SUPPLY CHAIN MANAGEMENT AND ORGANIZATIONAL PERFORMANCE AMONG KENYAN TEXTILE FIRMS: A MODERATED MEDIATION MODEL OF GOVERNMENT SUPPORT AND ENVIRONMENTAL UNCERTAINTY

Enock Gideon Musau

Lecturer School of Business and Economics, Department of Management Science Kisii University, Kenya

ABSTRACT

The study tested whether supply chain management had a significant effect on the performance of textile firms in Kenya, and whether this relationship was mediated by government support. The study also examined whether the indirect relationship between supply chain management and performance of textile firms by government support was moderated by environmental uncertainty. A sample of 309 employees of textile and apparel firms located in Nairobi City County was used to test the model. The study confirmed that supply chain management was a positive and significant predictor of performance of textile firms and that this relationship was mediated by government support. In addition, the study established that environmental uncertainty moderated the indirect relationship between supply chain management and organizational performance via government support. Findings from the study opened a new frontier through which performance of textile firms in Kenya can be approached, by highlighting factors that need to be brought on board.

KEYWORDS

Supply chain management, organizational performance, government support, environmental uncertainty

1. INTRODUCTION

The manufacturing sector that encompasses manufacture of furniture fabricated metal products, plastic products, wearing apparels and textiles among others; remains a critical driver to the sustenance of economic growth and development and, in creating jobs and alleviating poverty in Kenya. A substantial body of knowledge has documented the importance of the manufacturing sector in national economies across the world (Salazar – Xirinachs, Nubler & Kozul-wright, 2014; Signe, 2018; United Nations Industrial Development Organization, 2017). The Kenya Association of Manufacturers (KAM, 2018) observes that, the contribution of the manufacturing sector to the economy in Kenya has reportedly stagnated at 10% of the gross domestic product (GDP). The Big4 Agenda which, aims at increasing the manufacturing sector's GDP contribution to 15% by the year 2022 has raised renewed interest in the sector. One area that has been viewed with renewed optimism is the textile and apparel sector. It is argued that the textile and apparel sector holds the potential of alleviating unemployment among the youth (KAM, 2018). It has indeed been documented that manufacturers under the export processing zone (EPZ) banner employ 21,000 people formally and 30,000 people informally (KAM, 2018).

Despite the importance of the textile and apparels industry to Kenya's economic growth, the industry has continued to face challenges which boarder on lack of government support and environmental uncertainty (Ngulu, 2014). A report on the Kenyan Textile and Fashion Industry by the Africa Cotton and Textile Industry Federation (ACTIF, 2017) identifies lack of policy coherence and institutional alignment, weak business environment, lack of market readiness, illicit imports and negative impact of second hand clothing, and lack of a clear national policy on textile and apparel as among the major challenges that the textile and apparel industry in Kenya has to contend with. Such challenges no doubt call upon the need to examine the textile value chain and its supply chain management approach.

Indeed, a number of studies have been conducted to explore the diverse supply chain practices that can be employed in the manufacturing value chain. In this regard, practices such as use of informational technology (Han, Wang & Naim, 2017; Jin et al., 2014; Setia & Patel, 2013; Queseda, Gazo & Sanchez, 2012); information sharing (Ali et al., 2017; Courtin, 2013); use of information systems (Mulwa, 2015); and customer supplier relations (Kumar, Singh & Shankar, 2015; Queseda et al., 2012; Zekic & Samarzija, 2017) have been identified.

2. CONCEPT OF SUPPLY CHAIN MANAGEMENT AND ORGANIZATIONAL PERFORMANCE

Competitive advantage remains a key focus among organizations yearning to enhance their performance relative to their competitors. A plethora of studies point to the desire to understand how to sustain competitive advantage among competing organizations (Porter & Kramer, 2006; Liao & Hu(2007). It is argued that this desire among organizations informs strategic management decisions (Flint & Van Fleet, 2005; King, 2007). In such a scenario of sustaining competitive advantage, Jain, Dangayach, Agarwal and Banerjee (2010) contend that supply chain management takes on, a more central role that requires keen interest. In essence, the argument then is that processes under the supply chain possess the key to unlock organization's competitive ability.

