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**LOGISTICS MANAGEMENT PRACTICES AND CUSTOMER SATISFACTION: THE  
MEDIATING EFFECT OF LOGISTICS SERVICE QUALITY AMONG THE SHIPPERS  
IN KENYA**

Richu Salome<sup>1</sup>, Dr. Stephen Odock<sup>2</sup>, Prof. Gituro Wainaina<sup>3</sup>, Prof. Mary Kinoti<sup>4</sup>

<sup>1,2,3,4</sup>School of Business, University of Nairobi - [salomerichu@uonbi.ac.ke](mailto:salomerichu@uonbi.ac.ke)

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**Abstract**

*The key objective of this study was to determine the effect of Logistics Service Quality (LSQ) on the relationship between Logistics Management Practices (LMPs) and customer satisfaction of shippers in Kenya. Subsequently, a hypothesis was formulated to achieve this objective which was: LSQ has no mediating effect on the relationship between LMPs and customer satisfaction. Descriptive cross-sectional research design was adopted, and primary data collected from senior managers in the logistics department of the shippers. The study was a census, undertaken on all the 63 importers and exporters who were members of Shippers Council of Eastern Africa (SCEA), which was used as the sampling frame. A 59% response rate was achieved. Customer satisfaction had loyalty and expectations met as the sub-constructs, while LMPs used a composite score of the seven components namely, inventory management, transportation, warehousing, packaging, materials handling, order processing and information flow maintenance. The LSQ was assessed by functional and technical quality. The study findings were statistically significant and there was a positive relationship between LMPs and customer satisfaction. An r-square of .482 meant that 48.2% of variation in customer satisfaction of shippers in Kenya was explained by LMPs and LSQ. Further, the independent variable was significant in the fourth step of the Baron & Kenny (1986) mediation test, resulting to deduction that the relation between LMPs and customer satisfaction was mediated by LSQ. Study findings showed that the sub-construct expectations met had a greater weighting compared to loyalty as a measure of customer satisfaction. On the LSQ, the shippers indicated that they were more satisfied with the functional quality than the technical quality of their logistics service providers. The study supported and contributed to the theories it was grounded on, namely expectancy disconfirmation theory (EDT), material flow theory and systems theory. The contributions of the study to various stakeholders, recommendations and conclusions are highlighted.*

**Key words:** *Mediating Variable, Logistics Management Practices, Logistics Service Quality, Customer Satisfaction, Shippers in Kenya, Expectancy Disconfirmation Theory, Material Flow Theory, Systems Theory*

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## **Introduction**

The LMPs can have a value addition role towards customer satisfaction, which results to high turnover, customer retention and improved wealth creation of the firm (Pienaar & Vogt, 2009). When LMPs are well-coordinated they contribute to the loyalty and perception of customers (Bouzaabia, Bouzaabia & Capatina 2013). The Institute of Logistics (UK), defines logistics management as that process responsible for the management of the movement and storage of all states of materials from the source to the point of final use (Rushton, Croucher & Baker, 2008: 6). During the World War II, when development of logistics was highly promoted, there was poor collaboration, integration and balancing of activities related to logistics and equally minimal effort to coordinate the key players (Hou, Chaudhry, Chen & Hu, 2015). Sharmin (2012) stated that customer satisfaction is an evaluation by a consumer of any inconsistency perceived to exist between the actual and expected outcome of a good/service, called customer response after consumption. A customer's expected experience defines his level of satisfaction based on the level to which the expectations are fulfilled (Rama & Rajeev, 2015; Fiala, 2012; Irene et al., 2008). A mediating variable explains the how and why there is a relation between the independent and

dependent variable. The LSQ, which defines how customers are handled during and after the process of service has two main components, namely technical quality and functional quality (Sze, Keng & Wai, 2013; Fiala, 2012; Irene et al., 2008; Vinh, 2008). The LSQ is the capability an organization has to accomplish the service promised with dependability and accuracy and appreciate the desires and expectations of customers (Işık, Metehan & Gülmüş, 2018). The quality of the service offered is experienced both during a service and on completion, known respectively as functional and technical quality (Sze, Keng & Wai, 2013).

