DOI: 10.20472/IAC.2016.024.059

## CHENGEDZAI MAFINI

**DEPARTMENT OF LOGISTICS, VAAL UNIVERSITY OF TECHNOLOGY, South Africa** 

# DYNAMIC CAPABILITIES, SERVICE QUALITY AND RELATIONSHIP CONTINUITY AS DRIVERS OF SME SUPPLY CHAIN PERFORMANCE

#### **Abstract:**

Many small to medium scale enterprises (SMEs) in emerging economies are yet to adopt supply chain management practices. However, they have realised the strategic importance of supply chain management as a tool for optimum business performance. This paper examined the importance of dynamic capabilities, service quality and relationship continuity as mechanisms for the enhancement of supply chain performance in SMEs. Participants in the study included a total of 348 SME managers who were based in South Africa. Data were analysed using the Statistical Packages for the Social Sciences (SPSS version 23.0). Spearman correlations were used to determine the strength of the relationship between constructs. Regression analysis was used to test for prediction between the dependant and independent constructs. The results of the correlation tests showed significant positive correlations between supply chain performance and all three predictor constructs (dynamic capabilities, service quality and relationship continuity). In the regression analyses, the three predictor constructs were statistically significant. A comparison of the betas showed that service quality exerts greater influence on supply chain performance than the other two constructs. The study is significant in that it facilitates improved diagnosis of supply chain performance challenges amongst SMEs in emerging economies.

## **Keywords:**

Service quality, dynamic capabilities, relationship continuity, supply chain performance, SME

**JEL Classification:** M00

## Introduction and Background to the Study

Since the emergence of democracy in 1994, the South African government has considered the promotion of Small and Medium Enterprises (SMEs). This was prompted by the view that SMEs are the backbone of the economy and are an essential pillar in addressing the challenges of unemployment and poverty (Mahadea, 2008). This view is supported by the assertion by Charles (2009) that SMEs are commonly regarded as the leading factor of economy development, which reduces poverty through job creation. With this view in mind, various policies and other initiatives intended to advance the creation and growth of SMEs in South Africa were formulated and implemented (Nieman & Nieuwenhuizen, 2009). Such policies include, among others, improved access to finance, expanded access to business information and advice, strengthened access to training, improved business infrastructure relevant for SMEs and improved access to markets and public procurement for SMEs (Kampel, 2004). The success of some of these initiatives shows that national effort towards a new SME support strategy is possible in South Africa and that it can pave the way for a paradigm shift in perceptions about the role and potential of the SME sector in the country (Amra, Hlatshwayo & McMillan, 2013).

SMEs are by nature flexible and adaptable organisations that can respond guickly to market changes (Hudson & Smith, 2008). In South-Africa, SMEs are widely considered to be a heterogeneous group of businesses ranging from a single artisan worker in a village market to a more sophisticated firm selling in the market (Pooe, Mafini & Okoumba, 2015). However, in order for them to survive SMEs have to adopt more recent business practices such as supply chain management (Bayraktar et al., 2010). Supply chain management is the flow of materials, information and service from the original supplier until the final stage, the customers, with the aim of satisfying the demands of customers (Branch, 2009). It may also be defined as the material and informational interchanges in the logistical process, stretching from acquisition of raw materials to the delivery of finished products to the end users (Vitasek, 2008). The adoption of supply chain management is important in that it enhances the productivity of shorter life cycle products, encourages stronger competitiveness amongst businesses and leads to levels of customer satisfaction in the vast and uneven global market (Manzouri et al., 2010). Within SMEs, supply chain management practices are renowned for increasing effectiveness and efficiency in operations (Trkman & McCormack, 2010). This makes the adoption of supply chain management practices an important priority for SMEs.

According to Katunzi and Zheng (2010), if supply chain management practices are properly implemented they can effectively enhance supply chain performance amongst SMEs. Supply chain performance can be defined as the multiple measures of performance developed by the organisation to measure the ability of a supply chain to meet an organisation's long-term and short-term objectives (Deshpande, 2012). The understanding of supply chain performance is critical since it is the factor that enables the smooth operation, review and redesign of supply chain management

strategies that are necessary in the business enterprise (Gunasekaran & Kobu, 2007). Supply chain performance is better understood and can be monitored through five measurement metrics, which are: cost, time, quality, flexibility and innovativeness (Habidin & Yusof, 2013). In SMEs, those involved in monitoring supply chain performance typically focus on those metrics that result in increased competitiveness since greater competitiveness results in the decrease of costs associated with supply chain management (Vitasek, 2008). This makes the subject of supply chain performance central to the operation of modern day SMEs.

In order for SMEs to retain their customers they should render a satisfactory standard of service quality, which is the degree to which the service delivery levels match or exceed stakeholder expectation (Kassim & Zain, 2010). Service quality is considered to be an important tool in a firm's struggle to differentiate itself from its competitors (Ladhari, 2008). As observed by Miguel-Davial et al. (2010) service quality is a precedent to customer satisfaction, because when an excellent service is provided to customers their needs and expectations will be met, which is an important goal for all SMEs. This in turn assists in the creation of a good image or reputation of the company and brings positive transformations to the attitudes and perceptions of potential customers (Negi, 2009). Regarding the implementation of service quality in SMEs in South Africa, Rankin (2008) maintains that service quality is important in that it facilitates the upgrading of their products, processes and the levels of quality so that local and international value chains can become profitable, productive and performance-driven entrepreneurships. Thus, SMEs in the country should be supported in the quest to provide high service quality as this results in important paybacks for the entire nation.

