



Inventory decision-making by small Sowetan retailers



Authors:

Themari Eicker¹ J. Orpha Cilliers¹ 

Affiliations:

¹Department of Entrepreneurship, Supply Chain, Transport, Tourism and Logistics Management, University of South Africa, South Africa

Corresponding author:

Themari Eicker,
dvillt@unisa.ac.za

Dates:

Received: 08 Mar. 2018

Accepted: 06 Aug. 2018

Published: 17 Sept. 2018

How to cite this article:

Eicker, T. & Cilliers, J.O., 2018, 'Inventory decision-making by small Sowetan retailers', *Journal of Transport and Supply Chain Management* 12(0), a387. <https://doi.org/10.4102/jtscm.v12i0.387>

Copyright:

© 2018. The Authors.
Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Background: The importance of South African small businesses, especially retailers, in improving communities' standards of living necessitates sound business strategies to survive and remain competitive. Selecting appropriate business strategies is cardinal for the sustainable development and growth of all types of businesses, including small businesses. The supply chain strategy defines how operations in the supply chain will support the overall competitive strategy and is orientated to promote either responsiveness or cost-efficiency. It is imperative that all inventory decisions be aligned with the orientation of the selected supply chain strategy.

Objectives: The aim of this article was firstly to determine how small retailers operating within the boundaries of Soweto, a township in Gauteng, South Africa, manage their inventory decisions considering the orientation of the supply chain strategy; and secondly, to investigate whether retail industries differ in terms of inventory decisions.

Method: A survey was conducted among 650 formal, independent small businesses operating within Soweto of which 556 were classified as retailers based on the Standard Industrial Classification. Structured interviewer-completed questionnaires were used to obtain quantitative data from owners or managers. Both descriptive and inferential analyses were performed to determine the orientation of the retailers' supply chain strategy based on their inventory decisions relating to the average rate of purchasing inventory, the amount of inventory purchased, as well as the quality and variety of products offered to customers. Five hypotheses were formulated to determine whether a difference exists between six industry groups with regard to the management of inventory.

Results: It was established that small township retailers predominantly manage their inventory decisions responsively. It was also concluded that differences exist in terms of how small township retailers manage their inventory based on the industry in which they operate. The results showed that retail hardware stores are focused on making inventory decisions more cost-efficiently than the other industry groups, whereas retail general stores are focused on making inventory decisions more responsively than the other industry groups.

Conclusion: The owners or managers of small township retailers need to be educated in terms of inventory management decisions. This article can be used as an educational platform to show how small township retailers can identify the aligned inventory decisions for supporting a selected supply chain strategy orientation. Generally, small township retailers may maintain their competitive advantage if they align all business strategies to promote responsiveness. Since the industry in which small retailers operate influences inventory management decisions in terms of responsiveness and cost-efficiency, owners or managers must consider the specific industry in which they operate before making such decisions.

Introduction

Inventory is one of the most expensive assets within a business and should be managed effectively – which implies that the right amount of inventory is purchased at the right price and time to support the business's day-to-day activities (Monczka et al. 2016:621–622; Wisner, Tan & Leong 2016:209). Inventory refers to all goods in motion and at rest within a supply chain and is kept to address the imbalance between the supply and demand of products (Chopra & Meindl 2016:61; Coyle et al. 2013:636). Even with intangible services that cannot be stored, physical products are often needed in facilities where the service is rendered (Bowersox et al. 2013:37; Lawrence, Sivakumar & Arivarigan 2013:4771). As with all management decisions, inventory decisions should be aligned with the competitive strategy and different functional strategies (of which the supply chain strategy forms part of) (Chopra & Meindl 2016:35–37). Such an alignment requires that the type of product (or service) offering forms the starting point when

Read online:



Scan this QR code with your smart phone or mobile device to read online.

crafting the supply chain strategy. Selecting appropriate business strategies is cardinal for the sustainable development and growth of all types of businesses, including small businesses (Leitner & Guldenberg 2010:185). The supply chain strategy defines how operations in the supply chain will support the overall competitive strategy (Ambe 2012:126) and stipulates the specific plan of action for integrating suppliers, manufacturers, warehouses and retail stores. The supply chain guides the process of ensuring that inputs are purchased and that products are produced and distributed in the correct quantities, at the right time and to the right location. This strategy is implemented while balancing overall costs and satisfying customers' service-level requirements (Qrunfleh & Tarafdar 2013:571).

Retailers should analyse individual consumer needs within their industry to ensure that they offer their target market corresponding products (and services) at preferred outlets (Huddleston et al. 2009:66). This willingness of the retail sector to provide consumers with choices in terms of products (and services) for need-satisfaction contributes to communities' economic and social welfare and well-being (Ligthelm 2008:37). Thus, the value-adding role of retailers, as the final link in the supply chain, lies in offering an assortment of products (and services) to their customers in the right quantity at a convenient location (Ligthelm 2008:38; Prinsloo 2014:1). Hatten (2012:165) concludes that in their attempt to provide value to the customer, small retailers mainly compete on operational excellence (by asking the best or lowest price), product leadership (by offering the best product of a high quality) and customer intimacy (by offering the best service). In serving their markets, small business retailers' decisions on their market offering should revolve around sustaining their competitive advantage as encapsulated within their business strategies.

This article investigates the inventory decisions made by South African small retailers according to their supply chain strategy orientation.

Problem statement

In the post-apartheid period (after 1994), the new South African government immediately prioritised the development of black-owned businesses as part of developing the South African small business economy, which included the development of small businesses in townships (Rogerson & Rogerson 1997:33). Although the Gauteng Department of Economic Development acknowledged that government had implemented numerous initiatives and development plans aimed at developing townships into liveable and vibrant economic centres, they stated that townships were unfortunately still operating within an unpredictable business environment characterised by low levels of entrepreneurial activities, low survival rate for small businesses and a lack of business skills by the owners or managers of these businesses (Gauteng Department of Economic Development 2014:4–5). For the purpose of this article, the definition of a small business as defined by the *National Small Business*

Amendment Act of 2004 (South Africa 2004) is accepted, which reads that a small business is:

a separate and distinct business entity, together with its branches or subsidiaries, if any, including co-operative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy and which can be classified as a micro-, a very small, a small or medium enterprise. (n.p.)

Alas, small businesses have either a limited number of individuals taking responsibility for strategic decisions or a lack of educated and skilled employees (owners or managers), which results in strategic decisions often being made informally by the owners or managers based on personal opinions, often detrimental to business success (Walker et al. 2007:295). Small business owners or managers tend to make haphazard decisions because of a lack of well-learned scripts or prescribed sets of procedures as described by Baron (2008:329). In small businesses worldwide, most new entrants to retailing lack relevant knowledge and have to learn the trade through experience (Choto, Tengeh & Iwu 2014:93–94; Lebusa 2013:76; Malebana & Swanepoel 2015:109; Stokes & Wilson 2010:387) or through mentorship by older, established counterparts (Mataboee, Venter & Rootman 2016:2). Equipping small township business owners or managers with the necessary managerial skills and knowledge has been identified as one of the key focus areas of South Africa's National Development Plan of 2030 (National Planning Commission 2012).