This study was grounded on three theories, the EDT, material flow theory and the systems theory. The EDT which was developed by Oliver in 1980 states that expectations are predictions of future performance and that customer satisfaction is based on the degree to which expectations are fulfilled (Naeimeh & Aryati, 2014; Aigbavboa & Thwala, 2013). The material flow theory was first recommended by Xu in 1985 in China, as a widespread logistics theory that encompass the environmental, economic and social phenomenon attributes of logistics. The theory of logistics leads to customer satisfaction by ensuring no mistakes of time and place, and that material flow activities are on time at every stage of the process, for a continuous supply chain (Hou et al., 2015; Pienaar & Vogt, 2009).

Understanding organizations as systems, as described by the system theory, enables logistics managers to effectively and competently accomplish the firms' logistics' goals of time and place utility (Jaradat, Adams, Abutabenjeh & Keating, 2017; Jose, 2004). The expectations of a customer should be contrasted with the experiences of both the functional and technical quality (Fiala, 2012). The LSQ strategically influences the economy at both firm and national levels, having a strong market influence and thereby increasing overall customer satisfaction (Juga, Juntunen & Grant, 2010; Saura, Francés, Contrí, & Blasco, 2008). The ability to generate greater customer satisfaction from delivered logistics service is crucial (Irene et al., 2008). Superior growth in shippers' loyalty can be attained by developing higher levels of LSQ and improving relationship quality by container shipping lines, in the maritime transport (Jang, Marlow & Miroussi, 2013).

Serenko and Stach (2009) who employed the Expectancy Disconfirmation Theory as a lens of analysis, noted that one of the outcomes of customer satisfaction that businesses are more interested in is loyalty. Customer loyalty, which is influenced by satisfaction among other predictors, entails a readiness to endorse, referrals, reconsider and optimistic word-of-mouth intents. Loyalty is further defined by the extent to which a customer shows behavior of repeat purchase, considers using only this supplier again and again and is positive about them (Rama & Rajeev, 2015; Fiala, 2012; Irene et

al., 2008). In maritime transport, service quality comprises of resources, process, management, outcomes, social responsibility and image, and each dimension can further be measured by other factors. Among the dimensions ranked highly are management factors and those concerned with service provision process and outcomes. Further, safety aspects as well as environmental protection activities in maritime service quality are as crucial as the reliable, safe and efficient transport services (Vinh, 2008; Imrie, Durden, Cadogan & Mcnaughton, 2002).

Shippers in Kenya have been experiencing delayed shipments occasioned by logistical challenges at the port of Mombasa and extended to the Inland Container Depots (ICD). The quality of logistics service by the key players in the movement of goods at these ports has been a main concern by the SCEA, (Bwana, 2018; Sanga, Beja, Mwakio & Oketch, 2018; SCEA-LPS, 2018). The customers in this study comprised all the shippers based in Kenya, both importers and exporters, and had membership with SCEA. Shippers are categorized under the maritime freight sector which is a sub-sector of the maritime industry in the field of transport (Berg & Hauer, 2015; Peretomode, 2014). The performance of global trade and global economy has been anchored on the success of maritime transport. All countries world over rely on maritime trade since no country is entirely self-sufficient for their import and export needs (Ki-Moon, 2016; Airahuobhor, 2011). Among the challenges facing

shippers in Kenya are government policies, infrastructure, many government bodies managing the port of Mombasa, poor support of SCEA by the government, among others (SCEA-LPS, 2018; World Bank, 2015). The ability of a firm to manage the customer logistics process to deliver time and place utility for improved customer satisfaction contributes to wealth creation through logistics (Sople, 2010; Pienaar & Vogt, 2009).