According to Monczka (2010), most of the SMEs are increasingly recognising the need for stronger relationships with suppliers as the best way to reduce costs and ensure quality, delivery, time and other measures of performance. Relationship continuity with the supplier refers to the value and inclination of both parties towards the relationship (Akyuz & Rehan, 2009). It includes both investigative and experimental approaches to the relationship-based exchange transactions between both parties (Fink, Edelman & Hatten, 2007). Most companies seek long term relationships with fewer suppliers in order to secure valued resources and technologies, harness supplier skills and strength, and gain from quality and process improvements (Gilbert, Judith & Daniels, 2010). The relationship is two sided, as both parties have the power to shape their nature of future direction (Swafford, Ghosh & Murthy, 2008). However, a long standing debate exists which focuses on whether involving supplier in a long-term relationship of the buying firm(SMEs) will help the business secure resources and capabilities needed for product innovation, which the buying firm does not have (Lau, 2011). Such matters still need further empirical attention in order to find sustainable answers.

Another emergent issue that is important to supply chain management in SMEs of today is the subject of dynamic capabilities. Augier and Teece (2008) have described dynamic capabilities as the tool that is concerned with how the SMEs create new

knowledge, distribute it internally, plant it into new services or products and launch them into the market. Dynamic capabilities permit an organisation to create new combinations of ordinary capabilities (Pavlou & ElSawy, 2011). A brief example is when the product development processes or routines are higher-order dynamic capabilities that are employed in order to reconfigure the types of products as a firm manufactures or produces the service it offers (Daneels, 2008). In the context of SMEs, dynamic capabilities explore how changes in the world are likely to result in changes in the SMEs and improve their capabilities (Augier & Teece, 2008). This means that introducing dynamic capabilities will give SMEs opportunities to acquire new skills and improve the existing ones (Terziovski, 2010; Thorgren, Wincent & Ortquvist, 2012). This will enable SMEs to achieve their goals and implement their future plans (O'Dwyer, Gilmore & Carson, 2011).

#### **Problem Statement**

SMEs across the whole world, and in South Africa in particular, continuously face numerous challenges that inhibit entrepreneurial growth (Charles, 2009). Apart from SME funding and access to finance, SMEs in South Africa also suffer from poor management skills, which is a result of lack of adequate training and education, resulting in high rates of business failure (Gunasekaran & Kobu, 2010). Despite various support programmes implemented by the government, SMEs are failing to achieve the government's desired performance and growth rate of 5% per annum (Olawale & Garwe, 2010). This failure of SMEs to reach the desired performance levels has motivated this study to examine other areas of SME management and supply chain that could, potentially, stimulate higher levels in SME supply chains. This study aims to provide a deeper understanding on the key factors that can improve the performance of supply chains in which SMEs operate in South Africa by exploring the matter from the perspective of critical supply chain management practices, such as dynamic capabilities, relationship continuity and service quality. This may potentially yield information that is useful in the prevention of continued SME business failure in South Africa.

Given the challenges of maintaining the competitive edge by SMEs, various research endeavours (for example, Adams, Khoja & Kauffman, 2012; Chinomona & Chinomona, 2013; Mafini & Omoruyi, 2013) have been made which are directed to the implementation of supply chain management activities to enhance SME supply chain performance. This fact notwithstanding, there is scant evidence of previous studies that have attempted to test the conceptual framework put forward in this study in the South African SME economic sector. Hence, previous literature has very little content regarding the impact of the dynamic capabilities on supply chain performance in South African SMEs. By investigating the relationship between dynamic capabilities, relationship continuity and service quality and supply chain performance this study exploits the gaps that are currently missing in this potentially interesting research area. This study clarifies the importance of dynamic capabilities, relationship continuity and service quality in SMEs and determines their importance on supply chain performance. It also provides information on how dynamic capabilities can be

manipulated in order to stimulate relationship continuity between buyers and suppliers as well as superior service quality within SMEs. This provides further clarity on the interplay between these constructs from the perspective of an emerging economy in an African context.

## Aim of the Study

The aim of this study was to investigate the association between dynamic capabilities, service quality, relationship continuity and supply chain performance amongst Small Medium Enterprises (SMEs) in South Africa.

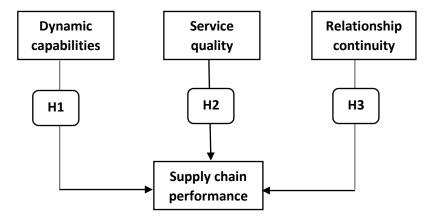
# **Research Objectives**

In this study, the following empirical objectives were formulated in order to achieve the aim of the study:

- to establish the influence of dynamic capabilities on supply chain performance amongst South African SMEs;
- to establish the influence of service quality on supply chain performance amongst South African SMEs;
- to establish the influence of relationship continuity on supply chain performance amongst SMEs in the province of Gauteng.