Organizational performance is viewed from financial perspective outcome and operational efficiency of a firm. The performance of the entire upstream and downstream plays a significant role in decision making in regard to the value chain.(Kumar&Kushwaha,2018) Most previous studies relating supply chain practices to organizational performance have concentrated mainly on individual practices such as supply chain information systems and organizational performance (Arende, 2015; Gilaninia et al., 2011; Kashani & Baharmast, 2017; Kibera & Orwa, 2016; Mbaka, 2017; Modgil & Sharma, 2017; Mundia, Langat & Lelegwe, 2015); inventory management and organizational performance (Elsayed & Wahba, 2016; Kwadwo, 2015; Mogere, Oloko & Okibo, 2013; Mugarura, 2013; Onchoke & Wanyoike, 2016); Buyer-Supplier relationship and organizational performance (Azeem & Ahmed, 2015; Gumboh & Gichira, 2015; Ideet & Wanyoike, 2014; Ullah & Inayat, 2012; Vieira et al., 2013; Wachiuri, Waiganjo & Oballah, 2015); transport management and organizational performance (Akdogana & Durak, 2016; Gitahi & Ogollah, 2014; Liberatore & Miller, 2016; Muchori, 2015; Mukolwe & Wanyoike, 2015; Mwangangi, 2016; Ndubi, Iravo & Ochiri, 2016) and warehouse management and organizational performance (Karimi & Namusonge, 2014; Mukolwe & Wanyoike 2015; Saifudin, 2013; Wambua et al., 2015).

The direct link between supply chain management as a single construct measured through the various practices, and organizational performance might particularly be important to examine since the cumulative effect of each practice is expected to complement the effects of others and improve organizational performance (D'Amours, Ronnqvist & Weintraub, 2008). Kenya has a

rich textile and apparel value chain with inputs such as cotton fibre locally sourced or imported; yarn spinning; wearing and knitting; dyeing and finishing; and design and sewing (ACTIF, 2013). This then made it necessary to consider the supply chain practices under one construct known as supply chain management.

2.1 Government Support as a mediator

Quesada et al. (2012) identify government support, as an important facet that a company can enjoy when sourcing for raw materials or products and, when using domestic materials aimed at improved organizational performance. Elzarka et al. (2011) contend that the government is well positioned to encourage logistic competency by making a series of reforms targeting the sector. In this way, the sector becomes competitive in the international market. We posit that government support measured through crafting of regulations, norms, policies and provision of sector advice is a variable that has the potential to mediate the relationship between supply chain management and organizational performance in the context of textile firms.

2.2 Environmental Uncertainty as a Moderator

Although supply chain management has the capability to predict organizational performance through government support, not all textile and apparel firms are likely to enjoy improved performance on this basis. Various factors within the firm's context may influence the indirect relationship between supply chain management and organizational performance via government support. One variable that could potentially moderate such a relationship is environmental uncertainty. According to Dwivedi and Butcher (2009), the product chain occasionally experiences environmental issues which amount to unexpected changes in suppliers, customers, technology and competitors. In the event that this does happen, Paulraj and Chen (2007a) argue that, the realization of strategic supply management plans may be curtailed. We therefore postulate that environmental uncertainty, measured in terms of changes exhibited in customers, suppliers, competitors and technology moderates the indirect relationship between supply chain management and the performance of textile firms in Kenya.

3. THE PRESENT STUDY

The present study sought to (1) establish the direct relationship between supply chain management and organizational performance; (2) Investigate whether government support mediates the relationship between supply chain management and organizational performance; and (3) explore whether environmental uncertainty moderates the indirect relationship between supply chain management and organizational performance via government support. Consequently, the following hypotheses were postulated.

Hypothesis 1: Organizational performance is independent of supply chain management.

Hypothesis 2: Government support does not mediate the relationship between supply chain management and organizational performance.

Hypothesis 3: Environmental uncertainty does not moderate the indirect relationship between supply chain management and organizational performance via government support.

4. THEORETICAL REVIEW

Supply chain management is approached from two dominant schools of thought, the microeconomics and the strategic management schools. Insight into the rather novel field of

supply chain management is therefore believed to benefit greatly from the Resource-Based View (RBV) theory and the Transactions Cost Economics (TCE) theory (Abushaikha, 2014). It is important to note here that RBV is mainly used in strategic management. However, on the basis of assertions by Barralt et al, (2011) that application of theories used in other disciplines is necessary for innovative insights into emerging fields, there is no denying its potential role as the lens to examine the concept of supply chain management. Moreover, it is important to consider the complementary role of the TCE in explaining decisions such as those taken in opting to outsource.

The desire to underpin supply chain management on transaction cost economics theory is often informed by the key function the supply chain management plays to reduce operational costs and hence achieve competitive ability. The argument then as it is now was to cut down costs associated with transactions, by adopting hierarchical governance. Geyskens et al. (2006) argue that Hierarchical governance which involves intra-firm transactions has the edge over market governance that uses the traditional supply and demand approaches.
Uncertainty in terms of business environment and supply chain behaviour gives credence to the need to underpin SCM on the TCE theoretical framework. The turbulent nature of the business environment in contemporary society is such that it becomes difficult to anticipate the direction the supply chain may take (Cousins, 2005; Wong et al, 2011). Williamson (1979 as cited in Abushaikha, 2014) argues that uncertainty in the case of supply chain management which may be in terms of technology and volume can lead to increased costs due to re-organizing the supply chain.