This article will specifically focus on the management of small business's inventory decisions. Research performed by Cant, Wiid and Kallier (2015:622) among small businesses found that small business failure can, among others, be attributed to a lack of product demand, product variety, product quality and strategic planning amid a changing economic climate and competition. These findings support the notion by Chopra and Meindl (2016:32) that inventory decisions should be aligned with business strategies to ensure business success.

Considering the South African government's continued drive to develop small township retailers, the importance of retailers to provide customers with products or services, as well as the importance of managing inventory aligned with the selected supply chain strategy, the purpose of this article is firstly, to determine how small retailers operating within the boundaries of Soweto manage their inventory decisions considering the orientation of the supply chain strategy; and secondly, to investigate whether retail industries differ in terms of inventory decisions.

Literature review

In the introduction the importance of selecting appropriate business strategies as well as the alignment of these strategies were emphasised. Literature relevant to inventory management decision-making by owners or managers of small retailers in

accordance with the orientation of the supply chain strategy is discussed subsequently.

In 1997, Fisher developed a revolutionary and basic framework for selecting the most appropriate supply chain strategy (i.e. being either more cost-efficient or more responsive) based on the type of product (functional or innovative) sold and the demand (certain or uncertain) for the product. Fisher's framework has been widely accepted and many authors have built on the framework to include other factors, such as product characteristics; the level of demand and supply uncertainties placed on the supply chain; customers' buying behaviour; the position of the supply chain member within the supply chain; order winners and order qualifiers; and the production process (Ambe 2012; Christopher & Gattorna 2005; Christopher & Towill 2002; Duarte & Machado 2011; Gattorna 2010; Lee 2002; Martínez-Olvera & Shunk 2006). However, after examining literature relating to supply chain strategies, Soni and Kodali (2011:73–74) concluded that the majority of authors classify a supply chain strategy as essentially being orientated towards either responsiveness or cost-efficiency, which will be the viewpoint supported in this article.

A responsive supply chain strategy aims to meet consumers' needs as fast as possible, whereas a cost-efficient supply chain strategy aims to meet consumers' needs at the lowest possible cost. A supply chain strategy orientated towards cost-efficiency is focused on keeping costs low by advocating economies of scale and optimisation techniques. Economies of scale and optimisation techniques are aimed at ensuring the best capacity utilisation throughout the production and distribution processes (Fawcett, Ellram & Ogden 2007:228; Monczka et al. 2016:636; Qrunfleh & Tarafdar 2013:573). A supply chain strategy orientated towards responsiveness is focused on flexibility and speed. A responsive strategy may enable the business to adapt rapidly to market changes, although customers' needs should be known before action is taken (Fawcett et al. 2007:228; Merschmann & Thonemann 2011:43; Morita et al. 2015:2; Qrunfleh & Tarafdar 2013:573; Wieland & Wallenburg 2012:890).

When analysing literature on inventory management typically performed by small retailers, their differing decision patterns confirm an inclination to be either cost-efficient or responsive when formulating their supply chain strategies. The orientation of the supply chain strategy determines how retailers decide on the average rate of purchasing inventory, the amount of inventory purchased, as well as the quality and variety of products offered to customers (Bressler 2012:2; Chopra & Meindl 2016:62–63; Hatten 2012:169; Ligthelm 2010:147).

When ordering inventory, managers must first consider the amount and frequency of inventory that is required (Islam et al. 2013:3–4). Businesses that purchase inventory in large batches to take advantage of economies of scale experience decreased production, transportation, ordering and purchasing

costs (thus, increased cost-efficiency). Although purchasing inventory in large batches decreases costs, managers should be aware of the cost increase in carrying a large amount of inventory (Chopra & Meindl 2016:62, 280). On the other hand, ordering inventory frequently and in small batches may ensure that retailers have ample inventory available to customers on demand (thus, increased responsiveness). Small businesses in townships usually search for the lowest prices from suppliers to offer a lower competing price to their customers (World Bank 2014:173). Some township businesses are known to coordinate orders when buying in bulk in order to cumulatively gain the advantage of economies of scale (World Bank 2014:173).

Holding additional inventory buffers against unpredictable customer demand (Baker & Canessa 2009:425; Bowersox et al. 2013:48); however, owners or managers should carefully determine the number of inventory items held, because a surplus would lead to markdowns to generate sales. Not only will income be lost (because of the markdowns), but the carrying cost will decrease cost-efficiency (Graungaard Pedersen, Zachariassen & Stentoft Arlbjørn 2012:354). On the other hand, insufficient inventory may decrease responsiveness and a consequent loss in sales (Baily et al. 2008:164). The decision to purchase additional inventory depends mainly on whether the small retailer views the increase in carrying cost worth having the products available when customer demand is higher. Therefore, purchasing additional inventory will increase the retailer's level of responsiveness at the expense of the level of cost-efficiency (Chopra & Meindl 2016:63).

Because retailers are the final link in the supply chain, it is imperative that they are located conveniently near the place where customers want to purchase items (Scarborough 2012:539). Retailers should provide customers with the most convenient shopping experience and according to Prinsloo (2014:2) convenient shopping at local retailers implies more frequent shopping of quality and variety products in smaller grocery baskets. Although providing customers with superior (high-quality) product selection, service and variety increases costs, such an offering can provide small retailers with a competitive advantage (Hatten 2016:14, 296–297). Because of their exposure to increased variety offered by competing businesses, township buyers have developed into more selective buyers who no longer opt for downscaled or low-quality products (Petousis 2014). Providing a variety of products or high-quality (superior) items decreases the retailer's cost-efficiency as storage and inventory costs will increase.

In order to determine how small township retailers make inventory decisions in terms of responsiveness and cost-efficiency, the management of inventory by small township retailers were empirically researched.

Research methodology

In 2014, among a sample of 650 formal independent small businesses operating within Soweto, a survey was conducted

on the management practices implemented by the owners or managers of these businesses. The survey was conducted among *formal* small businesses. *Formal* small businesses – of which the majority of small businesses operating within Soweto can be classified as (Njiro, Mazwai & Urban 2010:3) – form part of the registered business infrastructure of South Africa, which pay taxes and other levies to different levels of government (Du Plessis, Strydom & Jooste 2012:56; Ligthelm 2013:59; Strydom 2015:464). Because the majority of previous studies (Badenhorst-Weiss, Cilliers & Eicker 2014; Nkosi, Bounds & Goldman 2013; Olawale & Garwe 2010; Strydom 2013, 2015) conducted within townships were focused on formal small business because of the notion that informal small township businesses are unsuccessful and unproductive, the focus of this research is on formal small businesses operating within Soweto. Table 1 provides a summary of the research methodology used to conduct the 2014 Soweto study.

The empirical findings on the data relating to inventory presented in this article are based on the responses of the 556 formal independent small retailers (hereafter referred to as small retailers). The next section is structured to present the descriptive findings of the responses pertaining to the inventory decisions, whereafter the inferential findings are presented to determine whether the industry in which small retailers operate influences their responses in terms of the different inventory decisions.

