than growth-oriented supply chain strategies (Makhitha and Soke, 2021; Luke *et al.*, 2020). Table 1 outlines the challenges faced by informal retailers in supply chain management, drawing from the literature in various countries. By comparing these studies, it provides a comprehensive overview of the diverse yet interconnected challenges affecting informal retailers globally.

Table 1. *Challenges faced by informal retailers in supply chain management.*

Source	Challenges faced by informal retailers in supply chain management.	Context
Hove-Sibanda, Motshidisi and Igwe, 2021.	Late deliveries, damaged stock, theft, high fuel costs and expired stock from their respective suppliers.	South Africa
Tuomala & Grant, 2022.	Findings indicate societal factors play a significant role affecting food distribution, access and security from a spatial perspective of retail outlet locations and a nutritional standpoint regarding quality and quantity of food.	South Africa
Yang,	Limited use of information technology. Lack of supply	England

Kobbacy, Onofrei and Nguyen, 2023	chain collaboration. Unclear avenues of communication with the government and limited resources for learning and training.	
Al Mujtabe, Chowdhury, Alam, Rahman, Akther, Adri and Farha, 2025.	Increased vendor diversity driven by growing demand, efficient use of public space with limited operating hours, improved vendor satisfaction through balancing their autonomy, external management with stakeholder collaboration and a discretionary policy of service fee which could not be assigned to any useful purpose other than exploitation.	Bangladesh
Kanyepe, Musasa and Wilbert, 2025.	The study revealed that financial constraints, the availability of skilled labor, information security, and supplier reliability positively influence both financial and operational performance. The results also revealed that technological capability moderates the effects of supply chain risk factors on firm performance.	Zimbabwe

Source: Own study.

5. Research Methodology and Design

This study aimed to explore the challenges encountered by informal retailers in managing their supply chain practices. To facilitate an in-depth understanding of these challenges, an exploratory research design was adopted, as it is particularly suited to investigating under-researched phenomena and generating contextually grounded insights (Maxwell, 2012; Patton, 2014).

The study was conducted in KwaZulu-Natal, with a specific focus on Durban, which provides a compelling empirical context due to its high concentration of informal economic activity, pronounced socio-economic vulnerabilities, and complex regulatory environment affecting informal traders (Ntlhe, 2024; Zogli *et al.*, 2021; Ramsuraj, 2020; Mkhwanazi, 2016; Mkhize and Cele, 2025).

These contextual characteristics make Durban an appropriate setting for examining the lived realities of informal retailers, while also enabling the generation of insights that may be transferable to similar urban contexts within South Africa and other developing economies.

Supply Chain Management (SCM) theory was utilised as a conceptual lens to guide the study, particularly in framing the research focus and informing the selection of participants directly involved in informal retail supply chain practices, such as spaza shop owners and street vendors. The table below provide inclusion and exclusion criteria:

Table 2. *Inclusion and exclusion criteria*

Criteria	Inclusion	Exclusion
Experience/Knowledge	Participants with direct knowledge and experience in managing supply	Individuals without decision-making roles in supply or retail activities (e.g.,

	chain practices (e.g., sourcing, transport, pricing, inventory).	employees/helpers without supply chain knowledge).
Type of Business	Spaza shops and street vendors directly involved in selling goods to local consumers.	Other informal businesses not related to retail (e.g., informal transport operators, street performers, service-based microenterprises).
Geographic Location	Informal retailers, specifically spaza shops and street vendors, operating within the Ethekewini Municipality trading clusters, with a particular focus on Ntuzuma Township.	Informal retailers (spaza shops and street vendors) operating outside the Ntuzuma Township within the Ethekewini Municipality trading clusters.
Willingness to Participate	Retailers who provide informed consent and agree to participate in interviews or discussions.	Retailers who decline to participate or do not consent to data collection.
Business Operation	Actively operating businesses during the study period (with consistent trading activity for at least 6 months).	Dormant or recently closed businesses with no active trading.

Source: Own study.

According to the eThekwini Municipality trading cluster database of registered vendors and spaza shops, there were over 50 spaza shops and over 50 vendors at the time of the study. Drawing from the inclusion and exclusion criteria all these informal traders who were on the database were eligible for selection.

