COMPETITIVENESS THROUGH THE INTEGRATION OF LOGISTICS ACTIVITIES IN SMEs

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Abstract. Logistics among competing organisations is a strategic management activity that can affect the operational, market and financial performance of an organisation. Small and medium enterprises (SMEs) need to understand the role of logistics activities in achieving competitive performance and creating a high level of customer satisfaction through greater economies of scale in production and reduction in the price of goods. This study aims to determine the nature and extent of SMEs competitiveness through logistics activities. This research used a quantitative method of data collection and analysis. The data were statistically analysed using SPSS (25.0) as well as SMART-PLS (3.0) software for structural equation modelling (SEM) to assess the measurement reliability and the research structural model. The findings show that SMEs nature and extent of competitiveness based on logistics activities differs among the three measurement constructs, namely price/cost competitiveness, quality competitiveness and delivery competitiveness. This study adds value to the knowledge of the perceived benefits and importance of logistics activities among the participating SMEs.

1. Introduction and background

Švárová and Vrchota (2014) state that the approach of strategy formulation is an improvement over that of traditional long-range planning, which begins with the definition of the company mission. Formulation of strategy also involves growth strategy, logistics strategy, retrenchment strategy, turnaround and divestment liquidation (Aktürk, Kurt, 2016; González-Rodríguez, Jiménez-Caballero, Martín-Samper,

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Köseoglu, Okumus, 2018), which are the focus of small and medium enterprises (SMEs). SMEs transfer their experiences gained by observation into organisational life and as owners or managers, they use their value and norms to define the vision and goals based on habits of thinking, which can involve deep-rooted assumptions that other members of the organisation use as direction for behaviour and for the success of the organisation (Hagen, Zucchella, Cerchiello, De Giovanni, 2012; Bozkurt, Kalkan, 2013; Rahimi, Fallah, 2015). As part of the strategy formulation, logistics activities include everything from the moment a product or service needs to be manufactured, through to incoming raw materials management, production, finished goods storage, delivery to customer and after sales service (Kain, Verma, 2018; Liao, 2018). Logistics is concerned with the profitable movement of information and materials into the organisation (time-based activity), through it and out to customers (Yu, Cadeaux, Song, 2017). Therefore, there is logistics in SMEs because logistics is a strategy that affects other functions in the organisation.

In every operation's management within any organisation, logistics is regarded as the key performance required for the movement, positioning and timing of inventory ordered from supplier and manufactured for customers (Pienaar, Vogt, 2016; Hill, Zhang, Miller, 2018). Logistics merges the gap between supply and demand. For example, logistics of customer service performance is determined by product availability, stockout frequency as well as fill rate performance, while operational logistics service performance is determined by equipment and facilities suitability, accessibility, goods security, transaction time, reliability and consistency of transaction time as well as flexibility performance (Brekalo, Albers, Delfmann, 2013; Feng, Pang, Lodewijks, Li, 2017; Sohn, Woo, Kim, 2017; Kain, Verma, 2018). Logistics increases the wealth and value creation of organisations within a supply chain through the efficient and effective movement of desired goods and services, information and finance to the required "designated place and time, in the required condition and quantity and at an acceptable cost or price" (Pienaar, Vogt, 2016:1). The Council of Supply Chain Management Professionals (CSCMP) define logistics management as "that part of supply chain management that plans, implements and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption to meet customers' requirements".

Logistics is the capability needed by an organisation for the implementation of business objectives (Kohn, McGinnis, Kara, 2011; Marchesini, Alcântara, 2016). Logistics formulation of strategy in SMEs organisation focuses on customer responsiveness, control strategy, geographic closeness, flexibility strategy and coordination with suppliers for inventory and stock availability (Bai, Sarkis, 2013; McFarlane, Giannikas, Lu, 2016; Gunasekaran, Subramanian, Papadopoulos, 2017). Just as strategy formulation for competitiveness is not optional for larger organisations, it is also not optional for SMEs. At first, SMEs may not have a formal logistics strategy but they still make strategic choices through their actions. Accordingly, SMEs utilise an internal growth strategy, which is divided into three sub-strategies: the market penetration strategy, market development strategy and the product