5. METHODOLOGY

The study targeted 1900 employees drawn from textile and apparel firms located in Nairobi City County (ACTIF, 2017). From a stratified sample of 320 employees (Stratified across the finance, transport and logistics, production / operations; and procurement/stores departments), 309 employees who were largely male (61.2%), in possession of either a bachelors degree (46.9%) or diploma (33%) and; most of who had an experience of 1-5 years working in the textile industry (54.0%), participated in the study.

Data were initially cleaned for missing values and outliers. The PROCESS Macro (Model 4) in SPSS (Hayes, 2013) was employed to examine whether government support mediated the relationship between supply chain management and organizational performance. The PROCESS Macro (Model 58 see Fig 1) was used to examine the moderated mediation in which environmental uncertainty was conceptualized as the moderating variable to the indirect relationship between supply chain management and organizational performance.

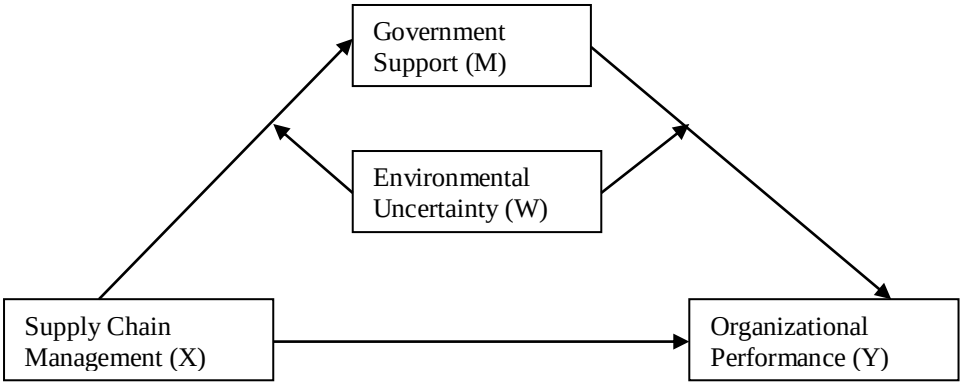

Fig. 1: Conceptualized Moderated Mediation Model

6. RESULTS

6.1 Preliminary Analyses

Missing values were assessed using the MCAR technique. Cases having missing values in the excess of 5% were deemed serious and deleted from further analyses. Otherwise they were replaced using mean substitution (Baraldi & Enders, 2010). The percentage of missing data was small (<5%). Outliers were examined using Box plots which have been identified as suitable in boxing observations that lie around the median and isolating outliers (Tabachnick & Fidell, 2013). None of the four variables used in the study had outliers.

Correlation results in Table 1 show that supply chain management was positively associated with government support, environmental uncertainty, and organizational performance; government support was positively associated with environmental uncertainty and organizational performance. Similarly, environmental uncertainty was positively correlated with organizational performance.

Table 1: Correlations

	Supply Chain Management	Government Support	Environmental Uncertainty	Organizational Performance
Supply Chain Management	1			
Government Support	.599**	1		
Environmental Uncertainty	.623**	.528**	1	
Organizational Performance	.461**	.540**	.508**	1

**. Correlation is significant at the 0.01 level (2-tailed).

6.2 Testing the Effect of Supply Chain Management on Organizational Performance

A linear regression was run to test the effect of supply chain management on organizational performance. The regression results indicated that supply chain management positively and significantly predicts organizational performance (b=0.401, p<0.005). The model relating supply chain management to organizational performance was significant, F (1, 307) = 82.928 (Table 2), explained 21.3% of the variation in organizational performance, and represented a medium effect (Adjusted R2 = 21.0%).

Table 2: Regression Weights

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	.876	.080		10.982	.000	.719	1.033
	Supply Chain Management	.401	.044	.461	9.107	.000	.315	.488

a. Dependent Variable: Organizational performance (R^2=.213; Adj.R^2=.210; F (1, 307) = 82. 928)

6.3 Testing for Mediation Effects

A simple mediation using the PROCESS Macro (Model 4) was conducted (Hayes, 2013). Results displayed in Fig 2 indicated that supply chain management impacted positively on government support (a= 0.615, p<0.005), and government support was subsequently related to organizational performance (b=0.349, p<0.005).