Infrastructure, reliable service performance, equipment availability, adequate facilities and responsiveness all define quality in the maritime transport (UNCTAD, 2019; Mousavi, Ghazi & Omarae, 2017; Grote et al., 2016). The SCEA is an organization advocating for the welfare of importers and exporters for appropriate freight transport regulations and policies that can spur an efficient and economical freight logistics system in Eastern Africa through faster processes (SCEA-LPS, 2018; SCEA strategic plan 2016-2020; SCEA website). Since Pienaar and Vogt (2009) noted that LMPs has a value addition role towards customer satisfaction, researching on a mediator that can explain the reason for such a relationship to exist is crucial. The motivation behind this study therefore, was to establish the mediating role of LSQ on the relationship between LMPs and customer satisfaction in addressing the delays from the logistics service providers so as to advance the extent of customer satisfaction of the shippers in Kenya.

## **Research Problem**

Research in logistics focuses on logistics' ability to deliver both functional and technical service quality, so as to generate greater customer satisfaction from the delivered service (Juga et al., 2010; Saura et al., 2008). This denotes that when LMPs is well coordinated with the right LSQ, customer satisfaction will be enhanced, which is the core objective of this study. The establishment of SCEA was informed by demand from manufacturers, shippers and logistics service providers as a unifying body to help get solutions to the many challenges in capacity and logistics inefficiencies at the port of entry and exit in the northern and central corridors (SCEA, 2016; World Bank, 2005). Though KMA's mandate is regulating, coordinating and overseeing maritime affairs in Kenya, a lot is yet to be done in regard to policy advocacy such as implementation of electronic cargo tracking systems and more investment in port infrastructure (SCEA-LPS, 2018; SCEA 2016).

Several studies have been conducted on the relationship between LMPs and customer satisfaction. Mukolwe and Wanyoike (2015) study of LMPs on firm's operations found that modern LMPs improved processes and flow of materials enhancing customer satisfaction. Thogori and Gathenya (2014) in their study evaluated customer satisfaction against inventory management, and noted that poor management of inventory had a strong significant negative relationship with customer satisfaction. Ristovska,

Kozuharoc and Petkovski (2017) found that LMPs impacted on business efficiency, effectiveness, customer satisfaction and competitiveness. Garrouch et al. (2011) conducted a study relating customer service and customer satisfaction on various logistics activities. However studies on a mediating variable to explain the relationship between LMPs and customer satisfaction are scanty. Further, studies on the mediating role of LSQ are also meagre. Daniel, Roberto and Valdir (2018) in their study on logistics capabilities and customer satisfaction for lubricant oil companies in Brazil affirmed that LSQ fully mediates the relation between these variables, thus logistics capabilities do not directly influence customer satisfaction. King et al. (2014) explained the mediating effect of service quality in the relation of ICT and competitive advantage of logistics firms. From the above studies, it was clear that a study in Kenya on the mediating role of LSQ on the relationship between LMPs and customer satisfaction in the maritime freight sector was timely. This study therefore sought to address the following question: What is the effect of LSQ on the relationship between LMPs and customer satisfaction in the maritime freight sector of shippers in Kenya?

### **Research Objective**

To determine the effect of LSQ on the relationship between LMPs and customer satisfaction of shippers in Kenya.

### **Literature Review**

This section focused on the review of theoretical, conceptual and empirical literature along the study's conceptualization. The study was grounded on two theories, namely EDT and systems theory. The EDT which was first proposed by Oliver in 1980 has been termed as the most favorable theoretical framework in assessing customer satisfaction (Serenko & Stach, 2009; Yuksel & Yuksel, 2008). The EDT has been extensively applied to assess satisfaction with various products and services. The theory denotes that customers buy products with prior expectations regarding the expected outcome. Therefore, when the products or services have been consumed, the results are matched against expectations (Naeimeh & Aryati, 2014; Aigbavboa & Thwala, 2013). Customer satisfaction is generated when the performance of the logistics service is equal to or greater than the client's preconceived expectations. The service quality provided by industries needs to be improved in order to improve customer satisfaction (Daniel, et al., 2018).