Empirical findings

Throughout the empirical findings, reference is made to the findings of a study conducted by the World Bank in 2014 on the economies of South African townships. Because this World Bank study is regarded by the Gauteng Department of Economic Development (2014:9) as the most intensive study on South African townships to date, its findings are also

presented to elucidate the environment in which these township businesses operate and how township businesses are typically managed. Before the empirical findings are discussed, a profile of the 556 small retailers in terms of their survival is provided.

Profile of the small retailers

Responses to questions on age and business performance were used to profile the retail businesses. In a question on business age, respondents had to indicate the number of years in operation, while the questions on business performance included a question on monthly business income and another question on change patterns of business income in the preceding year. From the 556 responses obtained, it was determined that 59.4% of businesses had survived for 5 years or longer, 55.2% of the businesses had an average turnover of between R5000.00 and R30 000.00 during the previous month and 73.4% respondents indicated that their businesses either maintained the status quo or showed turnover (income) growth during the previous year. These businesses' survival of 5 years and more amid challenging circumstances within the township is aligned with the measure of business success worldwide (Deakins & Freel 2012:19; Lebusa 2013:76; Ligthelm 2008:49).

Descriptive analyses of the data pertaining to inventory

The descriptive findings of data gathered are discussed under four headings (based on the literature review), namely the average rate of purchasing inventory, the quantity of inventory purchased, the quality of inventory sold and lastly the variety of inventory held by these small retailers. Respondents were asked to indicate their level of agreement with regard to how frequently an inventory statement applies to them; their importance rating of certain inventory aspects; and their disagreement or agreement with various inventory statements.

Average rate of purchasing inventory

The average rate of purchasing inventory was established by examining the frequency distributions of questions relating to the purchasing patterns of the respondents. The respondents were also asked whether they could easily obtain more inventory from suppliers when they ran out of inventory (never, sometimes or always). Table 2 shows that two-thirds (66.7%) of the respondents indicated that they can sometimes and always easily obtain more inventory from their suppliers if they run out of inventory. In this regard, the World Bank (2014:172) reported that retailers in townships generally find it easy to purchase inventory from their suppliers, as multiple suppliers are available to choose from. The ability to easily

TABLE 1: Research methodology used to conduct the 2014 Soweto study.

Research aspect	Description of empirical research aspect in this study
Survey population	The sample of 650 formal independent small business included businesses situated in shopping malls, large shopping areas (outside shopping malls), smaller shopping areas, stand-alone businesses and industrial areas with 2–5, 6–10 and 10-plus surrounding businesses, but excluded chain stores, franchises, street and in-home businesses.
Sampling method	Probability sampling using a stratified sampling method.
Sampling technique	Multistage quota sampling methodology.
Sampling selection	A list of 650 formal independent small businesses operating within the boundaries of Soweto was compiled by the Bureau of Market Research (BMR) in 2012 and was used as the sample frame for this research (2014). If a business closed down during the 2-year period, fieldworkers were instructed to select any business in the same residential area that complied with all the requirements mentioned above.
Sample units	Business owners or managers.
Primary data collection	Interviewer-administrated questionnaires.
Research instrument	Structured interviewer-completed questionnaires consisting of close-ended questions.
Classification of small businesses	Of the 650 formal independent small businesses, 556 were classified as retailers based on the Standard Industrial Classification.
Analysis of data	Both descriptive and inferential analyses were conducted on the data.
Ethical considerations	The fieldwork was conducted within the directives of the ethical policy of the University.

TABLE 2: Respondents' rating on obtaining more inventory from suppliers.

Inventory statement	Rating		
	Never	Sometimes	Always
'I can easily obtain more stock from my suppliers if I run out of stock.'	29.9	21.2	45.5

acquire more inventory from suppliers when necessary may thus increase the retailers' level of responsiveness.

When the respondents were asked how often, on average, they purchased inventory, a similar percentage (64%) of the respondents indicated that they purchase inventory on a daily or weekly basis (see Table 3). A possible explanation for purchasing inventory on a daily or weekly basis can be ascribed to the lack of retail space within townships (World Bank 2014:46), which makes it difficult for retailers to store excess inventory. Other possible reasons for purchasing inventory on a daily or weekly basis may be attributed to, firstly, retailers avoiding the risk of running out of inventory, and secondly, the ease with which new inventory can be acquired from numerous suppliers. From the above result follows that purchasing inventory on a daily or weekly basis may increase the retailers' level of responsiveness.

Quantity of inventory purchased

The quantity of inventory purchased by the respondents was analysed by examining data obtained from the questions relating to the quantity of inventory that the respondents purchase. Tables 4 and 5 provide the frequency distributions for each statement.

When the respondents were asked whether they purchased less, or the exact amount, or more inventory than they sold within a month, 53.8% of the respondents indicated that they sometimes and always purchase less, 65.5% indicated that they sometimes and always purchase the exact amount and 69.4% indicated that they sometimes and always purchase more (see Table 4).

TABLE 3: Respondents' rate of purchasing inventory.

Rate of purchasing inventory	Daily	Weekly	Monthly	When I see that my stock is low
'How often, on average, do you purchase inventory?'	12.4	51.6	10.3	24.3

TABLE 4: Respondents' ratings on inventory statements.

Inventory statements	Rates		
	Never	Sometimes	Always
I purchase less stock than what I sell within a month.	43.5	32.6	21.2
I purchase the exact amount of stock that I sell within a month.	31.7	39.6	25.9
I purchase more stock than what I sell within a month.	27.9	36.3	33.1
It is too expensive for me to purchase more stock than what I can sell within a month.	27.5	31.5	38.1
I purchase more stock when it is on sale at my suppliers.	19.2	25.7	51.8
I purchase more stock when I have a sale in my store.	26.4	27.5	42.6
I make provision for the fluctuation in the demand from my customers (e.g. over Easter and Christmas).	24.5	24.6	48.2

TABLE 5: Respondents' level of agreement with the inventory statements.

Inventory statements	Strongly disagree ← → Strongly agree				
A product should be immediately available to my customers when they want to buy it.	0.7	0.7	2.3	21.9	72.8
My customers know that I will always have enough stock.	0.7	0.9	3.8	24.8	68

Poor inventory management can be a possible reason for just more than half (53.8%) of the respondents indicating that they sometimes and always purchase less inventory than they can sell within a month. Purchasing less inventory than they could sell within a month may decrease their level of responsiveness because they may not have a product when required by customers. The decision of the almost two-thirds (65.5%) of respondents who indicated that they sometimes and always purchase the exact amount of inventory that they sell within a month, may be a result of the lack of storage space in townships (World Bank 2014:207). The finding that 69.4% of retailers sometimes and always purchase more inventory than they sell within a month can be explained by their decision to purchase inventory in large quantities in order to qualify for free delivery from suppliers (World Bank 2014:151–153). As mentioned in the literature review, small businesses could increase their level of cost-efficiency because of savings in transportation costs. However, owners or managers of small businesses should consider the cost of purchasing additional inventory (to qualify for the free delivery), which may exceed the saving on transportation costs. This imbalance in costs can result in the business eventually paying more for the additional inventory and ultimately decreasing the level of cost-efficiency.