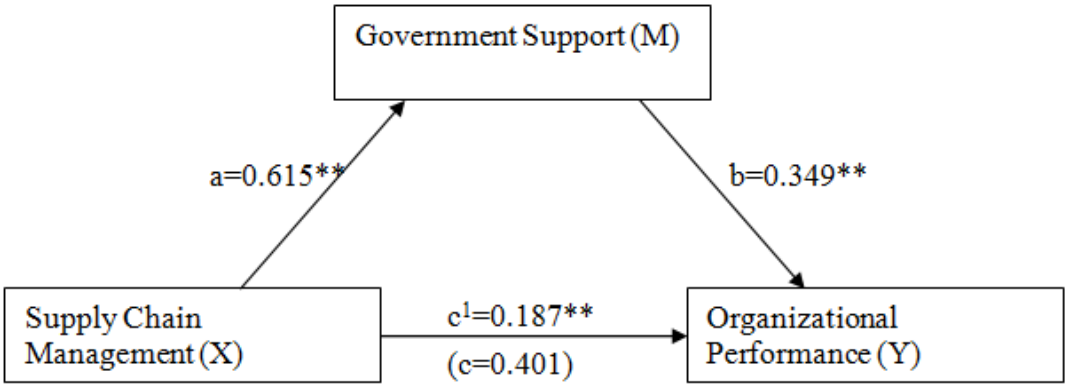

Fig 2: Simple Mediation Path Diagram

The 95% confidence interval created by a 10,000 bootstrap samples (see Table3) revealed that the indirect effect (ab= 0.215) was above zero (0.139 to 0.299), an indication that government support mediated the relationship between supply chain management and organizational performance.

Table 3: Indirect Effects

Indirect Effect of Supply Chain Management on Organizational Performance through Government Support			
Effect	BootSE	BootLLCI	BootULCI
.2145	.0405	.1394	.2986

6.4 Testing for Moderated Mediation

To test whether environmental uncertainty moderates the indirect relationship between supply chain management and organizational performance via government support, the PROCESS Macro (Model 58) was used. Under this model, the moderating effect of environmental uncertainty on the relationship between supply chain management and government support was first estimated. This was then followed with an estimation of the moderating effect of environmental uncertainty on the relationship between government support and organizational performance.

As illustrated in Table 4, the interaction between supply chain management and environmental uncertainty on government support was found to be non-significant (b=0.09, p=0.85). The relationship between supply chain management and government support was therefore not moderated by environmental uncertainty.

Table 4: Interactions

Model						
	Coeff	Se	t	p	LLCI	ULCI
Constant	.00	.00	-.10	.92	-.01	.01
Supply Chain Management	.46	.06	7.66	.00	.34	.57
Govt. Support	.21	.05	4.45	.00	.12	.30
Int_1	.09	.46	.19	.85	-.82	1.00
Product terms key:						
Int_1	Supply Chain Mgt X		Govt. Support M			

Similarly, the illustration in Table 5 indicates that the interaction between government support and environmental uncertainty on organizational performance was also non-significant, b=-0.28, p=0.45. The relationship between government support and organizational performance was also not moderated by environmental uncertainty.

Table 5: Interactions

Model						
	Coeff	Se	t	p	LLCI	ULCI
Constant	1.60	.00	503.47	.00	1.60	1.61
SupChainMgt	.08	.06	1.35	.18	-.03	.18
Govt. Support	.29	.05	5.60	.00	.19	.39
Env. Uncertainty	.19	.04	4.50	.00	.11	.27
Int_1	-.28	.37	-.75	.46	-1.00	.45
Product terms key:						
Int_1	Govt. Support X		Env. Uncertainty M			

The moderation plot in Fig 3 confirmed that environmental uncertainty did not moderate the relationship between government support and organizational performance. The slopes of the lines depicting lower levels of environmental uncertainty (1 SD below mean) and that depicting higher levels of environmental uncertainty (1 SD above mean) were relatively the same.