5.1 Study Participants, Sampling and Sample Size

A non-probability sampling strategy was employed, specifically purposive sampling, to select participants with direct involvement in informal retail supply chain practices (Kumar, 2011). Using a database of informal traders in the Entuzuma township, participants were systematically identified to ensure representation across key categories of informal retail, resulting in the selection of 10 spaza shop owners and 10 street vendors ($n = 20$).

The sample size was informed by established qualitative research guidelines on data saturation. According to Hennink et al. (2017), code saturation may be achieved with as few as nine interviews, while meaning saturation—capturing the depth, nuance, and variation of participant experiences typically requires between 16 and 25 interviews.

Guided by this distinction, the study adopted a sample of 20 participants to ensure sufficient depth and richness of data, enabling a comprehensive exploration of emerging themes and patterns within the context of informal retail supply chain practices.

5.2 Data Collection and Analysis

Semi-structured interviews were scheduled and conducted with 20 participants, comprising ten spaza shop owners and ten street vendors. This representation is

approximately 20% of the spaza shop and street vendors registered in the municipal database. The duration of every interview was 30 – 60 minutes, and field notes were jotted down to document the responses (Kallio *et al.*, 2016 and Guest *et al.*, 2006).

Thematic analysis was adopted as the method of analysis following Braun and Clarke’s (2006) six-step. Thematic analysis was selected as the preferred method for analysing interview data due to its flexibility and rigor in identifying recurring patterns across qualitative datasets. The researchers moved beyond initial code identification to engage in iterative coding and constant comparative analysis using NVivo.

As data collection and analysis progressed, no new themes or conceptual insights emerged; rather, subsequent analyses consistently reinforced the existing analytical categories, indicating thematic saturation. To strengthen methodological rigour, trustworthiness was systematically embedded within the analysis process. Inter-coder reliability was ensured through independent coding by multiple researchers, followed by iterative comparison and consensus-building discussions to resolve discrepancies and refine the coding framework.

In addition, member checking was undertaken by returning preliminary themes to selected participants for verification, ensuring that the interpretations accurately reflected participants’ experiences. Collectively, these strategies enhanced the credibility, dependability, and confirmability of the study’s findings.

6. Findings and Discussion

Based on the codes and patterns identified, the following themes emerged, and they revealed supply chain challenges on the performance and competitiveness of retail businesses in the South African context. These challenges identified are faced by Street vendors and Spaza shops located in the Ntuzuma township area.

Among the street vendors, few of them specialises in selling fruits and vegetables. While others sell muffins and scones. The spaza shop owners have a variety of products in their shops, however, some sell cooked food, as discussed herein.

Table 3. Demographics of interview participants.

	Participants	Gender	Race
Spaza shop owners	A	Female	Black
	B	Female	Black
	C	Male	Black
	D	Female	Black
	E	Female	Black
	F	Male	Black
	G	Male	Black
	H	Male	Black

	I	Male	Black
	J	Male	Black
Street vendors	1A	Female	Black
	2B	Female	Black
	3C	Male	Black
	4D	Female	Black
	5E	Female	Black
	6F	Female	Black
	7G	Female	Black
	8H	Female	Black
	9I	Female	Black
	10J	Female	Black

Source: Own study.

Table 4 presents the results from the analysis done using Nvivo software.

Table 4. *Results from the interviews conducted.*

Codes	Frequency	Category	Themes
Seasonality	35	Rare	Demand
Income	60	Variant	Fluctuation
Substitution	20	Rare	
Uncertainty	87	General	
Fuel	55	Variant	Transport cost
Distance	99	General	
Logistics	100	General	
Accessibility	45	Rare	
Connectivity	75	General	Technology and
Equipment	65	Variant	Infrastructure
Storage	10	Rare	

Source: Own study.

6.1 Demand Fluctuation

Within Supply Chain Management (SCM) theory, demand planning is positioned as a critical mechanism for optimising inventory levels, aligning supplier capacity, and enhancing customer satisfaction.

Conventional SCM models assume that while demand may fluctuate, coordination mechanisms, forecasting tools, and inventory buffers can mitigate uncertainty. However, empirical evidence from this study challenges the adequacy of these assumptions when applied to informal retail contexts.