## **Conceptual Framework**

Based on the literature reviewed, the following conceptual framework was developed. In the conceptualised research framework, dynamic capabilities, service quality and relationship continuity are the predictor variables, which feed into supply chain performance.



## **Hypotheses Statements**

Based on the conceptual model above, the following hypotheses were put forward;

- **H1.** There is a positive relationship between dynamic capabilities and supply chain performance amongst SMEs;
- **H2.** There is a positive relationship between service quality and supply chain performance amongst SMEs;

**H3:** There is a positive relationship between relationship continuity and supply chain performance amongst SMEs.

#### **Research Method**

## Research Design

In this study, a quantitative strategy was used, since the study aimed at testing the nature of relationships between various constructs. Supporting this quantitative strategy, a cross sectional survey design was adopted. A cross-sectional survey collects data to make inferences about a population of interest (universe) at one point in time (Davies, 2007). This type of design was selected because it is relatively inexpensive and takes up little time to conduct and can be used to estimate prevalence of outcome of interest, since the sample is usually taken from the whole population (Locke, Silverman & Spirduso, 2010).

## **Sampling Design**

In this study the target population was identified as SMEs in the Gauteng Province of South-Africa. According to Razaq (2010), SMEs are the most important sector for growth in the economy in South Africa. To determine the sample size, the historical reference method was used, by means of previous studies (Adams, Khoja & Kauffman, 2012; Chinomona & Chinomona, 2013; Jain et al., 2014; Mafini & Omoruyi, 2013); that examined various supply chain management issues in the SME sector which used sample sizes ranging between 200 and 500 elements. Using the historical reference method, the sample size for this study was initially pegged at N=500 respondents. The sampling frame was made up of various lists that include a register from the Gauteng Enterprise Propeller (GEP), as well as SME databases from the relevant municipalities in the Gauteng Province of South Africa. Respondents were selected through probability sampling using the stratified random technique. The population was divided into mutually exclusive groups (industry sectors) and samples were drawn from each group (Thakkar, Kanda & Deshmukh, 2009). The stratified random technique was deemed as suitable for this study because it offered each element of the population a fair chance of being selected and minimised selection bias by ensuring that important segments of the population were neither overrepresented nor underrepresented (Kumar, 2011). After application of these approaches, the eventual sample consisted of 348 owners and managers of SMEs who were based in the Gauteng Province, South Africa.

## **Measurement Instrument and Data Collection Method**

In this study, data were collected in September 2015 by means of a self-administered, standardised questionnaire, which made the coding, analysis and interpretation of data relatively easy. The measuring instrument was designed in such a way that it suited the South-African context. Section A of the questionnaire consisted of questions that elicited respondents' demographic information. Section B of the questionnaire measured dynamic capabilities using six questionnaire items adapted from a study by Teece, Pisano and Shuen (1997). Section C consisted of questions designed to

measure service quality by using items adapted from a study by Ihtiyar and Ahmad (2012). Section D of the questionnaire comprised questions focusing on relationship continuity using questions adapted from Ganesan (1994). Section E of the questionnaire consisted of questions eliciting information on supplier performance, which were measured using questions adapted from Prajogo *et al.* (2012). Response options in sections B to E were presented in the form of five-point Likert scales anchored by 1=strongly disagree and 5=strongly disagree. Likert scales were used because they are easy to construct and administer and respondents find them easier to use (Bradley, 2010).

## Validity and Reliability

Faculty members who are experts in the field of supply chain management evaluated the questionnaire for content validity. In order to eliminate any ambiguity and to ascertain the time for its completion, the questionnaire was pre-tested with a convenient sample of 20 SME owners and managers. Feedback obtained from these two procedures facilitated the further refinement of questionnaire items. Convergent validity was assessed through the computation of correlations among the four constructs under consideration in this study. The results (refer to Table 2) reveal the existence of positive associations between all predictor constructs and supplier performance, which provided evidence of convergence. Predictive validity was ascertained through regression analysis. The results (refer to Table 3) indicate positive causal relationships between predictor constructs and supply chain performance, which provided evidence of satisfactory predictive validity.

The internal consistencies of the scales in the measuring instrument were measured using the Cronbach alpha coefficient (refer to Table 1). The Cronbach alpha values for the scales ranged between 0.722 and 0.871. Additionally, the alpha value for the overall scale was 0.794. Since these values were all above the acceptable threshold level of 0.70 which is prescribed by Malhotra (2010) it can be resolved that the measurement scales used in the study were internally consistent or reliable.