The Systems theory which considers organizations as systems was developed by Ludwig von Bertalanffy in the 1930s, and afterwards improved by Ross Ashby in 1956 aiming at making the human mind easily understand complexities in the world (Patton & McMahon, 2014; Cordon, 2013). Applications of systems theory give an understanding of how things around us work. There are many internal subsystems in

a firm's management systems which should continuously align with each other as firms transform inputs to desired outputs and also as organizations grow, developing more complex subsystems (Chikere & Nwoka, 2015; Edman & Neuman, 2014). Both the functional and technical quality, which measure the logistics service quality are crucial as the firms transform their materials throughout the entire supply chain. Understanding organizations as systems enables logistics managers handle firm's activities more effectively and efficiently thereby achieving logistics' goals of ensuring goods are delivered when and where they are needed to meet customer needs (Jose, 2004).

Emil, Liviu and Irina (2010) noted that logistics activities ensure smooth flow of raw materials and finished products when well integrated from source to destination. Institution's activities like anticipating future demand, practising flexibility and discovering varying ways to serving clients is a vital function in logistics management. The emphasis is not on the fastest transport, or on minimizing inventories, but on a coordinated and integrated logistics systems approach aiming at customer satisfaction (Pienaar & Vogt, 2009; Rushton et al., 2008). Xuemei and Zhicai (2016) who developed a model for public transit service on how passengers can be satisfied with their expected quality noted that responding to varying customer needs enables firms succeed in an uncertain environment improving customer satisfaction.

Capabilities of logistics service if well leveraged can create customer and supplier value by service performance, positively impacting customer satisfaction (Yannis, Apostolos & Spyridon, 2014). Richey et al. (2007) found that logistics capability influences LSQ provided. Further, Liu et al. (2010), studied China's logistics firms and noted that capability of logistics impacts highly on service quality.

The concern of LSQ to bring about customer satisfaction in a Business to Business (B2B) setup between manufacturing firms and their customers has also gained momentum. Sterline and Lambert (1989) linked customer satisfaction and firm's future sales to level of logistics customer service. The LSQ contributes to customer satisfaction and further loyalty as it is referred to as a basis for firms' competitive advantage. A study by Fiala (2012) found that both technical and functional quality contribute to customer loyalty and meeting their expectations. Another study by Ho et al. (2012) that used modified service quality (SERVQUAL) model to determine how LSQ measurements influence customer satisfaction in the courier services industry, noted that customer satisfaction is affected by service quality indicators like timeliness, quality of information, order accuracy and readiness/quality of personnel. Lisińska-Kuśniercz and Gajewska (2014) established a strong positive correlation coefficient relationship between customer satisfaction levels and LSQ provided by companies using refrigerated transport, while a study by

Adebayo (2017) established that customer satisfaction is impacted strongly by the operational dimensions of LSQ.

Monique et al. (2017) study aiming to establish the interactions between LSQ, customer satisfaction and consumer loyalty, found a strong positive relation among these variables. Daniel et al. (2018) in their study on logistics capabilities and customer satisfaction for lubricant oil companies in Brazil affirmed that LSQ fully mediates the relation between these variables, thus logistics capabilities do not directly

influence customer satisfaction. Further, King et al. (2014) explained the mediating effect of service quality in the relation of ICT and competitive advantage of logistics firms. There is however insufficient literature on the mediating role of LSQ on the relation connecting LMPs and customer satisfaction. The on-going literature suggests LSQ can explain the relationship between LMPs and customer satisfaction. The objective of this study purposed to address this gap on the mediating effect of LSQ on the relationship between LMPs and customer satisfaction.

**Conceptual Framework**

The conceptual framework comprised of the independent variable, LMPs, the dependent variable, customer satisfaction and the mediating variable, LSQ. The independent variable, LMPs was operationalized by seven sub-constructs, namely inventory management, transportation management, warehousing, packaging, materials handling, order processing and information flow processing (Sople, 2010). The dependent

variable, customer satisfaction was identified and operationalized by two sub-constructs namely loyalty and expectations met (Fiala, 2012). The LSQ was identified and operationalized into functional quality and technical quality (Sze et al., 2013; Fiala, 2012). The study theorized a mediating role of LSQ on the relationship between LMPs and customer satisfaction (Naeimeh & Aryati, 2014; Aigbavboa & Thwala, 2013; Irene et al., 2008).