More than two-thirds (69.6%) of the respondents indicated that it was sometimes and always too expensive to purchase more inventory than can be sold within a month (see Table 4). These responses imply that respondents are aware of the costs involved when purchasing more inventory than required within a month. When the respondents were asked whether they purchased more inventory when it was on sale at their suppliers, more than half (51.8%) of the respondents indicated that they always purchase more (see Table 4). The conclusion is that paying less for inventory will not only contribute to cost-efficiency because of a lower price per unit but also contribute to responsiveness because of excess inventory available.

The majority (70.1%) of respondents indicated that they sometimes and always purchase more inventory when they have a sale in their stores (see Table 4). Purchasing more inventory when having a sale implies that the retailers make provision for increased customer demand. In line with this finding, 72.8% of respondents indicated that they sometimes or always make provision for fluctuation in customer demand during special times, such as Easter and Christmas (see Table 4). These responses indicate that the retailers are focused on responsiveness.

When the respondents were asked to rate their level of agreement (ranging from strongly disagree to strongly agree) with a statement on the immediate availability of a product to customers, the majority (72.8%) indicated that they strongly agree (see Table 5). Having products immediately available to customers when they want to buy the items will increase the respondents' level of responsiveness. A similar percentage

(68%) of the respondents also indicated that they strongly agree that their customers know that they will always have enough inventory (see Table 5), indicating the retailers' perception of their customers' opinions on their ability to always stock sufficient inventory.

Quality of inventory

Respondents were asked to rate the importance (ranging from very unimportant to very important) of carrying quality products and offering enough product variety (see Table 6). The majority (73.2%) of respondents rated carrying quality products as very important. According to the World Bank (2014:10, 268), residents in townships expect the same quality products from small retailers as from large retail groups, such as Shoprite and Pick n Pay. Because quality products are generally associated with higher prices, a decrease in retailers' cost-efficiency can be expected. Although quality products are generally associated with higher prices which decrease cost-efficiency, keeping such items ensures customer need-satisfaction (increased responsiveness).

Inventory variety

Respondents were asked to rate the importance (ranging from very unimportant to very important) of offering enough product variety to their customers (see Table 7). Of the respondents, 68.8% rated carrying enough product variety as very important, which is in contrast to a study conducted by Klemz, Boshoff and Mazibuko (2006:594) in an Eastern Cape township where businesses carry a narrow product offering. The conclusion from the above finding is that carrying enough product variety will increase a retailer's responsiveness because customer demand can be met.

To summarise, the descriptive analyses of the data on inventory regarding the trade-off between responsiveness and cost-efficiency confirm that formal independent small retail businesses operating in Soweto seem to focus more on *responsiveness* than cost-efficiency when managing inventory.

Fisher (1997:1–2) and Huddleston et al. (2009:66) agree that the type of product (or service) that a retailer offers greatly depends on the specific industry in which the retailer operates. Further inferential analyses were conducted to determine whether retail industries differ in terms of their inventory decisions.

TABLE 6: Respondents' importance rating of providing quality products to customers.

Inventory aspects	Percentages				
	Very unimportant ↔ Very important				
Quality products	0.7	1.8	3.4	20.1	73.2

TABLE 7: Respondents' importance rating of holding a variety of inventory.

Inventory aspects	Percentages				
	Very unimportant ↔ Very important				
Enough product variety	0.5	1.1	4.1	24.6	68.9

Inferential analyses of the data pertaining to inventory

To determine whether the industry in which the respondents operate influences their responses, the 556 respondents were divided into six industries based on the Standard Industrial Classification (SIC) (see Table 8).

The Kruskal–Wallis one-way analysis of variance by ranks test was used to analyse the ordinal data obtained by the questions pertaining to the management of inventory. If a statistically significant difference ($p \leq 0.05$) was found between the six industry groups with regard to the responses relating to a specific question, only the industry with the highest mean rank was considered. If no statistically significant difference existed at the 5% level between the different industry groups with regard to a specific question, the industry group in which the respondents operate does not influence their responses; therefore, the mean ranks were not discussed. Five hypotheses were formulated to determine whether a difference exists between the six industry groups with regard to the management of inventory.

Hypothesis 1 – Average rate of purchasing inventory

The first hypothesis was formulated in order to determine if a difference exists between the six industry groups with regard to how often (daily, weekly, monthly, when they see their stock is low), on average, they purchase inventory. The hypothesis was formulated as follows:

H_1 : There is a difference between the industry groups with regard to how frequently (daily, weekly, monthly, when they see their stock is low), on average, they purchase inventory.

The results of the Kruskal–Wallis test in terms of Hypothesis 1 are shown in Table 9.

The results show that a statistically significant difference exists at the 1% level of significance (p -value < 0.01) between the different industry groups with regard to how often, on average, they purchase inventory. This means that the six industries differ with regard to how often, on average, they purchase inventory.

TABLE 8: Classification of respondents into industries according to the Standard Industrial Classification.

Industry	Number of respondents within industry
Grocery stores	209
Hardware stores	42
General stores	88
Retail services (such as hairdressers and undertakers)	142
Eating and drinking places	39
Sale, maintain and repair of vehicles and retail auto†	36

†, When reporting on the results of the retail group termed 'sale, maintain and repair of vehicles and retail auto' this group will be referred to as 'retail auto'.

TABLE 9: Kruskal–Wallis test results on Hypothesis 1.

Inventory question	Chi-square	Df	Asymptotic significance
How often, on average, do you purchase inventory?	15.469	5	0.009

Df, degrees of freedom.

To further investigate the differences between the six industry groups with regard to how often, on average, the respondents purchase inventory, the mean ranks (provided in Table 10) were considered.

A low mean rank indicates that the industry group tends to purchase inventory on a daily basis, whereas a high mean rank indicates that the industry tends to purchase inventory only when the inventory level is low. The results indicate that retail hardware stores (mean rank = 308.25) tend to purchase inventory only when inventory levels are low. Most probably, the products they sell are generally characterised as specialised and sometimes expensive, for example, bricks and cement. Generally, the demand for these specialised products are lower, compared to products in other industries; therefore, retail hardware stores may choose not to purchase more inventory than necessary, as this could increase costs (such as facility and inventory costs). From the above follows that retail hardware stores are more focused on cost-efficiency than responsiveness when making decisions on replenishing inventory.

Hypothesis 2 – Quantity of inventory purchased

The second hypothesis was aimed at determining if a difference exists between the six industry groups with regard to their agreement on how frequently they purchase inventory; whether it is too expensive to purchase more inventory than they can sell within a month; the effort in obtaining inventory; and providing for fluctuating customer demand. The hypothesis was formulated as follows:

H_2 : There is a difference between the industry groups with regard to their agreement on how frequently (never, sometimes, always) they

H_{2a} : purchase less stock than they can sell within a month

H_{2b} : purchase the exact amount of stock that they sell within a month

H_{2c} : purchase more stock than they sell within a month

H_{2d} : find it too expensive to purchase more stock than they can sell within a month

H_{2e} : can easily obtain more stock from their suppliers if they run out of stock

H_{2f} : purchase more stock when it is on sale at their suppliers

H_{2g} : purchase more stock when they have a sale in their stores

H_{2h} : make provision for fluctuation in demand from their customers (e.g. over Easter and Christmas).