Table 1: Mean scores and internal consistencies of scales

Dimension description	Number of items	Cronbach Alpha	Mean score	Position in mean score rank
Dynamic capabilities	6	0.722	4.129	5
Service quality	7	0.871	3.901	4
Relationship continuity	4	0.707	3.924	3
Supply chain performance	6	0.845	4.163	2
Overall Scale	35	0.794	4.527	Not applicable

Scale (Sections B-E): 1= Strongly Disagree: 2=Disagree: 3=Neutral: 4=Agree: 5=Strongly

agree

Table 1 showcases the mean scores of the dimensions considered in the study. The mean-scores for the four constructs ranged between 3.901 and 4.531, which represents direct inclinations towards either the *agree/strongly agree* or the

satisfied/strongly satisfied positions on the Likert scales. These inclinations suggest that respondents were satisfied with the existing levels of these factors in their organisations. A comparison of the mean scores shows that supply chain performance ( $\bar{x} = 4.531$ ) scored the highest mean, which depicts that respondents were most satisfied with this factor than the other three.

#### Correlations

Non- parametric correlations used to examine the relationship between the constructs. Spearman's rho (*r*) was used. The results are reported in Table 2.

Table 2: Spearman Correlations- job satisfaction and job loyalty

	Dynamic	Service quality	Relationship	Supply chain	
Construct	capabilities		continuity	performance	
S					
Dynamic	1.000	.351	.510 <sup>**</sup>	.469*	
Capabilities					
Service quality	.351	1.000	.244	.621**	
Relationship	.510 <sup>**</sup>	.244	1.000	.357*	
continuity					
Supply Chain	.469*	.621**	.357*	1.000	
performance					
** Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level					

<sup>\*\*</sup> Correlation is significant at the 0.01 level (2-tailed). \*Correlation is significant at the 0.05 level (2-tailed)

Table 2 reveals that there were positive inter-factor correlations ranging between 0.244 and 0.621 between the constructs. This result depicts that an increase in any one construct actuates increase in the other constructs and vice versa.

## **Regression Analysis**

Since the relationship between the constructs showed positive correlations, regression analyses (three separate regression models) using the enter method were conducted to determine causality between these dimensions. However, certain assumptions were considered as a justification for the use of regression analysis, as recommended by Malhotra (2010). Tolerance values for all variables in the three regression models fell above the 0.5 threshold recommended by Bradley (2010). Furthermore, variance inflation factor (VIF) values for all variables in the three regression models were between 1.0 and 4.0 as prescribed by Hair *et al.* (2010). As such, multicollinearity statistics did not signal any significant risk. Furthermore, the sample was considered to be representative of the population of SMEs within the South African geographic context. Finally, the Durbin-Watson test statistic which tests for residual autocorrelations was acceptably large (d > 2) to assume the existence of positive autocorrelations or a perfect estimation of the level of statistical significance in the models.

Since the aforementioned assumptions were satisfied in this study, supply chain performance was entered into the three regression models as the dependent variable and the three predictor factors; dynamic capabilities, service quality and relationship continuity were entered as the independent variables. The results are conveyed

through Tables 3, 4 and 5. Table 3 reports on the regression analysis results between dynamic capabilities quality and supply chain performance.

Table 3: Regression Analysis: Dynamic capabilities and supply chain performance

Independent variable: Dynamic	Dependent variable: Supply chain performance				
Capabilities	Standardise d Coefficients		Sig.	Collinearity Statistics	
	Beta			Toleranc	VIF
				е	
Dynamic capabilities	0.457	1.313	0.263	0.571	1.847
Model summary: $R = 0.102$ Adjusted $R^2 = 0.078$					

Dynamic capabilities accounted for approximately 8% ( $R^2 = 0.078$ ) of the variance explained in supply chain performance. This depicts that approximately 92% of the variance in supply chain performance can be accounted for by other factors that were not considered in this study. Table 4 reports on the regression analysis results between service quality and supply chain performance.

Table 4: Regression Analysis: Service quality and supply chain performance

Independent variable: Service	Depende	Dependent variable: Supply chain performance			
quality	Standardise	T	Sig.	Collinearity Statistics	
	d				
	Coefficients				
	Beta			Toleranc	VIF
				е	
Service quality	0.649	2.257	0.123	0.682	1.828
Model summary:					
$R = 0.108$ Adjusted $R^2 = 0.112$					

Service quality accounted for approximately 11% ( $R^2 = 0.112$ ) of the variance explained in supply chain performance. This depicts that approximately 89% of the variance in supply chain performance can be accounted for by other factors that were not considered in this study. Table 5 reports on the regression analysis results between service quality and supply chain performance.

Table 5: Regression Analysis: Relationship continuity and supply chain performance

Independent variable:	Dependent variable: Supply chain performance				
Relationship continuity	Standardise d Coefficients	Т	Sig.	Collinearity Statistics	
	Beta			Toleranc	VIF
	Dota			е	•
Relationship continuity	0.338	3.757	0.000	0.595	2.132
Model summary: R= 0.046 Adjusted R <sup>2</sup> = 0.035					_

Relationship continuity accounted for approximately 3% ( $R^2 = 0.035$ ) of the variance explained in supply chain performance. This depicts that approximately 97% of the variance in supply chain performance can be accounted for by other factors that were not considered in this study.