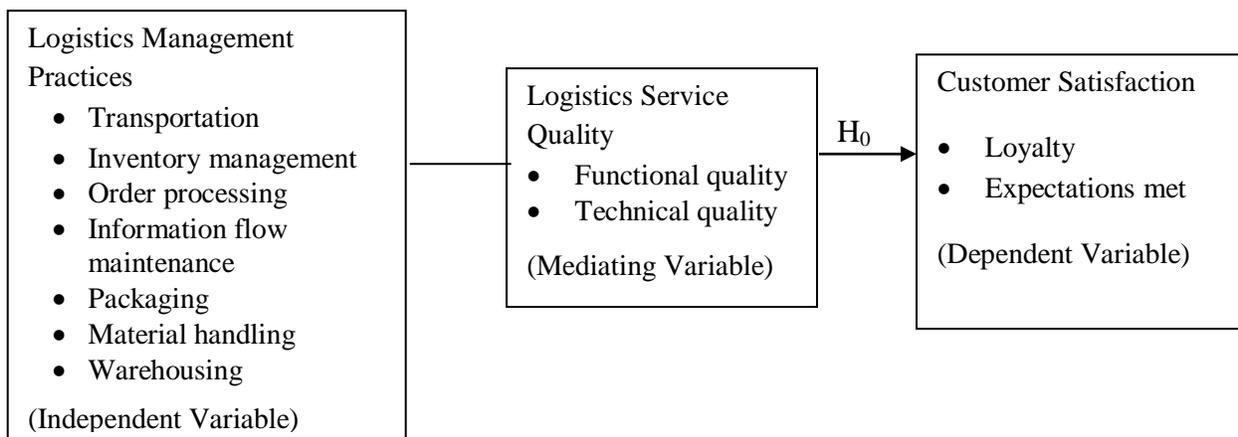


Figure 2.1: Conceptual Framework

### **Research Hypothesis**

From the conceptual framework, the following hypothesis was proposed:

H<sub>0</sub>: LSQ has no mediating effect on the relationship between LMPs and customer satisfaction.

### **Methodology**

The study applied the descriptive cross-sectional research design. Since the objective of the study was based on a clearly stated hypothesis and the study aimed at describing relationships among different variables, namely LSQ, LMPs and customer satisfaction, descriptive research design was the most appropriate research design for the study (Zikmund, 2003; Owino, 2014). The study's target population was all Kenyan based institutions registered under SCEA who import and/or export materials and/or goods through the port of Mombasa. The membership of SCEA was 63 importers and/or exporters and for such a relatively small number, a census was conducted. The study used primary data which was collected by use of a semi-structured questionnaire. The target respondent was one senior manager in the logistics department. The questionnaires were administered through emails since data collection happened during the early outbreak of Covid-19 pandemic in Kenya, when most people were working from home and there was strict government instructions on social distancing. Reliability and validity tests, as well as diagnostics tests were done. The four-step path analysis by Baron and Kenny for mediation test was conducted to test the study objective and the

corresponding hypothesis. A test of significance of the correlation coefficient,  $r$  was done and coefficient of determination  $R^2$  computed was used to determine and test the strength of the relationship between the variables.

### **Results and Discussion**

This section displays the results after data analysis as informed by the objective and respective hypothesis that guided the study. Additionally, a discussion of the study findings and interpretation from the data analyzed is stated. Further, the chapter contains the response rate, the analysis of the reliability and validity tests, the diagnostic tests and the results of inferential statistics. Testing of the formulated hypothesis was conducted at 5 percent level of significance and the p-values less than or equal to 0.05 meant rejection of the null hypotheses. From the entire 63 questionnaires that were administered, 37 usable questionnaires were returned, translating into a 59% response rate which was considered good for further analysis (Saunders et al., 2016).