development strategy together with logistics activities to secure competitive advantage, which provides strategic direction (Bai, Sarkis, 2013). This study, therefore, seeks to determine the extent to which logistics activities influence price/cost competitiveness, product/ service quality competitiveness and delivery competitiveness among SMEs within the Emfuleni Local Municipality. The classification of SMEs according to Falkena (2000:26) was followed in the study. A small enterprise constitutes fewer than 50 employees with an annual turnover of between R2 million and R25 million. A medium enterprise is a business with between 50 and 200 employees with an annual turnover of between R4 million and R50 million.

2. Logistics activities

The logistics activities for this study are limited to transportation, warehousing, forecasting and demand management as well as reverse logistics (Pienaar, Vogt, 2016:13). Transportation is a very important part of SMEs business operation for competitiveness because it is the physical link connecting the organisation's raw materials and finished goods, plants and warehouses to provide a high-quality service to customers (Matijošius, Vasiliauskas, Vasilienė-Vasiliauskienė, Krasodomskis, 2016; Bakara, Jaafar, 2016; Silalahi, Handayani, Munajat, 2017). Outbound transportation has become the centre of focus for all firms over the years, to minimise operating costs (Fancello, Schintu, Serra, 2018). Outbound/physical distribution refers to the set of processes, systems and capabilities that enhance SMEs ability to serve their customers. Transportation, as one of the logistics activities, facilitates (Abushaikha, 2018) the physical flow of goods and service as well as related information from the point of origin to the final consumers. The ultimate goal of transportation is to satisfy customers both upstream and downstream in the logistics chain with greater effectiveness and efficiency than is provided by the competitors (Yu et al., 2017). Transportation usually represents the most important single element in logistics strategy for firms and thus, SMEs need to understand the role transportation plays in creating a high level of customer satisfaction and its contribution to greater competition in the marketplace, greater economies of scale in production and reduction in the price of goods (Abushaikha, 2018). Transportation bridges the gap between buyer and sellers, ensures on-time delivery, adds value to the SMEs by creating a time and place utility, reduces inventory costs, increases profitability and improves productivity for both buying and supplying SMEs (Holl, Mariotti, 2018). Transportation is a very important element in the logistics chain because a firm cannot function without it. For example, even if a product is produced in the right time, with the right quality and at the right price, it will be useless if there is no transportation available to transport the product to the customer at the place and time when it is needed (De Keizer, Akkerman, Grunow, Bloemhof, Van der Vorst, 2017).

2.1 Warehousing

According to Singh, Chaudhary, Saxena (2018), "a warehouse is a large building where raw materials or manufactured goods may be stored prior to their distribution for sale". With the emergence of strategic alliances, just-in-time and supply chain philosophies, the warehouse has taken on a strategic role in attaining the logistics goals of shorter cycle times, lower inventories, lower costs and better customer service (Abushaikha, Salhieh, Tower, 2018). By astute warehousing, SMEs can avoid the wide fluctuations in output levels due to uncertainties and variations in demand patterns. It allows the consolidation of smaller quantities into a larger shipment or for less-than-truckload (LTL) deliveries with significant transportation savings. Another area that is important to logistics is plant and warehouse site location. A location change could alter time and place relationships between plants and markets or between supply points and plants. Such changes will affect positively transportation rates and service, customer service quality, inventory requirements and possibly other areas (Coyle, Bardi, Langley, 2003:506).

2.2 Forecasting and demand management

Forecasting is a future guess about what is likely to happen, which may cause the risk of product obsolescence if the demand forecast is too high and also may result in unhappy customers if the demand forecast is too low (Hart, Lukoszova, Kubikova, 2013). This may further result in product return by customers, thereby causing delays in sales (Lui, Mantin, Wang, 2014). Demand management on the other hand, focuses on the transformation of demand forecast into a more collaborative business plans that require a collaborative organisational culture, a robust set of processes and effective information technology tools (Tiemessen, Fleischmann, Van Houtum, Van Nunen, Pratsini, 2013). Information is the key to demand forecasting: information from the market place in the form of medium-term forecasts; information from the customer, preferably based on the actual usage and consumption; information on production schedules and inventory status and information on marketing activities such as promotions that may cause demand to fluctuate from the norm (Dietrich, Ettl, Lederman, Petrik, 2012; Hofmann, Rutschmann, 2018).