#### **Discussion**

Hypothesis one (H1) suggested that dynamic capabilities exert a positive influence on supply chain performance. This hypothesis was accepted in this study. For endorsement of this result, the results of the correlation analysis indicate the existence of a medium positive association (r = 0.469; p< 0, 01) between dynamic capabilities and supply chain performance. Furthermore, the results of the regression analysis indicate that the dynamic capabilities factor ( $\beta = 0.457$ ; t = 1.313; P < 0.263) was statistically significant, which demonstrates that it is an indicator (predictor) of supply chain performance in SMEs. Dynamic capabilities stress the key role of management to appropriately adjust, integrate and reshape organisational skills and resources as well as internal and external functional competences (Borch & Madsen, 2007). Capabilities are said to be dynamic when they provide organisations with the ability to implement different strategies to adopt to varying market conditions (Barreto, 2010:256). A firm's dynamic capabilities are characterised by its capacities to sense and shape opportunities and threats, grab opportunities, and maintain competitiveness through enhancing, combining, protecting and when necessary, reconfiguring the business enterprise's intangible and tangible assets (Teece, 2007).

Dynamic capabilities also include the ability to identify the need for change, to formulate a response, and to implement appropriate measures, and this is necessary for the success of the enterprise (Chin *et al.*, 2012). In a business environment where the competitive landscape is continuously shifting (e.g. the SME sector), a firm's dynamic capabilities become the source of sustained competitive advantage (Shephered & Gunter, 2011). Companies also have the challenge of focusing on their dynamic capabilities to purposefully create, extend, or modify their resource bases in their supply chains (Helfat & Peteraf, 2009). Therefore SMEs have the prerogative of monitoring and control their dynamic capabilities regularly in order to get the performance desired from their supply chain.

**Hypothesis**  $H_2$  was supported and was subsequently accepted in this study. This decision is based on the fact that the results if the correlation analysis revealed a strong positive association (r = 0.621; p< 0, 05) between service quality and supply chain performance. Further confirmation of that relationship is found in the results of the regression analysis where service quality was statistically significant ( $\beta = 0.649$ ; t = 2.257; p < 0.123). This result demonstrates that supply chain performance in the SME sector is dependent upon the quality of service by SMEs.

Service quality can be defined as a performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything (Kotler & Keller, 2010). Service quality can also be defined as the overall assessment of service by customers (Eshghi, Roy & Ganguli, 2008). In any economy SMEs tend to be the backbone to general business health (Supyuenyong, Islam & Kulkarni, 2009). This being the case, SME's that intend to remain relevant and competitive must constantly persevere towards delivering the best and highest quality service to customers (Ladhari, 2008). Factors influencing service quality include organisational culture,

management style, job satisfaction, resource availability, skills and expertise, performance monitoring and feedback, organisational communication, employee job fit, and quality of teamwork (Ihtiyar & Ahmad, 2012). Some of the benefits that SMEs stand to enjoy by emphasising service quality include getting a competitive edge, high customer satisfaction and excellence in design, all of which lead to high overall SME performance (Ghylin *et al.*, 2008). Since effective service quality results in a wide spectrum of benefits to the SMEs, it may be stated that service quality determines the supply chain performance and hence the long-term survival of such enterprises.

In the present study, Hypothesis H<sub>3</sub> was supported and accepted. The results of the correlation analysis showed a medium positive association (r = 0.357; p< 0.01) between relationship continuity and supply chain performance. Additionally, the results of the regression analysis showed that relationship continuity ( $\beta = 0.338$ ; t = 4.755; P< 0.001) emerged as a statistically significant predictor of supply chain performance. These results illustrate that relationship continuity is an indicator of the levels of supply chain performance amongst SMEs. Relationship continuity with the supplier refers to the value and inclination of both parties towards the relationship, as they consider the required levels of commitment, advantages, limitations and the possibility of exchange, which emanate from the relationship (Fink, Edelman & Hatten, 2007). According to Monczka et al. (2010), most buyers and sellers recognise the need for teamwork between buyers and suppliers as the best way to reduce costs and ensure quality, delivery, time and other measures of performance. The relationship is two sided, as both parties have the power to shape their nature of future direction (Lai, Wong & Cheng, 2010). Some authors (Mishra, 2011; Prajogo & Olhager, 2012) advocate that given that SMEs are getting more focused on their core competences, there are three key aspects of long term relationships with suppliers. First, the trend is to build a long-term relationship with supplier rather than shorter contracts. Second, SMEs now tend to use fewer suppliers over a longer period of time rather than keeping a large base of suppliers which allows them to change the supplier at almost every contract. Third, the relationship with suppliers has been enhanced into a strategic level where the suppliers are now considered as an integral part of the firm's operations. Relationships between SMEs and their suppliers are likely to improve once these three parameters are satisfied.

Nurturing long-lasting relationships, which require communication effectiveness, cooperation and transparency constitute key factors for trust development between buyers and suppliers (Paiva, Phonlor & D'avila, 2008). In turn, once such mutually reciprocal relationships are established, they lead to improvements in such areas as process integration, collaboration, information sharing, which usually lead to the high levels of the client's satisfaction (Cousins, Lawson & Squire, 2008). Furthermore, improvements in costs, quality, delivery and flexibility and operational performance may be realised when the supplier is committed with the buyer (Chinomona, 2013). This makes it important that volatile organisations such as SMEs embrace the building of long-lasting relationships with their suppliers in order for them to enjoy the benefits emanating from such practices.