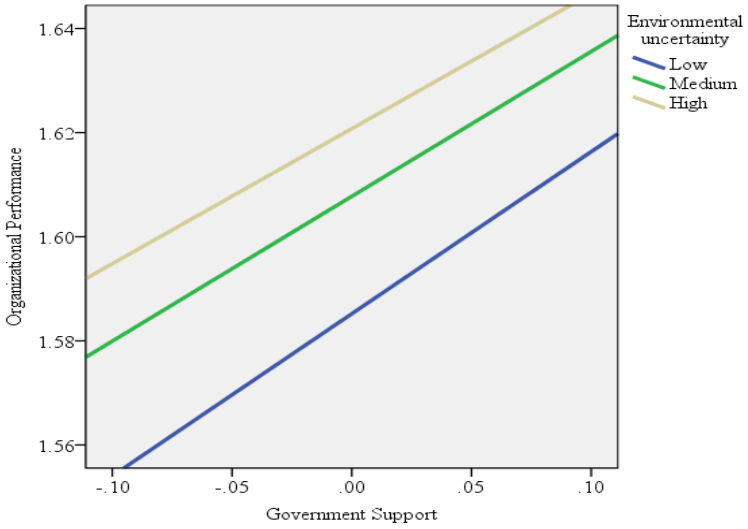

Fig 3: Variables Moderation

The bootstrap results (Table 6) indicated that the conditional indirect effects of supply chain management on organizational performance via government support was moderated by environmental uncertainty. For low levels of environmental uncertainty, the indirect effect of supply chain management on organizational performance was significant, b=0.14, SE=0.04, 95% CI = (0.07, 0.22). Similarly, the indirect effect for higher levels of environmental uncertainty was also significant, b=0.12, SE=0.04, 95% CI = (0.05, 0.22).

Table 6: Results

	Conditional Indirect Effect of Supply Chain Management on Organizational Performance through Government Support			
Level of Leader member exchange	Effect	BootSE	BootLLCI	BootULCI
Lower	.14	.04	.07	.22
Higher	.12	.04	.05	.22

7. DISCUSSION

The direct relationship between supply chain management and organizational performance has attracted extensive support empirically (Al-Shboul et al., 2017; Gandhi, Shaikh & Sheorey, 2017; Karimi & Rafiee, 2014). These findings then add to this extensive empirical evidence by affirming that supply chain management is indeed a sure way of ascertaining improved performance of textile firms in Kenya. The study also finds that government support can heighten the relationship between supply chain management and the performance of textile firms through mediation. This finding is quite significant considering that previous studies have failed to examine the role of the government in mediating relationships aimed at organizational performance.

While some studies have attempted to examine the role of administrative capacity (Andrews & Boyne, 2010); the impact of political leadership on organizational performance (Francesca et al., 2009) and the impact of e-government on organizational performance (Kareem & Haseeni, 2015). The particular role the government plays in the performance of manufacturing firms has hitherto remained unknown. This study therefore establishes that textile firms in Kenya would thrive better if the government is supportive in terms of the requisite norms, policies, regulations, and advice.

Perhaps a major contribution that this study makes and which, has not been hitherto explored is the fact that the indirect relationship between supply chain management and organization performance via government support can be moderated by environmental uncertainty. It has been pointed out that environmental uncertainty impacts negatively on firm performance (Ambrose, Marshall & Lynch, 2010). This can however be reduced when other factors such as government support are brought into the value chain.

8. CONCLUSION

The study confirms that it is not enough to manage the textile supply chain in order to achieve improved performance of the firms but, rather the government ought to take the initiative of providing the necessary support in form of reforms and policy guidelines. This has potential to have an indirect influence on the relationship between supply chain management and the performance of the textile industry. In addition, while it may be important to harness government

support, textile players should take cognizance of environmental uncertainty which may render government support and supply chain management null and void by, moderating the indirect relationship between supply chain management and the performance of the textile firms under the support of the government. This study therefore contributes to existing knowledge by showing that performance of textile firms could be a function of several factors that interact in diverse ways. However, the challenge associated with the study is the sample design and thus replicating the results to other study settings is not justifiable. Therefore it is advisable scholars to pursue the same study in a wider context.

9. ACKNOWLEDGEMENT

The author could like to thank the Government of Kenya through the National Commission for science technology and innovation for promoting knowledge, increased awareness and adequate information of research system. Special thanks to all the respondents who contributed to the success of the study.

REFERENCES

[1] Abushaikha, I. (2014). Supply Chain Integration from a Resource-based View Perspective

[2] African Cotton & Textile Industries Federation (ACTIF) (2017). Policy Research on the Kenyan Textile Industry. Findings and Recommendations

[3] Akdogana, M.S. & Durak, A. (2016). Logistic and marketing performances of logistics companies: A comparison between Germany and Turkey. Procedia - Social and Behavioral Sciences 235 (2016):576 – 586

[4] Ali, M.M., Babai, M.Z., Boylan, J.E., & Syntetos, A. A (2017). Supply chain forecasting when information is not shared. European Journal of Operational Research 260: 984-994

[5] Al-Shboul, M., Barber, K. D., & Garza-Reyes, A.J., Kumar, V. & Abdi, R.(2017). The Effect of Supply Chain Management Practices on Supply Chain and Manufacturing Firms Performance. Journal of Manufacturing Technology Management. 28. 10.1108/JMTM-11-2016-0154.