2.3 Reverse logistics

Another logistics competitive strategy with an organisation is reverse logistics. Reverse logistics is the process of planning, implementing and controlling the efficient, cost-effective flow of raw materials, in processing inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing or creating value or for proper disposal (Kussing, Pienaar, 2016:499). In other words, it is a backward logistics operation. Reverse logistics is a challenge among SMEs, which, over the years, has been avoided. According to Jack, Powers, Skinner (2010), reverse logistics is an important asset to gain competitive advantage and it is a value-added strategy that impacts on

customer relations. To improve customer service and competitiveness, the development of reverse logistics competencies to physically handle returns, such as stock selection, transportation, centralised collection, data collection, refurbishing or remanufacturing and disposition is important (Morgan, Richey Jr, Autry, 2016; Hansen, Larsen, Nielsen, Groth, Gregersen, Ghosh, 2018). Furthermore, SMEs should integrate supply chain management capabilities that integrate manufacturer and retailer data, create invoices, generate store credits, detail accounts receivable, issue management reports and strategically apply the information gathered to streamline internal processes (Mellat-Parast, Spillan, 2014). With this, competitive benefits such as higher return on investment, higher return on assets, lower cost, higher quality of products and/or services, higher level of customer service and effective knowledge management mechanisms may result (Pal, 2017).

3. Price/cost, quality and delivery competitiveness

According to (Matijošius et al., 2016:423), "competition is defined as a struggle where both manufacturers and consumers are involved in striving to satisfy their economic interests. The ability to win the struggle thus ensuring long-lasting domination in the market is referred to as a competitive advantage" competitiveness is the ability of SMEs to maintain competitive position in the marketplace (Mellat-Parast, Spillan, 2014). For this study, competitiveness is the ability of SMEs to maintain competitive position through logistics activities to create superior value customers. Logistics activities create customer value by ensuring customer satisfaction through providing unique quality product/ service, cost reduction as well as JIT reliability strategy (Sigalas, 2015).

The implementation of logistics activities within SMEs is a clear advantage of SMEs competitiveness, because in operational terms, it is one of the most important integration mechanisms. Well integrated logistic activities not only enhance efficient operations but also facilitate effective customer satisfaction (Praiogo, Oke, Olhager, 2016). SMEs tend to neglect the key importance of logistics activities integration and, as such, SMEs business operations may underperform within the emerging competing environment, especially within the Emfuleni Municipality. World-class organisations' success depends on resource capabilities and a well-planned logistics integrated structure (Liao, Marsillac, Johnson, Liao, 2011). Logistics activities integration forces organisations to search for collaborative relationships both within and outside the organisation (Praiogo et al., 2016). Furthermore, logistics activities may help bring an enterprise to realise the full potential of its value-added activities; hence, gaining a significant competitive advantage over competitors. It may also lead to a reduction in operation costs and an improvement in product/ service quality and delivery reliability as well as customer services (Spillan, McGinnis, Kara, Yi, 2013). Enterprises that consider logistics to be a strategic factor, tend to develop long-term performances that are both financial and organisational. Therefore, the following relationships are proposed for this study:

3.1 Logistics activities and price/cost competitiveness

According to Spillan, McGinnis, Kara and Yi (2013), one of the most effective and strategic changes that logistics activities can bring is to reduce operational cost overtime, whilst still maintaining quality customer service without wasting organisation time and resources. With this, Jena and Seth (2016) argue that logistics activities are essential elements in decision-making pertaining to cost competitiveness in an organisation. Hence, logistics activities have become the obvious choice for price/cost competitiveness (Qureshi, Kumar, Kumar, 2007; Gani, 2017; Kain, Verma, 2018). For this reason, this study proposed that:

H1: There is a positive relationship between the use of logistics activities and price/ cost competitiveness among SMEs

3.2 Logistics activities and quality competitiveness

Logistics service quality produces values in the form of products and services in the hands of the ultimate customer (Sohn, Woo, Kim, 2017). Murfield, Boone, Rutner and Thomas (2017), explain that the reason for poor quality products/ services among SMEs is the result of poor and undefined logistics quality service. Logistics is a powerful quality system that enhances value offerings that are valued by customers and ensures stable performance under changing conditions (Ling-yee, Ogunmokun, 2008). Kain and Verma (2018) state that the primary process of logistics is setting customer services. This is because according to the CSCMP, logistics is "that part of supply chain management that plans, implements and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements" Therefore, logistics activities are quality competitive tools for SMEs whose business strategic focus is based on customer satisfaction and loyalty (Murfield et al., 2017).

H2: There is a positive relationship between the use of logistics activities and quality competitiveness among SMEs

3.3 Logistics activities and delivery reliability competitiveness

One of the key performance indicators of logistics activities is on-time delivery to customers. According to Durugbo, Tiwari and Alcock (2014), delivery reliability is a logistics capability that enhances firm effectiveness and competitive performance. Delivery reliability is the ability of the SMEs to comply timeously with the promised delivery date made to customers at the right time, place, price, quantity and quality (Basic, Skender, 2017). In this case, delivery unreliability may result in dissatisfied customers and thereby losing the customers to a competitor (Marino, Zotteri, Montagna, 2018). In recent times, organisations are forced to redefine

business logistics strategy because of the global increase in customer demand for delivery reliability, accuracy and quality service (Akinc, Meredith, 2015), for example, the use of information and communication technology, just-in-time approach, vendor-managed inventory, outsourcing, lean logistics and logistics flexibility (Park, Lee, Shin, Park, 2010; Yu, Cadeaux, Song, 2017; Pan, Giannikas, Han, Grover-Silva, Qiao, 2017). Therefore,

H3: There is a positive relationship between the use of logistics activities and delivery reliability competitiveness among SMEs

4. Research methodology and measuring instrument

The quantitative method of data collection was used in this research and a self-administered questionnaire was distributed to SMEs within the Emfuleni local Municipality through a convenience sampling approach. Convenience sampling is a type of nonprobability sampling where members of the target population that meet certain practical criteria are included in a study (Ilker, Sulaiman, Musa, Sunusi, 2016). This method is considered appropriate because it allows selection of respondents based on availability and ease of access. Using the historical evidence approach and based on the recommended sample size for SEM (Tabachnick & Fidell, 2007:718), the questionnaire was distributed to 350 SMEs and a total of 331 were returned. The questionnaire was hand delivered and collected after completion by a research assistant. Only the managers and the owners could complete the questionnaire. The instrument that measures competitiveness in terms of price/ costs, quality and delivery were adopted from Lia, Ragu-Nathan, Raob (2006). Items for logistics activities in this study were transportation, warehousing, forecasting/ demand management and reverse logistics (Pienaar, Vogt, 2016). A letter containing the ethical consideration was attached to the questionnaire to seek permission and inform the participating SMEs of the aim and purpose of the study before completion of the questionnaire.

5. Data analysis and result

Table 1: Demographic characteristics of SMEs in the sample

Variables	Categories	Frequency	Percentage
Number of years in operation	2 to 4 years	114	34.4
	5 to 7 years	88	26.6
	8 to 10 years	82	24.8
	11 or more	47	14.2
Annual sales	≤ R1million	168	50.8
	R1million to ≤ R5million	80	24.2
	R5million to ≤ R10million	35	10.6
	R10million to ≤ R20million	30	9.1
	≥ R20million	18	5.4

Variables	Categories	Frequency	Percentage
Physical assets	≤ R4million	206	62.2
	R4million to ≤ R8 million	81	24.5
	R8million to ≤ R12 million	25	7.6
	R12million to ≤ R16million	14	4.2
	≥ R16million	5	1.5
Number of employees	≤ 50 employees	272	82.2
	50 to 99 employees	35	10.6
	≥ 200 employees	24	7.3