## **Conclusion and managerial implications**

The purpose of this study was to investigate the association between dynamic capabilities, service quality, relationship continuity and supply chain performance amongst Small Medium Enterprises (SMEs) in South Africa. Spearman's correlation analysis was used to test the strength of the relationships whilst regression analysis was used to test the existence of predictive relationships between supply chain performance and the three predictor constructs. Moderate to strong correlations were observed between supply chain performance and dynamic capabilities, service quality and relationship continuity. The same three factors were statistically significant, which implies that they are predictors of supply chain performance. It is appropriate then to conclude that the level of supply chain performance in SMEs is dependent upon the effectiveness of dynamic capabilities, the quality of service and the existence of sound relationships between SMEs and their stakeholders.

This study has managerial implications for the SME sector of industry. SME owners and managers may be able to enhance the levels of supply chain performance by making improvements on dynamic capabilities, improving the quality of their services and cultivating sound and long lasting relationships with their suppliers. Since service quality exerted a greater influence on supply chain performance than the other two predictor constructs, SMEs should direct greater attention to improving the quality of their services than on dynamic capabilities and relationship continuity.

#### References

- ADAMS, J. H.; KHOJA, F. M. and KAUFFMAN, R. (2012) an empirical study of buyer-supplier relationships within small business organizations. *Journal of Small Business Management,* Vol. 50, No. 1, 20-40.
- AKYUZ, G. A. and REHAN, M. (2009) Requirements for forming an 'e-supply chain'. *International Journal of Production Research*, Vol. 47, No. 12, 3265–3287.
- AMRA, R.; HLATSHWAYO, A. and MCMILLAN, L. (2013) SMME Employment in South Africa. Conference paper. *Biennial conference of the Economic Society of South Africa*, Bloemfontein, South Africa 25-27th September.
- AUGIER, M. and TEECE, D. J. (2008) Strategy as evolution with design: the foundation of dynamic capabilities and the role of managers in the economy system. *Organization Studies*, Vol. 29, No. 8-9, 1178-1208.
- BARRETO, I. (2010) Dynamic capabilities: a review of past research and an agenda for future. *Journal of Management*, Vol. 36, No. 1, 256-280.
- BAYRAKTAR, E.; GUNASEKARAN, A.; KOH, S. C. L.; TATOGLU, E.; DEMIRBAG, M. and ZAIM, S. (2010) An efficiency comparison of supply chain management and information systems practices: a study of Turkish and Bulgarian small and medium sized enterprises in food products and beverages. *International Journal of Production Research*, Vol.48, No. 2, 425-451.
- BORCH, O. J. and MADSEN, E. (2007) Dynamic capabilities facilitating innovative strategies in SMEs. *International journal of Techno Entrepreneurship*, Vol. 1, No. 1, 109-125.
- BRADLEY, N. (2010) *Marketing research: tools and techniques*. 2<sup>nd</sup> ed. New York: Oxford University Press.

- BRANCH, E. (2009) Global supply chain management and international logistics. NY, UK: Rutledge.
- CHARLES, G. (2009) Competitive advantage in small medium-scale enterprises: a resource-based analysis of Tanzanian family and non-family firms. Doctoral dissertation. Dar es Salaam. University of Dar es Salaam.
- CHIN, T. A.; HAMID, A. B. A.; RASLI, A. and BAHARUN, A. (2012) Adoption of supply chain management in SMEs. Procedia *Social and Behavioral Sciences*. Vol. 65, 614 -619.
- CHINOMONA, R. and CHINOMONA, E. (2013) The influence of employees' perceptions of organizational politics on turnover intentions in Zimbabwe's SME sector. *Southern African Journal of Business Management*. Vol. 44, 2, 57-66.
- CHINOMONA, R. (2013) Information technology resource as a facilitator of suppliers' collaborative communication, network governance and relationship longevity in supply chains'. *Journal of Transport and Supply Chain Management* Vol. 7, No. 1, Art. #83.
- COUSINS, P. D.; LAWSON, B. and SQUIRE, B. (2008) Performance measurement in strategic buyersupplier relationships. *International Journal of Operations and Production Management*. Vol. 28, No.3, 238-250.
- DANEELS, E. (2008) Organizational antecedents of second-order competences. *Strategic Management Journal*. Vol. 29, No. 5, 519-543.
- DAVIES, M. B. (2007) *Doing successful research project; using qualitative or quantitative methods*. Houndmills: Palgrave MacMillan.
- DESHPANDE, A. (2012) Supply chain management dimensions, supply chain performance and organizational performance: an integrated framework. *International Journal of Business and Management*. Vol.7, No. 8, 2-19.
- ESHGHI, A.; ROY, S. K. and GANGULI, S. (2008) Service quality and customers satisfaction: an empirical investigation in Indian mobile telecommunication service. *Marketing Management Journal*. Vol. 18, No. 2, 119-144.
- FINK, R. C.; EDELMAN, L. F. and HATTEN, K. J. (2007) Supplier performance improvement in rational exchanges. *Journal of Business & Industrial Marketing*. Vol. 22, No. 1, 29-40.
- GANESAN, S. (1994) Determinants of long-term orientation in buyer-seller relationships. *The Journal of Marketing*. Vol. 58, No. 2, 1–19.
- GHYLIN, K. M.; GREEN, B. D.; DRURY, C.G. and CHEN, J. (2008) Clarifying the dimensions of four concepts of quality. *Theoretical Issues in Ergonomics Science*. Vol. 9, No.1, 73-94.
- GILBERT, N.; JUDITH, M. and DANIELS (2010) Examining supply chain relationships: do buyers and suppliers perspectives on collaboration relationship differs? *Journal of Operations Management*. Vol. 5, No. 1, 101-114.
- GUNASEKARAN, A. and KOBU, B. (2007) Performance measures and metrics in logistics and supply chain management: a review of recent literature (1995-2004) for research and applications. *International journal of production Research*. Vol. 45, No. 12, 2819-2840.
- GUNASEKARAN, A. and SARKIS, J. (2008) Research and applications in e-commerce and third-party logistics management. *International Journal Economics*. Vol. 113, No. 1, 105-126.
- HABIDIN N. F. and YUSOF S. M. (2013) Critical success factors of lean six sigma for Malaysian automotive industry. *International Journal of Lean Six Sigma*, Vol. 4, No. 1, 60-82.
- HAIR, J. F.; BABIN, B. J.; ADERSON, R. E. and TATHAM, R. L. (2010) *Multivariate data analysis: a global perspective.* 7<sup>th</sup> edition. New Jersey: Prentice Hall.