TABLE 10: Mean ranks for Hypothesis 1.

Industries	Mean ranks†
Retail grocery	265.50
Retail hardware	308.25
Retail general store	283.75
Retail service	285.73
Eating and drinking places	201.51
Retail auto	303.80

†, Mean ranks results based on the question: 'How often, on average, do you purchase inventory?'

The results of the Kruskal–Wallis test to determine whether there is a difference between the industry groups with regard to the agreement on how frequently the inventory statements apply to them are shown in Table 11.

The results show that no statistically significant difference exists at the 5% level of significance (all p -values > 0.05) between the different industry groups with regard to their agreement on how frequently (never, sometimes, always) they:

H_{2a} : purchase less stock than they sell within a month

H_{2b} : purchase the exact amount of stock that they sell within a month

H_{2c} : purchase more stock than they sell within a month

H_{2d} : find it too expensive to purchase more stock than they can sell within a month

H_{2g} : purchase more stock when they have a sale in their stores.

The mean ranks are fairly similar and thus show a similar rating of agreement on how frequently these inventory statements apply to the industry group.

The results of the remaining inventory statements show that statistically significant differences exist at the 1% and 5% levels of significance ($p < 0.01$ and $p < 0.05$) between the different industry groups with regard to their agreement on how frequently (never, sometimes, always) they:

H_{2e} : can easily obtain more stock from their suppliers if they run out of stock

H_{2f} : purchase more stock when it is on sale at their suppliers

H_{2h} : make provision for the fluctuation in demand from their customers (e.g. over Easter and Christmas).

To further investigate the differences between the six industries and their agreement on the three matters listed above, the mean ranks provided in Table 12 were considered.

When considering the mean ranks (see Table 12) it appears that retail hardware stores (mean rank = 300.21) tend to easily obtain more inventory from suppliers when they run out of inventory more frequently than the other industry groups.

TABLE 11: Kruskal–Wallis test results on Hypothesis 2.

Inventory statements	Chi-square	Df	Asymptotic significance
I purchase less stock than what I sell within a month.	9.081	5	0.106
I purchase the exact amount of stock that I sell within a month.	2.961	5	0.706
I purchase more stock than what I sell within a month.	3.897	5	0.564
It is too expensive for me to purchase more stock than what I can sell within a month.	5.015	5	0.414
I can easily obtain more stock from my suppliers if I run out of stock.	21.097	5	0.001
I purchase more stock when it is on sale at my suppliers.	29.711	5	0.000
I purchase more stock when I have a sale in my store.	10.841	5	0.055
I make provision for the fluctuation in the demand from my customers (e.g. over Easter and Christmas).	15.081	5	0.010

Df, degrees of freedom.

TABLE 12: Mean ranks for Hypothesis 2.

Industries	Mean ranks		
Retail grocery	288.50 [†]	286.60 [‡]	295.92 [§]
Retail hardware	300.21 [†]	281.04 [‡]	268.88 [§]
Retail general store	280.91 [†]	311.57 [‡]	262.17 [§]
Retail service	227.44 [†]	217.22 [‡]	244.17 [§]
Eating and drinking places	285.76 [†]	262.99 [‡]	289.42 [§]
Retail auto	224.49 [†]	251.00 [‡]	226.22 [§]

[†], Mean ranks based on statement: 'I can easily obtain more stock from my suppliers if I run out of stock'.

[‡], Mean ranks based on statement: 'I purchase more stock when it is on sale at my suppliers'.

[§], Mean ranks based on statement: 'I make provision for the fluctuation in demand from my customers (e.g. over Easter and Christmas)'.

This finding can shed light on the previous finding (for Hypothesis 1) that retail hardware stores purchase inventory only when their inventory level is low. Both findings indicate that owners or managers of retail hardware stores tend to manage inventory more cost-efficiently.

Retail general stores tend to purchase more inventory more frequently when it is on sale at suppliers than the other industry groups, with a mean rank of 311.57. Purchasing more inventory at a lower price can increase the retail general store's cost-efficiency.

With a mean rank of 295.92, retail grocery stores tend to more frequently make provision for fluctuations in customer demand than the other industry groups. Retail grocery stores may be influenced more by special occasions, such as Easter and Christmas, than other industry groups, because special occasions are generally associated with higher consumption of food and beverages. By ensuring that they make provision for the fluctuation in customer demand, these stores can increase their level of responsiveness.

Hypothesis 3 – Quantity of inventory purchased continued

The purpose of the third hypothesis was to determine if a difference exists between the six industry groups with regard to their level of agreement on having products immediately available to customers and having their customers know that they will always have enough inventory. The hypothesis was formulated as follows:

H_3 : There is a difference between the industry groups with regard to their level of agreement (strongly disagree to strongly agree) on whether

H_{3a} : they have products immediately available to customers when they want to buy it

H_{3b} : their customers know that they will always have enough stock.

The results of the Kruskal–Wallis test are shown in Table 13.

The results show that no statistically significant difference exists at the 5% level of significance (p -values > 0.05) between the different industry groups with regard to the level of agreement on the two inventory statements in Hypothesis 3. The mean ranks are fairly similar and therefore indicate a similar rating between the different industry groups.

TABLE 13: Kruskal–Wallis test results on Hypothesis 3.

Inventory statements	Chi-square	Df	Asymptotic significance
A product should be immediately available to my customers when they want to buy it.	2.112	5	0.833
My customers know that I will always have enough stock.	6.617	5	0.430

Df, degrees of freedom.

Hypothesis 4 – Quality of inventory

The fourth hypothesis was aimed at determining if a difference exists between the six industries with regard to their importance rating on carrying quality products. The hypothesis was formulated as follows:

H_4 : There is a difference between the industry groups with regard to their importance rating (very unimportant to very important) on carrying quality products.

The results of the Kruskal–Wallis test in terms of Hypothesis 4 are shown in Table 14.

The results show that no statistically significant difference exists at the 5% level of significance (p -values > 0.05) between the different industry groups with regard to the level of importance on carrying quality products. The mean ranks are fairly similar and therefore indicate a similar rating between the different industry groups with regard to the importance of carrying quality products.

Hypothesis 5 – Inventory variety

The fifth hypothesis was aimed at determining if a difference exists between the six industries with regard to their importance rating on having enough product variety. The hypothesis was formulated as follows:

H_5 : There is a difference between the industry groups with regard to their importance rating (very unimportant to very important) on having enough product variety.

The results of the Kruskal–Wallis test in terms of Hypothesis 5 are shown in Table 15.

The results show that no statistically significant difference exists at the 5% level of significance (p -values > 0.05) between the different industry groups with regard to the level of importance on having enough product variety available to customers. The mean ranks are fairly similar and therefore indicate a similar rating between the different industry groups with regard to the importance of having enough product variety available to customers.