The demographic description of the SMEs profiles as presented in Table 1 indicates that 114 (34.5%) of the SMEs have been in business for more than four years. Most of the SMEs have annual sales of <R1 million (n=168; 50.8%). In terms of their physical assets, most of the SMEs had an asset base of <R4 million (n=206; 62.2%). Lastly, a total of (n=272; 82.2%) have fewer than 50 employees, about (n=35; 10.6%) have 50 to 99 employees and only about (n=24; 7.3%) of the SMEs had workforce of 200 and more.

5.1 *Psychometric properties of the measurement scale*

The SMART-partial least squares (SMART-PLS 3) structural equation modelling procedure was used to analyse the data. Table 2 shows the accuracy of all the measurement scales, which present the research constructs, Cronbach alpha test, composite reliability (CR), average variance extracted (AVE) and item loadings.

Table 2: Measurement accuracy assessment and descriptive statistics

Research constructs	Indicators	Descriptive statistics		Reliability statistics			Validity statistics	
		Mean (x̄)	SD	Alpha (α)	CR	AVE	√AVE	Factor loading
Logistics activities	LA1	4.756	1.371	0.820	0.875	0.584	0.764	0.790
	LA2	4.702	1.369					0.827
	LA3	4.733	1.461					0.697
	LA4	4.863	1.312					0.686
	LA5	4.328	1.545					0.809
Competitiveness Price/Cost	CP1	4.550	1.519	0.70	0.761	0.622	0.799	0.919
	CP2	5.359	0.950					0.633
Competitiveness	CQ1	5.282	1.072		0.850	0.586	0.767	0.798

Research constructs	Indicators	Descriptive statistics		Reliability statistics			Validity statistics	
		Mean (x̄)	SD	Alpha (α)	CR	AVE	√AVE	Factor loading
Quality	CQ2	5.237	1.111					0.742
	CQ3	4.969	1.342	0.764				0.803
	CQ4	4.794	1.402					0.716
Competitiveness Delivery	CD1	5.099	1.171					0.867
	CD2	4.733	1.318		0.906	0.762	0.874	0.863
	CD3	5.000	1.447	0.845				0.890

Note: Alpha (α)=Cronbach's alpha; *CR=Composite reliability; AVE=Average variance extracted*

Cronbach's alpha test (α) and composite reliability test (CR) were used to test the internal reliability of the measurement model. From Table 1, the alpha values as well as the composite reliability values for all the measurement variables range from 0.70 to 0.84 and 0.76 to 0.90 respectively. According to Johnson and Christensen (2012), a value greater or equal to 0.70 indicates a good internal consistency for the measurement constructs.

The AVE value for this study, ranges from 0.58 to 0.76 with estimated values greater than 0.5, provide an acceptable level of internal reliability and validity of the research construct (Khosrow-Pour, 2006:75; Vinzi, Chin, Henseler, Wang, 2010:437). Convergent validity was determined using the obtained factor loadings, which were expected to be above 0.5. Drawing from Table 1, all factor loadings are greater than 0.5 (ranging from 0.63 to 0.92). This indicates acceptable individual item convergent in the validity of all scale items. Discriminant validity was done by assessing whether inter-correlation matrix among the constructs is less than the square root of the AVE (Garson, 2016). In tables 2 and 3, the inter-correlation values for all paired latent variables are less than √AVE (ranging from 0.76-0.87) and, therefore, reveal the existence of discriminant validity (Khosrow-Pour, 2006).