- HELFAT, C. E. and PETERAF, M. A. (2009) Understanding dynamic capabilities: progress along a developmental path. *Strategic Organization*, Vol. 7, No 1, 91-102.
- HUDSON, M. & SMITH, D. (2008) Implementing strategically aligned performance measurement in small firms. *International Journal of Production Economics*. Vol. 106, No. 2, 393-408.
- IHTIYAR, A. and AHMAD, F. S. (2012) Impact of intercultural competence on service quality and customer satisfaction in the grocery retail industry: a conceptual framework. *International Journal of Science and Management*. Vol. 1, 13-27.
- JAIN, M.; KHALIL, S.; JOHNSTON, W. J. and CHENG, J. M.S. (2014) The performance implications of power-trust relationship: the moderating role of commitment in the supplier-retailer relationship. *Industrial Marketing Management*. Vol. 43, 312-321.
- KAMPEL, K. (2004) Competition law and SMEs: exploring the competitor/competition debate in a developing democracy. Centre on Regulation and Competition Working Paper Series.
- KASSIM, N and ZAIN, M. (2010) Service quality: gaps in the college of business. *Services Marketing* Quarterly. Vol. 31, No. 2, 235-252.
- KATUNZI, T. M. and ZHENG, Q. (2010) Tanzanian SMEs' perceptions towards adoption of supply chain management (SCM) strategy. *International Journal of Business and Management*. Vol. 5, No. 10, 42-50.
- KOTLER, P. and KELLER, K. L. (2010) Marketing management .12<sup>th</sup> ed. Pearson Prentice Hall, USA.
- KUMAR, R. (2011) Research Methodology. 3rd ed. London: Saga Production Ltd.
- LADHARI, R. (2008) Alternative measure of service quality. *Journal of Managing Service Quality*, Vol. 18, No. 3, 65-68.
- LAI, K.; WONG, C. W. and CHENG, T. (2010) Bundling digitized logistics activities and its performance implications. *Industrial Marketing Management*. Vol. 39, No. 2, 273–286.
- LAU, A. K.W. (2011) Suppliers and customers involvement on new product performance: contextual factors and empirical test from manufacturer perspective. *Industrial Management & Data Systems*, Vol. 111, No. 6, 910-942.
- LOCKE, L. F.; SILVERMAN, S. J. and SPIRDUSO, W. W. (2010) *Reading and understanding research*. 3<sup>rd</sup> ed. Thousand Oaks: Sage Publication. Inc.
- MAFINI, C. and OMORUYI, O. (2013) Logistics benefits and challenges: the case of SMEs in a South African local municipality. Southern African Journal of Entrepreneurship and Small Business Management. VOL. 6, No. 166, 145-167.
- MAHADEA, D. (2008) The environmental context for SMME entrepreneurship in Kwazulu-Natal. (Paper read at Development Policy Research Unit Conference, held in the University of Cape Town, South-Africa.
- MALHOTRA, N. K. (2010) *Marketing research: an applied orientation.* 6<sup>th</sup> edition. New Jersey: Pearson.
- MANZOURI, M., M.; RAHMAN, M. N. A.; ARSHAD, H. and ISHMAIL, A. R. (2010) Barrier of supply chain management implementation in manufacturing companies: a comparison between Iranian and Malaysian companies. *Journal of the Chines Institute of Industrial Engineers*. Vol. 27, No. 6, 65-85.
- MATHUR, D.; JAIN, A. and SHARMA, M. (2013) Analysis of factors influencing consumer buying behaviour in modern as well as conventional retail stores. *International Journal of Innovative Research & Development*. Vol. 2, No. 6, 2278-0211.