[6] Ambrose E, Marshall D, Lynch D. Buyer supplier perspectives on supply chain relationships. International Journal of Operations & Production Management (2010) 30:1269.

[7] Andrews, R. and G. A. Boyne. 2010. "Capacity, Leadership, and Organizational Performance: Testing the Black Box Model of Public Management." Public Administration Review, 70(3): 443-454

[8] Arende, S.O. (2015). Effects of Technology Adoption on the Procurement Process at Kenya Maritime Authority Mombasa. The International Journal Of Business & Management. Vol 3 Issue 10

[9] Azeem, K., & Ahmed, H. (2015). A study on the Role of Buyer-Supplier Relationship on Organizational Performance: Perspective of Beverage Industry. Scholedge International Journal of Management and Development, 2(5).

[10] Baraldi, A.N. & Enders, C.K. (2010). An introduction to modern missing data analyses. Journal of School Psychology 48: 5–37

[11] Barratt, M., Choi, T.Y. and Li, M. (2011), "Qualitative cases studies in operations management: Trends, research outcomes and future research implications", Journal of Operations Management, 29(4), pp329-342

[12] Courtin, G. (2013). Supply chain and the future of applications. Research Report Case of Manufacturing Firms. International Journal of Economics, Commerce and Management, 3(5), 1625 – 1656

[13] Cousins, P. D. (2005).The alignment of appropriate firm and supply strategies for competitive advantage. International Journal of Operations & Production Management, 25(5), 403–428.

[14] Dwivedi, A. & Butcher, T. (2009). Supply Chain Management and Knowledge Management: Integrating Critical Perspectives in Theory and Practice

[15] Egyptian Clothing Companies. SSRN Working Paper Series (2011).

[16] Elsayed, K., & Wahba, H. (2016). Reexamining the relationship between inventory management and firm performance: An organizational life cycle perspective. Future Business Journal 2 (2016) 65–80

[17] Elzarka S, Tipi N, Hubbard N, Bamford C. Creating a Logistics Competency Framework
[18] Flint, G. D., & Van Fleet, D. D. (2005). A comparison and contrast of strategic management and classical economic concepts: Definitions, comparisons, and pursuit of advantages. Retrieved on 9 April, 2006, from http://www.uvsc.edu/ schools/business/facultyScholar/jbi/jbi_v3.html.
[19] Francesca G., Greasley, S. Peter J. & Stoker, G. (2009) The Impact of Political Leadership on Organisational Performance: Evidence from English Urban Government, Local Government Studies, 35:1,75-94, DOI: 10.1080/03003930802574466
[20] Gandhi, A., Shaikh, A., & Sheorey, P.(2017). Impact of supply chain management practices on firm performance: Empirical evidence from a developing country. International Journal of Retail & Distribution Management. 45. 366-384. 10.1108/IJRDM-06-2015-0076.
[21] Gilaninia, S., Mousavian, S.J., Tayebi, F., Panah, M.P., Ashouri, S., Touhidi, R., Nobahar, R., Azizi, N., & Seighalani, F.Z. (2011). The Impact of Information Technology Application on Supply Chain Performance. Interdisciplinary Journal of Contemporary Research in Business, 3(8).
[22] Gitahi, P.M.,& Ogollah, K. (2014). Influence of Fleet Management Practices on Service Delivery To Refugees in United Nations High Commissioner for Refugees Kenya Programme. European Journal of Business Management Vol.2, Issue 1
[23] Gumboh, J., & Gichira, R. (2015). Supply Chain Collaboration among SMEs in Kenya: A Review of Collaboration Barriers. International Journal of Humanities and Social Science Vol. 5, No. 9(1);
[24] Han, J.H., Wang, Y., & Naim, M. (2017). Re-conceptualization of information technology flexibility for supply chain management: An empirical study. International Journal of Production Economics 187:196–215.
[25] Hayes, A. F. (2013). Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach. New York: Guilford Press.
[26] Ideet, I.L., & Wanyoike, D. (2014). Role of Buyer-Supplier Relationship on Supply Chain Performance in the Energy Sector in Kenya: A Survey of Kenya Power and Geothermal Development Companies.International Journal of Science and Research. Volume 3 Issue 10.
[27] Jain, J., Dangayach, G. S. , Agarwal, G. & Banerjee, S. (2010). Supply chain management: literature review and some issues.Journal of Studies on Manufacturing, 1 (1): 11-25.
[28] Jin, Y., Vonderembse, M., Ragu-Nathan, T.S., & Smith, J.T., (2014). Exploring relationships among IT-enabled sharing capability, supply chain flexibility, and competitive performance. Int. J. Prod. Econ. 153, 24–34.
[29] Kareem, M.A. & Haseeni, Z.J. (2015). E-Government and Its Impact on Organizational Performance. International Journal of Management and Commerce Innovations, 3(1): 664-672
[30] Karimi, E. & Rafiee, M. (2014). Analyzing the Impact of Supply Chain Management Practices on Organizational Performance through Competitive Priorities (Case Study: Iran Pumps Company). International Journal of Academic Research in Accounting, Finance and Management Sciences, 4(1): 1-15
[31] Karimi, K. &Namusonge G.S. (2014). Role of Information Technology on Warehouse Management in Kenya: A Case Study of Jomo Kenyatta University of Agriculture and Technology. International Journal of Academic Research in Business and Social Sciences 4 (11), 36-54
[32] Kashani, F.H., & Baharmast, S (2017). Effect of Supply Chain Information Systems on Firm Performance: An Empirical Case Study. Engineering, Technology & Applied Science Research, 7(2).
[33] Kenya Association of Manufacturers (2018). Manufacturing in Kenya Under the 'Big 4 Agenda' A Sector Deep-dive Report.
[34] Kibera, L.W., & Orwa, B. (2015). Implementation of Integrated Supply Chain in Manufacturing Companies Kenya: A Case of Bidco Oil Refineries. International Journal of Education and Research Vol. 4 No. 3
[35] King, A. W. (2007). Disentangling interfirm and intrafirm causal ambiguity:A conceptual model of causal ambiguity and sustainable competitive advantage. Academy of Management Review, 32(1), 156–178.
[36] Kumar A., Kushwaha G.S., 2018. Supply chain management practices and operational performance of fair price shops in India: an empirical study. Log Forum 14 (1), 85-99.
[37] Kumar, R., Singh, R.K., & Shankar, R (2015). Critical success factors for implementation of supply chain management in Indian small and medium enterprises and their impact on performance. IIMB Management Review 27, 92-104.