By examining the inferential analyses of the different industry groups in terms of inventory, it can be concluded that retail hardware stores manage inventory more cost-efficiently, because they tend to only purchase inventory when the level is low. Retail general stores take advantage of having capacity to store excess inventory by purchasing more inventory more frequently than other industry groups when a supplier has a sale. By paying less for inventory, retail general stores increase their cost-efficiency. By making

provision for fluctuation in customer demand, retail grocery stores tend to be more responsive than other industry groups.

TABLE 14: Kruskal–Wallis test results on Hypothesis 4.

Inventory aspects	Chi-square	Df	Asymptotic significance
Quality products	6.915	5	0.227

Df, degrees of freedom.

TABLE 15: Kruskal–Wallis test results on Hypothesis 5.

Inventory aspects	Chi-square	Df	Asymptotic significance
Enough product variety	4.776	5	0.444

Df, degrees of freedom.

TABLE 16: Literature and empirical findings relating to the different inventory decisions.

Inventory decisions	Literature findings		Empirical findings
	Supply chain orientated towards responsiveness	Supply chain orientated towards cost-efficiency	
Average rate at which retailers purchase inventory	Small batches of inventory are ordered frequently.	Larger batches of inventory are ordered less frequently, in order to benefit from economies of scale.	<p>Descriptive findings</p> <ul style="list-style-type: none"> Retailers operating within Soweto manage their inventory responsively as they: <ul style="list-style-type: none"> have the ability to easily obtain more inventory from suppliers purchase inventory on a daily or weekly basis. <p>To conclude, the respondents' purchasing decisions in terms of the average rate at which they purchase inventory underline their orientation towards <i>responsiveness</i>.</p> <p>Inferential findings</p> <ul style="list-style-type: none"> The industry group in which the retailer operates influences how often, on average, they purchase inventory. Retail hardware stores tend to purchase inventory less often (only when their inventory level is low) than the other industry groups.
Quantity of inventory purchased and held by retailers	Larger quantities of inventory are purchased regardless of the price to replenish inventory levels.	Larger quantities of inventory are purchased usually from suppliers with the lowest price.	<p>Descriptive findings</p> <p>The respondents' purchasing decisions in terms of the average amount of inventory that they purchase underline their orientation towards either <i>responsiveness</i> or <i>cost-efficiency</i>.</p> <ul style="list-style-type: none"> Retailers operating within Soweto that manage their inventory more responsively: <ul style="list-style-type: none"> purchase more inventory than they sell within a month purchase more inventory when they have a sale in their stores. Retailers operating within Soweto who manage their inventory more cost-efficiently: <ul style="list-style-type: none"> find it too expensive to purchase more inventory than they sell within a month purchase more inventory when items are on sale at suppliers. <p>Inferential findings</p> <ul style="list-style-type: none"> The industry group in which the retailer operates does not influence how frequently they: <ul style="list-style-type: none"> purchase less inventory than they sell within a month purchase the exact amount of inventory that they sell within a month purchase more inventory than they sell within a month find it too expensive to purchase more inventory than they sell within a month purchase more inventory when they have a sale in their stores. The industry group in which the retailer operates influences how frequently they: <ul style="list-style-type: none"> can easily obtain more inventory from suppliers if they run out of inventory purchase more inventory when it is on sale at their suppliers. <p>Retail hardware stores tend to easily obtain more inventory from their suppliers more frequently than the other industry groups.</p>
Quantity of inventory held by retailers	High inventory level is maintained for immediate satisfaction of customer demand. A large amount of safety and seasonal inventory is held as provision is made for fluctuating customer demand.	No, or a small amount of, safety and seasonal inventory is held.	<p>Descriptive findings</p> <ul style="list-style-type: none"> The respondents' purchasing decisions in terms of the average amount of inventory that they hold underline their orientation towards either <i>responsiveness</i> or <i>cost-efficiency</i>. Retailers operating within Soweto who manage their inventory more responsively: <ul style="list-style-type: none"> make provision for fluctuation in customer demand have products immediately available to a customer when they want to buy it believe that their customers are of the opinion that they will have enough inventory. <p>To conclude, the respondents' purchasing decisions in terms of the quantity of inventory held shows their orientation towards <i>responsiveness</i>.</p> <p>Inferential findings</p> <ul style="list-style-type: none"> The industry group in which the retailer operates influences how frequently they make provision for fluctuation in customer demand. Retail grocery stores tend to make provision for fluctuation in demand from customers more frequently than the other industry groups. The industry group in which the retailer operates does not influence their level of agreement on having: <ul style="list-style-type: none"> a product immediately available to customers when they want to buy it customers know that they will always have enough inventory.
Quality of inventory	High-quality (superior) items are offered to customers usually at a higher price.	Quality of items according to customers' needs (although no downscaled products offered).	<p>Descriptive findings</p> <p>Retailers operating within Soweto manage their inventory more towards <i>responsiveness</i> as they stock inventory of a high quality.</p> <p>Inferential findings</p> <p>The industry group in which the retailer operates does not influence the importance rating on carrying quality products.</p>
Inventory variety	A wider range of product selection is available.	A small dedicated assortment is offered.	<p>Descriptive findings</p> <p>Retailers operating within Soweto manage their inventory more towards <i>responsiveness</i> as they stock a variety of inventory.</p> <p>Inferential findings</p> <p>The industry group in which the retailer operates does not influence the importance rating on having enough product variety.</p>

Conclusion

The importance of developing small township retail business remains a priority of the South African government. The value-adding role of retailers, as the final link in the supply chain, lies in offering an assortment of products (and services) in the right quantity at a convenient location to customers. Small business retailers' decisions on their market offering should revolve around sustaining their competitive advantage; therefore, retailers should analyse the industry in which they operate before making decisions relating to the product (or services) that they offer. The type

of product (or service) that a retailer offers greatly depends on the specific industry in which the retailer operates and requires different management decisions.

Because inventory is one of the most expensive assets in many businesses, it should be managed with caution and owners or managers should consider the industry in which they operate based on its influence on the level of responsiveness and cost-efficiency at which the business should be managed. All inventory decisions should be aligned with the competitive strategy and different functional strategies (of which the supply chain strategy forms part). Based on the orientation of the supply chain strategy, retailers make inventory decisions relating to the average rate of purchasing inventory, the amount of inventory purchased as well as the quality and variety of products offered to customers.

The aim of this article was firstly, to determine how small retailers operating within the boundaries of Soweto manage their inventory decisions considering the orientation of the supply chain strategy; and secondly, to investigate whether retail industries differ in terms of inventory decisions. A literature study was conducted relating to the management decisions that owners or managers need to make taking into consideration the orientation of the supply chain strategy. Thereafter, a statistical analysis were conducted on the responses of 556 formal independent small retail businesses operating within Soweto to firstly determine the profile of these small retailers in terms of survival; secondly, how these small retailers currently manage their inventory decisions; and thirdly, whether retail industries differ in terms of inventory decisions. It was established that the small retailers are able to operate and survive despite the challenges of operating within a township as the majority of the small retailers showed growth in their annual income and have been in operation for 5 years or longer.