Table 3: Correlation analysis results and discriminant validity measures

Constructs	Delivery Competitiveness	Price/Cost Competitiveness	Quality Competitiveness	Logistics Activities
Delivery Competitiveness	1			
Price/Cost Competitiveness	0.574	1		
Quality Competitiveness	0.734	0.651	1	
Logistics Activities	0.473	0.447	0.445	1

Figure 2

LA1, LA2, LA3, LA4, LA5

15.830
16.552
9.119
11.517
20.065

Logistics activities

3.771
2.778
2.254

Price/cost Comp
10.161

12.611 → CP1
14.102 → CP2

Quality Comp

17.325 → CQ1
9.715 → CQ2
24.945 → CQ3
11.408 → CQ4

8.526

Delivery Comp

32.032 → CD1
23.921 → CD2
27.838 → CD3
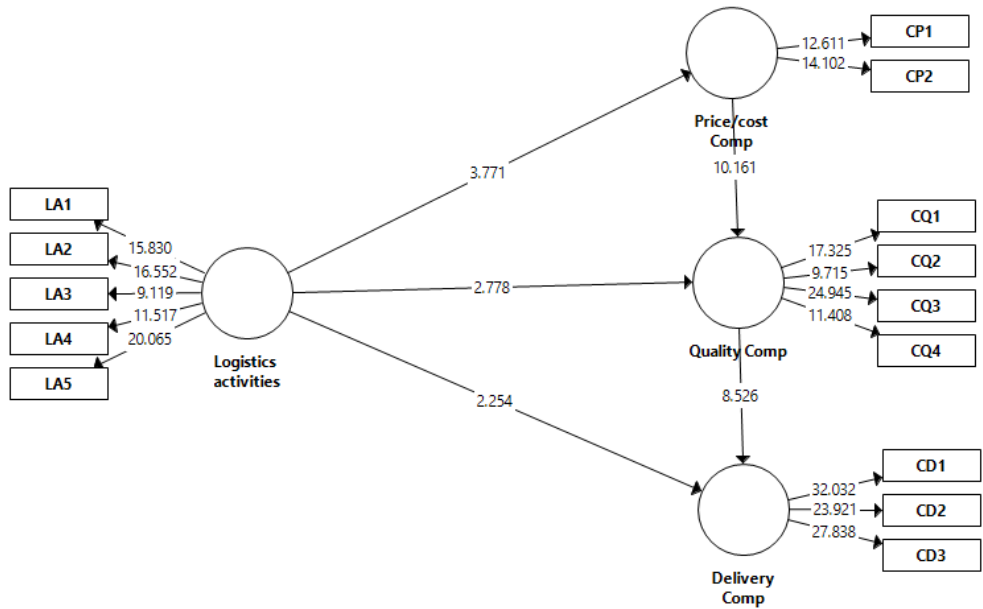
Figure 2: PLS 3.0 Bootstrapping analysis results