Paul *et al.* (2014) argue that customer demand is inherently cyclical and unpredictable, often fluctuating independently of other supply chain components such as supplier capacity and inventory availability. The experiences shared by participants in this study extend this argument by demonstrating that demand

volatility in informal retail is not only unpredictable, but also structurally misaligned with supply-side responsiveness. Participant D highlighted how post-COVID-19 growth in e-commerce has intensified demand uncertainty, making it difficult to synchronise in-store and online demand, particularly during peak periods such as paydays. This illustrates a critical limitation in traditional demand planning models, which presuppose access to reliable demand data and flexible replenishment systems.

Further insights from street vendors and spaza shop owners reveal how demand fluctuations translate into chronic inventory instability. Participant 5E described repeated stockouts that disrupted customer loyalty, while Participant B highlighted forced discounting of perishable goods due to supplier-side stock shortages.

These findings refine SCM theory by showing that, in informal supply chains, demand fluctuations are compounded by supplier fragility and limited replenishment cycles, rendering conventional inventory optimisation strategies ineffective.

Drawing on Atkins *et al.* (2021) and Muir *et al.* (2019), this study demonstrates that demand variability leads not only to operational inefficiencies, but also to reputational and relational consequences for informal retailers. Through an SCM lens, the performance challenges faced by street vendors and spaza shops are thus better understood as systemic coordination failures rather than isolated inventory management problems.

This refines SCM theory by foregrounding the need to account for structural informality, constrained supplier responsiveness, and evolving consumer demand patterns when analysing supply chain performance in informal retail settings.

6.2 Transport Cost

Within Supply Chain Management (SCM) theory, transportation is conceptualised as a core logistics function that facilitates the efficient flow of goods between supply chain actors, enabling cost optimisation, coordination, and service reliability. Classical SCM models assume that transportation costs, while variable, can be managed through economies of scale, route optimisation, and integration across the supply chain.

However, findings from this study challenge these assumptions by revealing how exogenous cost shocks, particularly fuel price increases driven by geopolitical instability and inflation, fundamentally constrain transportation decisions in informal retail supply chains.

Kamyabi and Fekrazad (2025) demonstrate that rising fuel prices lead to a measurable decline in household food expenditure, with food-at-home and food-away-from-home spending decreasing by approximately 3% and 6%, respectively.

In informal retail contexts, this demand-side contraction interacts with supply-side cost pressures to erode already narrow profit margins. Participants in this study reported an inability to implement cost-reduction strategies commonly advocated in SCM literature, such as consolidated transport or shared logistics infrastructure. Instead, transportation costs emerged as a structural constraint rather than an optimisable variable.

For example, Participant 3C described being forced to place monthly bulk orders irrespective of demand due to high transport costs, while Participants H and G highlighted reliance on public transport and frequent market trips, which increased operating expenses and limited reinvestment in logistics efficiency.

Drawing on Ligthelm (2008) and Charman *et al.* (2012), the traditional strength of informal retail frequent small-scale purchasing has been undermined by rising transportation costs, increasing supply chain expenses by 10–20% and suppressing sales and turnover by up to 25%.

These findings refine SCM theory by demonstrating that, in informal supply chains, transportation is not merely a coordinating mechanism but a binding constraint that reshapes inventory, pricing, and replenishment strategies. From an SCM perspective, fuel-induced transport cost escalation forces retailers to stock in bulk, increasing inventory holding costs and raising retail prices in highly price-sensitive markets.

This challenges the universality of integration-centric SCM models and underscores the need for context-sensitive SCM theorisation that accounts for fuel volatility, infrastructural constraints, and informality in emerging market retail systems.

6.3 Technology and Infrastructure

Within contemporary Supply Chain Management (SCM) theory, digital technologies are widely positioned as critical enablers of integration, demand visibility, and real-time coordination across supply chain actors. Dominant SCM models assume that digital tools such as demand forecasting systems, inventory analytics, and integrated information platforms are increasingly accessible and can be scaled across retail contexts. However, findings from this study challenge this assumption by revealing a pronounced digital asymmetry within informal retail supply chains.