[38] Kwadwo, B. P. (2015). The impact of efficient inventory management on profitability: evidence from selected manufacturing firms in Ghana. International Journal of Finance and Accounting, 5(1): 22-26
[39] Liao, S. H., & Hu, T. C. (2007). Knowledge transfer and competitive advantage on environmental uncertainty: An empirical study of the Taiwan semiconductor industry. Technovation, 27, 402–411
[40] Liberatore, M.J., & Miller, T. (2016) Outbound Logistics Performance and Profitability: Taxonomy of Manufacturing and Service Organizations. Bus Eco J 7:221. doi:10.4172/2151-6219.1000221
[41] Mbaka, A.O. (2017). Influence of Integrated Financial Management Information System on Supply Chain Effectiveness: A Case of Kirinyaga County Government. Master's Thesis Presented to United States International University-Africa
[42] Modgil, S. & Sharma, S. (2017). Information Systems, Supply Chain Management and Operational Performance: Tri-linkage—An Exploratory Study on Pharmaceutical Industry of India. Global Business Review, 18(3).
[43] Mogere, K., Oloko, M. & Okibo, W. (2013). Effect of Inventory management practices on Operational Performance of Tea Processing Firms: A Case Study of Gianchore Tea Factory, Nyamira County, Kenya. The International Journal Of Business & Management, 1 (5), 12-27.
[44] Muchori, P.K. (2015). The Effects of Road Traffic Congestion on the Efficiency of Freight Logistics: A Survey of the Port of Mombasa. The International Journal of Business & Management. Vol 3 Issue 10.
[45] Mugarura, K. (2013). The Impact of Inventory Management and Performance of Private Organizations in Uganda. A Case Study of Coca- Cola Mbarara Plant in Mbarara Municipality (Bachelor's Research Report). Bishop Stuart University, Uganda.
[46] Mukolwe, G.A., & Wanyoike, D.M. (2015). An Assessment of the Effect of Logistics Management Practices on Operational Efficiency at Mumias Sugar Company Limited, Kenya. International Journal of Economics, Commerce and Management United Kingdom Vol. III, Issue 6
[47] Mulwa, L.M. (2015). Determinants of Supply Chain Management Practices in Organizations. Proceedings from 1st DBA-Africa Management Review International Conference 20th March , 2015 Pp. 196-211.
[48] Mundia, C., Langat, E.K., &Lelegwe S.(2015). Effect of Information System on Upstream Supply Chain Management Among Supermarkets in Nakuru Town, Kenya. International Journal of Economics, Finance and Management Sciences. Vol. 3, No. 5, 2015, pp. 535-540.
[49] Mwangangi, P.W. (2016). Influence of Logistics Management on Performance of Manufacturing Firms in Kenya. PhD Thesis Presented to Jomo Kenyatta University of Agriculture and Technology
[50] Ndubi, S.O., Iravo, A.M., Ochiri, G. (2016). Effect of Lead Time Variability on Inbound Logistics Performance in Safaricom Limited. International Academic Journal of Procurement and Supply Chain Management | Volume 2, Issue 2, pp. 179-205
[51] Ngulu, G. (2014). Competitiveness of Kenyan Textile Industry at the International Markets under the Africa Growth and Opportunity Act (AGOA). Master's Thesis Submitted to University of Nairobi.
[52] Omai, K.M. (2013). Determinants of Electronic Procurement on Supply Chain Performance: A Survey of Tea Factories in Kisii County-Kenya. Interdisciplinary Journal of Contemporary Research in Business.Vol 4, No 12.
[53] Onchoke, B. N., & Wanyoike, D. M. (2016). Influence of Inventory Control Practices on Procurement Performance of Agrochemicals Distributors in Nakuru Central Sub-County, Kenya. International Journal of Economics, Finance and Management Sciences. 4 (3), 117-126
[54] Paulraj, A. & Chen, I.J. (2007a). Environmental Uncertainty and Strategic Supply Management: A Resource Dependence Perspective and Performance Implications. Journal of Supply Chain Management 43:29.
[55] Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. Harvard Business Review, 79–92.pp. 263-280
[56] Quesada,H., Gazo,R.,& Sanchez, S (2012). Critical Factors Affecting Supply Chain Management: A Case Study in the US Pallet Industry. Retrieved from www.intechopen.com
[57] Saifudin, A.M., Zainuddin, N., Santhirasegaran, & Nadarajan, S.R. (2013). Warehouse Layout and Efficiency in Small and Medium Enterprises (SMES): A Management Information System Perspective. Proceedings of 4th International Conference on Education and Information Management (ICEIM-2013) 276