Figure 3

LA1, LA2, LA3, LA4, LA5

0.788
0.827
0.696
0.694
0.804

Logistics activities

0.411
0.176
0.184

Price/cost Comp
0.169
0.643

0.777 → CP1
0.819 → CP2

Quality Comp
0.537

0.790 → CQ1
0.728 → CQ2
0.828 → CQ3
0.715 → CQ4

0.655

Delivery Comp
0.568

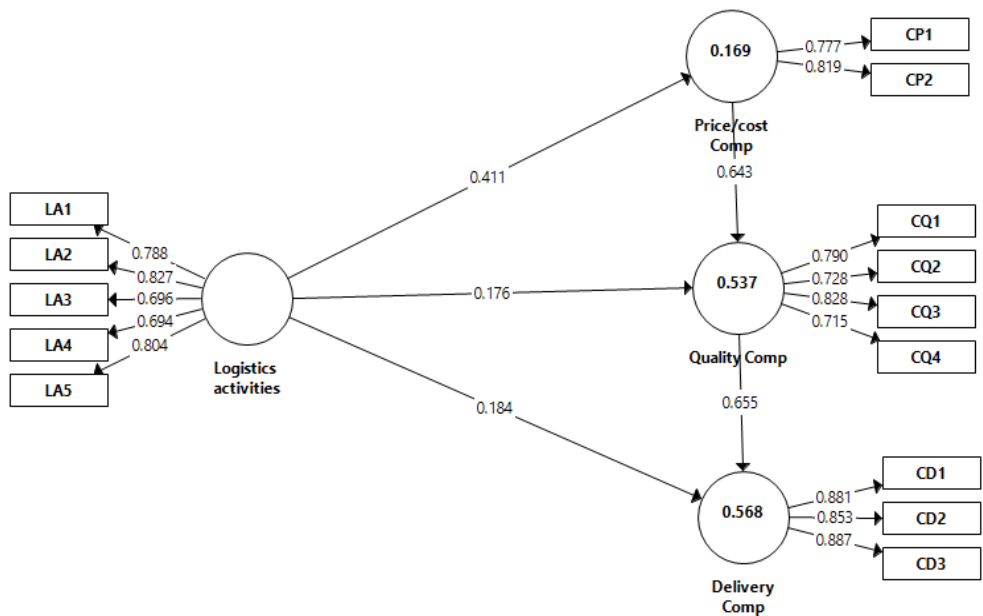0.881 → CD1
0.853 → CD2
0.887 → CD3

Figure 3: PLS 3.0 the main research model results

5.2 Path model results and factor loadings

Figures 2 and 3 indicate the p-value, path modelling results and the item loadings for the research constructs. In the figures, LA stand for logistics activities, CP stands for price/ cost competitiveness, CQ stands for quality competitiveness and CD is the abbreviation for delivery competitiveness.

Table 4: Results of structural equation model analysis

Proposed path relationship	Hypothesis	Path coefficient	T-value	P-value	Outcome
LA ⟶ CP	H_1	0.411	3.771	0.000	Supported
LA ⟶ CQ	H_2	0.176	2.778	0.006	Supported
LA ⟶ CD	H_3	0.184	2.254	0.025	Supported
CP ⟶ CQ	H4	0.643	10.161	0.000	Supported
CQ ⟶ CD	H5	0.655	8. 256	0.000	Supported

Table 4 and Figure 3 present the five hypothesised relationships, path coefficients, the t-statistics and the decision criteria. The value of the t-statistic indicates whether the relationship is significant or not. A significant relationship is expected to have a t-statistics above 1.96 and a p-value ≤0.05 indicates strong relationship levels (Gravetter, Wallnau, 2016:669). Table 4 also shows that all five hypothesised relationships are statistically significant.

6. Discussion of findings

From Table 4 and Figure 3, the relationship, which states that logistics activities have a positive influence on SMEs price/cost competitiveness, is supported at the t-statistics value of 3.771. Furthermore, the path result of the structural equation model also shows a predictive relationship (path estimate=0.411; p=0.00<0.05) and explained about 17 percent (R^2=0.169). This means that the integration of logistics activities among SMEs within the Emfuleni municipal district is to compete based on price/ cost. According to Jena and Seth (2016), logistics activities are vital business strategies that offer a competing price lower than competitor price. However, this may require SMEs to position themselves strategically with the logistics networks to enable them get access to hands-on information and also to be flexible

with effective responses to customers and competitors. This finding is consistent with that of Hart, Lukoszova and Kubikova (2013), stating that the growth and survival of companies depend on their ability to reduce costs.

In the case of logistics activities and quality competitiveness, the statistics significant value is 2.778 and the path result of the structural equation model also shows a predictive relationship (path estimate=0.176; p=0.00<0.05) and explained about 54 percent (R^2=0.537). The explanatory power in terms of quality competitiveness through the integration of logistics activities is higher than that of price/cost competitiveness. This shows that offering competing prices lower than that of the competitors among SMEs does not negate the importance of product/ service quality among the participating SMEs. This evidence is clear when looking at the standardised path regression weight of 0.643 with t-value of 10.161 between logistics activities, price/cost competitiveness and quality competitiveness. The above relationships have the highest level of significance. This is because within the modern competing environment, customers repurchase decision is no longer based on brand loyalty only, but mainly on those organisations that can offer high quality products even at a competing price (Stapleton, Pati, Beach, Julmanichoti, 2004). According to Fernarndes, Moori and Filho (2018:388), "a way that companies have found to respond to the challenges of customer satisfaction is the development of logistics service quality". Meaning that to compete based on quality, SMEs should invest in their logistics capabilities. For example, investment in an on-time delivery, implementation of logistics information technology, meeting deadlines, being proactive in finding solutions to logistical problems and developing innovative logistics solutions during emergency situations. SMEs ability to provide customers with quality logistics service may determine their competitiveness over competitors (Zailani, Jafarzadeh, Iranmanesh, Nikbin, Selim, 2018).