Participants consistently indicated that financial and infrastructural constraints limit their ability to adopt advanced technologies associated with demand forecasting and inventory optimisation. Participant 6F highlighted the inability to invest in forecasting tools, while Participant 4D noted frequent stockouts resulting from reliance on basic payment technology rather than predictive systems.

These accounts refine SCM theory by demonstrating that technological integration in informal contexts is not a managerial choice, but a structurally constrained

capability shaped by resource scarcity. As Participant H further explained, post-COVID-19 demand growth among spaza shops has intensified the need for advanced inventory monitoring tools, yet the absence of such technologies forces retailers to rely on storage-based ordering rather than data-driven replenishment.

At the same time, the study challenges technologically deterministic SCM perspectives by showing that informal retailers selectively adopt low-cost, informal digital innovations. The use of mobile payment systems, WhatsApp ordering groups, and social media platforms for supplier and customer interaction illustrates an alternative pathway to technological integration. As Participant G noted, platforms such as Facebook and WhatsApp function as informal information systems that partially compensate for the absence of formal SCM technologies.

Drawing on Mazibuko and Thebe (2024) and Tuomala and Grant (2022), this study refines SCM theory by highlighting that digital integration in informal supply chains is partial, adaptive, and uneven, constrained by limited access to finance and advanced analytics.

While SCM theory posits that synchronisation between supply chains and customer demand enhances efficiency and competitiveness, these findings demonstrate that such synchronisation in informal retail depends on context-appropriate, low-cost technologies rather than sophisticated digital systems. This calls for a recalibration of SCM theory to better account for technological exclusion and adaptive digital practices in emerging market retail environments.

7. Conclusion, Practical Contributions and Policy

This study contributes to Supply Chain Management (SCM) theory by extending its application to informal retail contexts, which remain under-theorised in mainstream SCM literature. By foregrounding demand volatility, transportation cost shocks, and technological exclusion, the study challenges the universality of integration-centric and technology-driven SCM models.

It refines SCM theory by demonstrating that supply chain inefficiencies in informal retail are not primarily managerial failures, but the result of structural constraints associated with informality, resource scarcity, and fragmented governance. In doing so, the study advances a context-sensitive understanding of SCM that incorporates adaptive, low-cost, and relational supply chain practices prevalent among spaza shops and street vendors in emerging market settings.

7.1 Practical Contribution

From a practice perspective, the findings provide actionable insights for informal retailers, supplier networks, and development partners. The study identifies practical leverage points such as basic demand forecasting, collaborative transport

arrangements, incremental adoption of low-cost digital tools, and strengthened supplier relationships that can enhance supply chain performance without requiring capital-intensive systems. These insights support the development of scalable, realistic interventions that align with the operational realities of informal retailers and can be progressively strengthened as resources become available.

7.2 Policy Contribution

At the municipal level, the study offers evidence-based guidance for strengthening policies that support township economies. It highlights a critical gap between regulatory support (e.g., trading permits) and developmental support aimed at building supply chain capabilities. The findings suggest that municipal policy can be strengthened by integrating SCM capacity-building measures such as logistics support programmes, digital skills training, and incentives for supplier development partnerships under the BBBEE framework into local economic development strategies.

By doing so, municipalities can move beyond compliance-based approaches toward more enabling policies that enhance the sustainability, competitiveness, and inclusive growth of spaza shops and street vendors.

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Data availability: The data are available from the corresponding author upon reasonable request.

Declarations:

Ethics approval and consent to participate: This study is based on the MCom dissertation of the lead author, Mrs. Nombali Ntombifuthi Mngomezulu, completed at the Management College of South Africa under the supervision of Dr. Jerusha Ramasamy Gurayah. Data was extracted from the dissertation, which was submitted for examination and awarded a mark of 78%. All ethical guidelines were strictly followed: participants were fully informed about the study, provided written consent, and confidentiality was ensured throughout data collection.

Clinical trial declaration: This study, titled ‘Navigating the Challenges Experienced by Informal Retailers in Managing Supply Chain Practices, does not qualify as a clinical trial. It focuses on exploring the challenges encountered by informal retailers in managing their supply chain practices through interviews and a review of existing literature. Therefore, the clinical trial declaration is ‘not applicable.’

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