- MIGUEL-DAVILA, J. A.; CABEZA-GARCIA, L.; VALDUNCIEL, L. and FLOREZ, M. (2010) Operations in banking: service quality and the effects on satisfaction and loyalty. *Service Industries Journal*. Vol. 30, No. 13, 2163-2182.
- MISHRA, R. K. (2011) Buyer-supplier relationship in SMEs. *Journal of Supply Chain Management*. Vol. 8, No. 3, 26-41.
- MONCZKA, R. M.; HANDFILED, R. B.; GIUNIPERO, L.; PATTERSON, J. L. and WATERS, D. (2010) *Purchasing and supply chain management.* Hampshire UK: South-Western Cengage Learning.
- NEGI, R. (2009) Determining customer satisfaction though perceived service quality: study of Ethiopian mobile users. *International Journal of Mobile Marketing*. Vol. 1, No. 2, 31-38.
- NIEMAN, G. and NEUWEHUIZEN, C. (2009) *Entrepreneurship: a South-African perspective*. Pretoria: Van Schaik.
- O'DWYER, M.; GILMORE, A. and CARSON, D. (2011) Strategic alliances as an element of innovative marketing in SMEs. *Journal of Strategic Marketing*. Vol. 19. No 1, 91-104.
- OLAWALE, F. and GARWE, D. (2010) Obstacles to the growth of new SMEs in South Africa: A principle component analysis approach. *African Journal of Business Management*. Vol. 4, No. 5, 729-738.
- PAIVA, E. L.; PHONLOR, P. and D'AVILA, L. C. (2008) Buyer-supplier relationship and service performance: an operations perspective analysis. *Journal of supply Chain Management*. Vol.1, No. 2, 77-88.
- PAVLOU, P. A.; and E. L SAWY, O. A. (2011) Understanding the exclusive black box of dynamic capabilities. *Decision Sciences*. Vol. 4, No. 1, 239-273.
- POOE, D.; MAFINI, C. and LOURY- OKOUMBA, V.W. (2015) The influence of information sharing, supplier trust and supplier synergy on supplier performance: The case of small and medium enterprises. *Journal of Transport and Supply Chain Management*. Vol. 9, No 1, Art. #187, 11 pages. http://dx.doi. org/10.4102/jtscm.v9i1.1.
- PRAJOGO, D. and OLIHAGER, J. (2012) Supply chain integration and performance: the effects of long-term relationship, information technology and sharing, and logistics integration. *Production Economics*. Vol. 135, 514-522.
- PRAJOGO, D.; CHOWDHURY, M.; YEUNG, A. C. L. & CHENG, T. C. E. (2012) The relationship between supplier management and firm's operational performance: a multi-dimensional perspective. *International Journal of Production Economics*. Vol. 136, 123-130.
- RANKIN, N. (2008) *Is South Africa Missing a Middle*? African Economic Research Consortium. School of Economics & Business Science, Witwatersrand University.
- RAZAQ, A. O. (2010) Evaluation of ICT: penetration in selected insurance companies: the Lagos experience. Nigeria: Federal Institute of Industrial Research.
- SHEPHERED, C. and GUNTER, H. (2011) Measuring supply chain performance: current research and future direction: behavioural operations in planning and scheduling. *Springer Berlin Heidelberg*, 105-121.
- SUPYUENYONG, V.; ISLAM, N. and KULKARNI, U. (2009) Influence of SMEs characteristics on knowledge management processes. *Journal of Enterprise Information Management*, Vol. 22, No ½, pp 63-80.
- SWAFFORD, P. M.; GHOSH, S. and MURTHY, N. (2008) Achieving supply chain agility through IT integration and flexibility. *International Journal of Production Economics*, Vol. 116. No. 2, 288–297.

- TEECE, D. J. (2007) Dynamic capabilities and multinational enterprise: Penrosean insights and omissions. *Management International Review*. Vol. 47, No. 2, 175-192.
- TEECE, D. J.; PISANO, G. and SHUEN, A. (1997) Dynamic capabilities and strategic management. Strategic Management Journal. Vol. 18, No. 7, 509-533.
- TERZIOVSKI, M. (2010) Innovation practice and its performance implications in small and medium enterprises in manufacturing sector. A resource based view. *Strategic Management Journal*, Vol. 30, No. 31, 892-902.
- THAKKAR, J.; KANDA, A., and DESHMUKH, S. G. (2009) Supply chain management for SMEs: a research introduction. *Management Research News*, Vol. 32, No. 10, 970-993.
- THORGREN, S.; WINCENT, J. and ORTQVIST, D. (2012) Unleashing synergies in strategic networks of (SMEs) .the influence of partner fit on corporate entrepreneurship. *International Small Business Journal*, Vol. 30, No 5, 453-471.
- TRKMAN, P.; MCCORMACK, K.; VALADARES DE OLIVEIRA, M. P and LADEIRA, M. B. (2010) The impact of business analytics on supply chain performance. *Decision Support System*. Vol. 49, 318-327.
- VITASEK, K. (2008) Supply chain management terms and glossary: an International Journal. Vol. 12, No. 2, 153-158.