From Table 4 and Figure 2, the relationship, which states that logistic activities have a significant positive influence on SMEs delivery competitiveness, is supported at a t-statistics value of 2.254. However, the path result of the structural equation model shows a predictive relationship (path estimate=0.184; p=0.025<0.05) and a high explanatory power of about 57 percent (R^2=0.568). The R^2 indicates that the majority of SMEs competitive priority is based on delivery reliability, delivery flexibility and on-time delivery. To compete effectively within the global competitive environment, SMEs must respond to customers' changing demand with a flexible strategy, of which delivery reliability plays a critical role. Delivery reliability is the ability of the SMEs to comply timeously with the promised delivery date made to customers, which may further enhance firms' reputation. The path model also shows a positive relationship (path estimate=0.655; p=0.00<0.05) with a high significant level of (t-statistics=8.526) between quality and delivery competitiveness. The result reveals the importance of quality in delivery performance. This finding is consistent with Bushuev (2018) stating that logistics performance is characterised by product/ service delivery to the final consumer at the right time, place and in good condition (quality). In this case, transportation plays an important role in delivery performance through improving logistics efficiency and effectiveness in terms of place and time utility.

7. Conclusion and managerial implication

The purpose of this study was to determine the extent to which logistics activities influence price/ cost competitiveness, product/service quality competitiveness and delivery competitiveness among SMEs within the Emfuleni Local Municipality. Three research relationships between the research variables were proposed and statistically tested. All three proposed relationships were statistically significant. The findings did not only reveal the importance of logistics activities in achieving high levels of competitive advantage, but also revealed how the positioning of SMEs logistics activities is centered around quality − doing things right; speed − doing things fast; delivery dependability − doing things on time; and flexibility − changing what you do and the cost of doing things cheaply (Wong, Soh, Chong, Karia, 2015; Taschner, 2016; Aharonovitz, Vieira, Suyama, 2018; Omoruyi, 2018). To survive the fast-changing business environment, logistics activities are critical business tools to obtaining a competitive advantage. Due to the SMEs business strategic focus, logistics strategy and competitive focus differs among the participating SMEs.

Importantly, SMEs should re-define their business strategy to include logistics objectives that seek to continuously enhance and develop future logistics strategy on how to further satisfy customers' needs and offer good product/ service design at lower price/ cost. This can be possible through benchmarking, that is, by comparing products/ services and practices against those of larger organisations and external competitors. SMEs should consider forming strategic alliances and outsource third-party logistics services to form part of the production process to realise and improve on organisations' competitive performance. With this, SMEs are also able to handle other surprising challenges, such as greater demands from order givers, competition in domestic markets, increased global competition, organisational transformation, higher customer expectations of services and products, and increased environmental concerns.

The importance of logistics activities has been researched as essential toward organisations' competitive performances. However, despite its importance, this study is not without any limitations. This study only focused on the competitiveness through the integration of logistics activities in the Emfuleni Local Municipality, specifically around Vanderbijlpark and Vereeniging, therefore, it does not fully represent all the SMEs in South Africa. Consequently, the study findings cannot be generalized to all SMEs since the method used was convenience sampling. Both qualitative and quantitative methods of data collection are recommended for any further research on logistics activities and competitive performance in SMEs. However, this study has relevance in that it adds value to the knowledge of the perceived benefits and importance of logistics activities within the SMEs business objectives in the Emfuleni district. The research methodology and analysis made it possible to identify the extent of competitiveness through the implementation of logistics activities in SMEs. A further value of this study rests on the fact that it shows that quality competitiveness mediates price/cost competitiveness and delivery reliability competitiveness. This shows that SMEs logistics objective positioning, based on price/cost competitiveness, should consider quality. Likewise, the SMEs logistics objective positioning based on delivery reliability should also consider quality to outperform competitors.

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