Table 16 summarises the literature and empirical findings of the inventory decisions that small retailers should make in terms of responsiveness and cost-efficiency.

From the descriptive findings presented in Table 16, it can be deduced that the majority of inventory decisions made by small township retailers are done responsively in order to serve the market with required offerings. The way in which these retailers perform inventory decision-making confirms the related literature findings presented. From the inferential findings presented, it can be concluded that, among industries, retail general stores are more inclined to make inventory decisions to increase their responsiveness, which suggests a supply chain strategy orientated towards responsiveness. In contrast, retail hardware stores are more cost-focused when making inventory decisions, which promotes a supply chain strategy orientated towards cost-efficiency. Hence, it is recommended that:

- The owners or managers of small township retailers need to be educated in terms of inventory management decisions. This article can be used as an educational platform to

show how small township retailers can identify the aligned inventory decisions for supporting a selected supply chain strategy orientation.

- Generally, small township retailers may maintain their competitive advantage if they align all business strategies to promote responsiveness.
- Because the industry in which small retailers operate influences inventory management decisions in terms of responsiveness and cost-efficiency, owners or managers must consider the specific industry in which they operate before making such decisions.

Future research

The study can be replicated within other townships or developing countries with similar characteristics to compare their inventory decision-making behaviour. The influence of the other marketing mix variables (e.g. price) on inventory decisions should also be investigated to determine the interdependence between these variables. The influence of inventory management decisions on the survival of small retailers could also provide valuable insights. Lastly, the same study can be conducted within another industry, such as manufacturing or services.

Acknowledgements

Competing interests

The authors declare that they have no competing interests with regard to the writing of this article.

Authors' contributions

T.E. is a lecturer and graduate student at the University of South Africa. This article is based on her Master's thesis completed in 2017. J.O.C. was the supervisor of T.E.'s Master's thesis and contributed to the conceptualisation of the article, as well as analysing and recording literature from the thesis.

Disclaimer

The views expressed in this article are those of the authors and not an official position of the institution.

References

- Ambe, I.M., 2012, 'Determining an optimal supply chain strategy', *Journal of Transport and Supply Chain Management* 6(1), 126–147. <https://doi.org/10.4102/jtscm.v6i1.35>
- Badenhorst-Weiss, J.A., Cilliers, J.O. & Eicker, T., 2014, 'A unique market offering by formal independent retail and wholesale small businesses in Soweto township, South Africa', *Problems and Perspectives in Management* 12(4), 366–376.
- Baily, P., Farmer, D., Crocker, B., Jessop, D. & Jones, D., 2008, *Procurement principles and management*, 10th edn., Financial Times, Prentice Hall, Harlow.
- Baker, P. & Canessa, M., 2009, 'Warehouse design: A structured approach', *European Journal of Operational Research* 193(2), 425–436. <https://doi.org/10.1016/j.ejor.2007.11.045>
- Baron, R.A., 2008, 'The role of affect in the entrepreneurial process', *Academy of Management Review* 33(2), 328–340. <https://doi.org/10.5465/amr.2008.31193166>
- Bowersox, D.J., Closs, D.J., Cooper, M.B. & Bowersox, J.C., 2013, *Supply chain logistics management*, 4th edn., McGraw-Hill Irwin, New York.
- Bressler, M.S., 2012, 'How small businesses master the art of competition through superior competitive advantage', *Journal of Management and Marketing Research* 11, 2–9.