[58] Salazar-Xirinachs, J.M.; Nübler, I. & Kozul-Wright, R. (2014). Transforming economies: Making industrial policy work for growth, jobs and development. International Labour Office. – Geneva: ILO, 2014
[59] Setia, P., & Patel, P.C. (2013). How information systems help create OM capabilities: Consequents and Antecedents of Operational Absorptive Capacity. J. Oper. Manag. 31(6), 409–431.
[60] Signé, L. (2018). The potential of manufacturing and industrialization in Africa Trends, opportunities, and strategies. Brooking
[61] Tabachnick, B.G. & Fidell, L.S. (2013) Using Multivariate Statistics. Pearson, Boston.
[62] Ullah & Inayat.(2012).Role of Buyer-Supplier Relationship and Trust in Organizational Performance. Delhi Business Review. 13. 74-82.
[63] United Nations Industrial Development Organization, 2017. Industrial Development Report 2018. Demand for Manufacturing: Driving Inclusive and Sustainable Industrial Development. Vienna.
[64] Vieira, L.M., Paiva, E.L. & Finger,A.B.(2013). Trust and supplier-buyer relationships: an empirical analysis. Brazilian Administration Review, 10(3).
[65] Wachiuri, E.W., Waiganjo, E.,& Oballah, D. (2015). Role of Supplier Development on Organizational Performance of Manufacturing Industry in Kenya; a Case of East Africa Breweries Limited. International Journal of Education and Research Vol. 3 No. 3
[66] Wambua, B. J., Okibo, W. B., Nyang'Au, A., & Ondieki, S. M. (2015). Effects of Inventory Warehousing Systems on the Financial Performance of Seventh Day Adventist Institutions: A Case of Adventist Book Centers (ABC), Kenya. International Journal of Business and Management, 10(4), p259.
[67] Yousefi, N.,& Alibabaei, A. (2015).Information flow in the pharmaceutical supply chain. Iran J. Pharm Res.14(4): 1299-1303.
[68] Zekić, Z.L.,& Samaržija.(2017).Analysis of the impact of selected supply chain management factors on the performance...EKONOMSKI PREGLED, 68 (1) 59-87.

AUTHOR

Dr.Enock Gideon Musau with over 6 years of experience as a Lecturer and Programme Leader for purchasing and supplies management based at the department of management science in the School of business and economics Kisii University Kenya. He has Ph.D. in Supply Chain Management from Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya, Master of Science (MSc) in Procurement and logistics from Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya and Bachelor of Business Management-Purchasing and supplies, Moi University, Eldoret, Kenya. He has extensive administrative and management experience in the private sector particularly in the transport and logistics sector. His research interests include but not limited to Supply chain Management, Value chain Management, Supply Chain Information technology in service delivery and distribution, Logistics management and planning, Demand forecasting and planning and change Management.