- Cant, M.C., Wiid, J.A. & Kallier, S.M., 2015, 'Product strategy: Factors that influence product strategy decisions of SMEs in South Africa', *Journal of Applied Business Research* 31(2), 621–629. <https://doi.org/10.19030/jabr.v31i2.9158>
- Chopra, S. & Meindl, P., 2016, *Supply chain management: Strategy, planning, and operation*, 6th edn., Pearson, Harlow.
- Choto, P., Tengeh, R.K. & Iwu, C.G., 2014, 'Daring to survive or to grow? The growth aspirations and challenges of survivalist entrepreneurs in South Africa', *Environmental Economics* 7(4), 93–101.
- Christopher, M. & Gattorna, J., 2005, 'Supply chain cost management and value-based pricing', *Industrial Marketing Management* 34(2), 115–121. <https://doi.org/10.1016/j.indmarman.2004.07.016>
- Christopher, M. & Towill, D.R., 2002, 'Developing market specific supply chain strategies', *International Journal of Logistics Management* 13(1), 1–14. <https://doi.org/10.1108/09574090210806324>
- Coyle, J.J., Langley, C.J., Novack, B.J. & Gibson, B.J., 2013, *Managing supply chains: A logistics approach*, 9th edn., South-Western/Cengage, Mason, OH.
- Deakins, D. & Freel, M., 2012, *Entrepreneurship and small firms*, 6th edn., McGraw-Hill Higher Education, Berkshire.
- Duarte, S. & Machado, V.C., 2011, 'Manufacturing paradigms in supply chain management', *International Journal of Management Science and Engineering Management* 6(5), 328–342.
- Du Plessis, P.J., Strydom, J.W. & Jooste, C.J., 2012, *Marketing management*, 6th edn., Juta, Cape Town.
- Fawcett, S.E., Ellram, L.M. & Ogden, J.A., 2007, *Supply chain management: From vision to implementation*, Pearson, Upper Saddle River, NJ.
- Fisher, M.L., 1997, 'What is the right supply chain for your product?', *Harvard Business Review*, March–April, pp. 105–116.
- Gattorna, J., 2010, *Dynamic supply chains. Delivering value through people*, 2nd edn., Financial Times, Prentice Hall, Harlow.
- Gauteng Department of Economic Development, 2014, *Gauteng Department of Economic Development revitalisation strategy*, viewed 23 January 2016, from <http://www.ecodev.gpg.gov.za/Documents/Draft%20GTER%20Strat.pdf>
- Graungaard Pedersen, S., Zachariassen, F. & Stentoft Arlbjörn, J., 2012, 'Centralisation vs de-centralisation of warehousing: A small and medium-sized enterprise perspective', *Journal of Small Business and Enterprise Development* 19(2), 352–369. <https://doi.org/10.1108/14626001211223946>
- Hatten, T.S., 2012, *Principles of small business management*, 5th edn., South-Western Cengage, Florence.
- Hatten, T.S., 2016, *Small business management*, 6th edn., Cengage Learning, Ontario.
- Huddleston, P., Whipple, J., Mattick, R.N. & Lee, S.J., 2009, 'Customer satisfaction in food retailing: Comparing specialty and conventional grocery stores', *International Journal of Retail & Distribution Management* 37(1), 63–80. <https://doi.org/10.1108/09590550910927162>
- Islam, D.M.Z., Meier, J.F., Aditiandra, P.T., Zunder, T.H. & Pace, G., 2013, 'Logistics and supply chain management', *Research in Transportation Economics* 41(1), 3–16. <https://doi.org/10.1016/j.retrec.2012.10.006>
- Klemz, B.R., Boshoff, C. & Mazibuko, N.E., 2006, 'Emerging markets in black South African townships: Small local independently owned versus large national retailers', *European Journal of Marketing* 40(5/6), 590–610. <https://doi.org/10.1108/03090560610657859>
- Lawrence, A.S., Sivakumar, B. & Arivarignan, G., 2013, 'A perishable inventory system with service facility and finite source', *Applied Mathematical Modelling* 37(7), 4771–4786. <https://doi.org/10.1016/j.apm.2012.09.018>
- Lebusa, M.J., 2013, 'The prospects of making small retail outlets in the townships aggressively competitive', *Southern African Journal of Entrepreneurship and Small Business Management* 6, 75–86. <https://doi.org/10.4102/sajesbm.v6i1.34>
- Lee, H.L., 2002, 'Aligning supply chain strategies with product uncertainties', *California Management Review* 44(3), 105–119. <https://doi.org/10.2307/41166135>
- Leitner, K.H. & Guldenberg, S., 2010, 'Generic strategies and firm performance in SMEs: A longitudinal study of Austrian SMEs', *Small Business Economics* 35(2), 169–189. <https://doi.org/10.1007/s11187-009-9239-x>
- Ligthelm, A.A., 2008, 'The impact of shopping mall development on small township retailers', *South African Journal of Economic and Management Sciences* 11(1), 37–53. <https://doi.org/10.4102/sajems.v11i1.376>
- Ligthelm, A.A., 2010, 'Entrepreneurship and small business sustainability', *Southern African Business Review* 14(3), 131–153.
- Ligthelm, A.A., 2013, 'Confusion about entrepreneurship? Formal versus informal small businesses', *Southern African Business Review* 17(3), 57–75.
- Malebana, M.J. & Swanepoel, E., 2015, 'Graduate entrepreneurial intentions in the rural provinces of South Africa', *Southern African Business Review* 19(1), 89–111.
- Martínez-Olvera, C. & Shunk, D., 2006, 'Comprehensive framework for the development of a supply chain strategy', *International Journal of Production Research* 44(21), 4511–4528. <https://doi.org/10.1080/00207540600621698>
- Mataboobe, M.J., Venter, E. & Rootman, C., 2016, 'Understanding relational conditions necessary for effective mentoring of black-owned small businesses: A South African perspective', *Acta Commercii* 16(1), 1–11. <https://doi.org/10.4102/ac.v16i1.327>
- Merschmann, U. & Thonemann, U.W., 2011, 'Supply chain flexibility, uncertainty and firm performance: An empirical analysis of German manufacturing firms', *International Journal of Production Economics* 130(1), 43–53. <https://doi.org/10.1016/j.ijpe.2010.10.013>
- Monczka, R.M., Handfield, R.B. Giunipero, L.C. & Patterson, J.L., 2016, *Purchasing and supply chain management*, 6th edn., Cengage, Boston, MA.
- Morita, M., Machuca, J.A., De Los Ríos, J.L.P. & Flynn, E.J., 2015, 'Effects of supply chain strategy on product development', *22nd International Annual European Operations Management Association Conference (EurOMA)*, Switzerland, viewed 20 December 2015, from http://www.euroma2015.org/euromapapers/papers/SCM42_33226.pdf
- National Planning Commission, 2012, *National development plan 2030: Our future – Make it work*, The Presidency, Pretoria.
- Njiro, E., Mazwai, T. & Urban, B., 2010, 'A situational analysis of small businesses and enterprises in the townships of the Gauteng province of South Africa', *The First International Conference of the Centre for Small Business Development*, University of Johannesburg, Soweto, 27–28 January 2010, viewed 21 April 2016, from https://www.uj.ac.za/faculties/humanities/Department-of-Social-Work/Documents/Intro_Njiro_MazwaiUrban.pdf
- Nkosi, E., Bounds, M. & Goldman, G., 2013, 'Skills required for the black-owned small enterprise in Soweto', *Acta Commercii* 13(1), 1–10. <https://doi.org/10.4102/ac.v13i1.186>
- Olawale, F. & Garwe, D., 2010, 'Obstacles to the growth of new SMEs in South Africa: A principal component analysis approach', *African Journal of Business Management* 4(5), 729–738.
- Petousis, M., 2014, *TGI enters townships*, viewed 30 October 2106, from www.asafrika.co.za/sites/default/files/TGI%20enters%20townships.pdf
- Prinsloo, D.A., 2014, 'Retail trends in a very dynamic South African market', *Urban Studies*, viewed 30 October 2016, from www.urbanstudies.co.za/retail-trends-in-a-very-dynamic-south-african-market/
- Qrunfluh, S. & Tarafdar, M., 2013, 'Lean and agile supply chain strategies and supply chain responsiveness: The role of strategic supplier partnership and postponement', *Supply Chain Management: An International Journal* 18(6), 571–582.
- Rogerson, C.M. & Rogerson, J.M., 1997, 'The changing post-apartheid city: Emergent black-owned small enterprises in Johannesburg', *Urban Studies* 34(1), 85–103. <https://doi.org/10.1080/0042098976285>
- Scarborough, N.M., 2012, *Effective small business management*, 10th edn., Pearson Prentice Hall, Upper Saddle River, NJ.
- Soni, G. & Kodali, R., 2011, 'The strategic fit between "competitive strategy" and "supply chain strategy" in Indian manufacturing industry: An empirical approach', *Measuring Business Excellence* 15(2), 70–89. <https://doi.org/10.1108/13683041111131637>
- South Africa, 2004, *National Small Business Amendment Act of the Republic of South Africa*, no. 29, Pretoria Government Printer, viewed 17 April 2014, from https://www.thedti.gov.za/business_regulation/acts/small_business_amendment_act.pdf
- Stokes, D. & Wilson, N., 2010, *Small business management and entrepreneurship*, 7th edn., Cengage Learning EMEA, Hampshire.
- Strydom, J.W., 2013, 'Retail patronage of Sowetan consumers after 1994', *African Journal of Business Management* 7(29), 2863–2871. <https://doi.org/10.5897/AJBM12.1133>
- Strydom, J.W., 2015, 'David against Goliath: Predicting the survival of formal small businesses in Soweto', *International Business & Economics Research Journal* 14(3), 463–476. <https://doi.org/10.19030/iber.v14i3.9210>
- Walker, E., Redmond, J., Webster, B. & Le Clus, M., 2007, 'Small business owners: Too busy to train?', *Journal of Small Business and Enterprise Development* 14(2), 294–306. <https://doi.org/10.1108/14626000710746718>
- Wieland, A. & Wallenburg, C.M., 2012, 'Dealing with supply chain risks: Linking risk management practices and strategies to performance', *International Journal of Physical Distribution & Logistics Management* 42(10), 887–905. <https://doi.org/10.1108/09600031211281411>
- Wisner, J.D., Tan, K.C. & Leong, G.K., 2016, *Supply chain management: A balanced approach*, 4th edn., South-Western, Boston, MA.
- World Bank, 2014, *Economics of South African townships: Special focus on Diepsloot*, The World Bank, Washington, DC.