The Exploratory Factor Analysis (EFA) was used to establish the validity of the instruments. The study assumed an internal measure of consistency called Cronbach Alpha coefficient to determine the reliability of the instrument. Tavakol and Dennick (2011) state that the acceptable alpha range is between 0.7 to 1.0. Therefore, any alpha that fall within this range, was considered reliable. The elements whose factor loadings

were below 0.4 were plunged from further analysis. Additionally, the item-to-total correlation scores were used to check the reliability and internal consistency of the elements representing every construct for all the constructs in the study. In this regard, the elements whose item-to-total correlation values were above 0.3 were retained for further analysis (Hair et al., 2010). The diagnostics tests carried out, namely normality, using Shapiro-Wilk test, heteroskedasticity using the Koenker test and autocorrelation which was tested using Durbin Watson statistic established that the study variables were in line with the assumptions of regression analysis.

The study objective was to determine the effect of LSQ on the relationship between LMPs and customer satisfaction of shippers in Kenya. The research hypothesis was  $H_0$ : LSQ has no mediating effect on the relation

between LMPs and customer satisfaction. The LSQ was the mediating variable used in the study. It was operationalized into functional quality and technical quality. The study conducted a stepwise regression analysis guided by the Four-step Path analysis (Baron & Kenny, 1986). The first model entailed tested customer satisfaction (CS) against LMPs, the second model tested LSQ against LMPs, the third model tested customer satisfaction against LSQ and the fourth model tested customer satisfaction against LMPs and LSQ. The regression results are displayed on the Tables below, respectively. The test of significance of  $r$  for all the four models showed a positive significant relationship among the variables of the study objective. Further, the tables on the Four-step Path analysis for mediation tests showed that the models were statistically significant

**Model Summary for Step One in Test for Mediation**

Model	R	R Square	Adjusted R Square		Durbin-Watson	
1	.688a	.474	.459		2.031	
Testing for significance of correlation coefficient, $r$						
Critical value of t			Calculated t value		Conclusion	
1.697			5.609		Reject $H_0$	
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.461	1	4.461	31.535	.000b
	Residual	4.952	35	.141		
	Total	9.413	36			
Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B		Beta		
(Constant)		1.610			4.111	.000
Logistics management practices		.573		.688	5.616	.000

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Logistics Management Practices

From the Table above, the value of R square was 0.474; which meant that 47.4 percent change in customer satisfaction was explained by the LMPs of their logistics

service providers. The test of significance of r ( $r=0.688$ ) confirmed that LMPs had a significant positive effect on customer satisfaction of shippers in Kenya.

**Model Summary for Step Two in Test for Mediation**

Model	R	R Square	Adjusted R Square	Durbin-Watson		
1	.763a	.582	.570	1.673		
Testing for significance of correlation coefficient, <i>r</i>						
Critical value of t			Calculated t value		Conclusion	
1.697			6.983		Reject H <sub>0</sub>	
Model	Sum of Squares		df	Mean Square	F	Sig.
1	Regression	3.215	1	3.215	18.156	.000b
	Residual	6.198	35	.177		
	Total	9.413	36			
Model	Unstandardized Coefficients		Standardized Coefficients		t-value	Sig.
	B		Beta			
(Constant)	1.266				5.434	.000
Logistics management practices	.623		.763		6.976	.000

- a. Dependent Variable: Logistics service quality
- b. Predictors: (Constant), Logistics management practices

Likewise, the results of the Table above on the step two test for mediation showed a significant positive relationship between LSQ and LMPs study variables. The third

step in testing for mediation involved regressing customer satisfaction against logistics service quality and the results are presented in the Table below:

**Model Summary for Step Three in Test for Mediation**

Model	R	R Square	Adjusted R Square	Durbin-Watson		
1	.584a	.342	.323	1.560		
	Testing for significance of correlation coefficient, <i>r</i>					
	Critical value t		Calculated t value	Conclusion		
	1.697		4.256	Reject H <sub>0</sub>		
Model		Sum of squares	df	Mean Square	F	Sig.
1	Regression	7.293	3	2.431	5.072	.005b
	Residual	15.817	33	.479		
	Total	23.110	36			
Model		Unstandardized Coefficients	Standard Coefficients			
		B	Beta	t-value	Sig.	
(Constant)		1.266	.584	2.131	.040	
Logistics service quality				4.261	.000	

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Logistics service quality

Similarly, the table above on model summary for step three in testing for mediation reflected a positive significant relation between customer satisfaction and LSQ.

The fourth step in test for mediation entailed regressing customer satisfaction against LMPs and LSQ and the results are presented in the Table below:

**Model Summary for Step Four in Test for Mediation**

Model	R	R Square	Adjusted R Square	Durbin-Watson		
1	.695a	.482	.452	1.901		
Testing for significance of correlation coefficient, <i>r</i>						
Critical value of t			Calculated t value	Conclusion		
1.697			5.719	Reject H <sub>0</sub>		
Model	Sum of Squares		df	Mean Square	F	Sig.
1	Regression	4.541	2	2.270	15.843	.000b
	Residual	4.872	34	.143		
	Total	9.413	36			
Model	Unstandardized Coefficients		Standardized Coefficients			
	B		Beta	t-value	Sig.	
(Constant)	1.341			2.505	.017	
Logistics service quality	.151		.142	.744	.462	
Logistics management practices	.483		.580	3.041	.005	
a. Dependent Variable: Customer Satisfaction						
b. Predictors: (Constant), LSQ, LMPs						

The last step in testing for mediation as seen on the above Table, showed that there was a significant relationship between the variables and further that the independent variable was significant (p=0.005) which is less than 0.05. R-square value of .482 meant that 48.2% of variations in customer

satisfaction was explained by the LMPs and LSQ. From the findings, and the rule of thumb for testing for mediating variable, the study denotes that there was partial mediation since the independent variable was significant in the fourth step of path analysis, and the model was significant. Full

mediation holds if the independent variable has no effect when the mediator is added to the regression model (Kenny, 2019; Baron & Kenny, 1986). Thus, the study rejected the null hypothesis  $H_0$  and inferred that LSQ has a mediating effect on the relationship between LMPs and customer satisfaction of shippers in Kenya.

### **Discussion of the Results**

From the results where the four-step path analysis by Baron and Kenny (1986) mediation test was used, 58.2 percent change in LSQ was explained by LMPs of the logistics service providers. From the results, the p-value of LMPs was less than 0.05 which meant that LMPs had significant effect on LSQ. The findings were similar to studies by Yannis et al. (2014), Richey et al. (2007) and Liu et al. (2010) who observed that logistics capabilities influenced LSQ provided. The LSQ strategically influences the economy at both firm and national levels, having a strong market influence and thereby increasing overall customer satisfaction (Juga, Juntunen, & Grant, 2010; Saura, et al., 2008).

The study further noted that 34.2 percent change in customer satisfaction was explained by LSQ. The LSQ (p-value <0.05) had a significant effect on customer satisfaction. The result was in line with Sterline and Lambert (1989) who linked customer satisfaction and firm's future sales to level of logistics customer service and that LSQ contributed to customer satisfaction and further loyalty as it was referred to as a basis for firms' competitive advantage. The study results were consistent with the works of Adebayo (2017), Jea-II et

al. (2017), and Lisińska-Kuśnierzyk and Gajewska (2014) who established a significant positive relationship between customer satisfaction levels and LSQ. Additionally, the study indicated that 48.2 percent change in customer satisfaction of shippers in Kenya was explained by LMPs and LSQ of their logistics service providers. From the findings of the fourth step in the path analysis, the study noted that LMPs, the independent variable had a p-value less than 0.05, a criterion used to define a partial mediating variable (Baron & Kenny, 1986).

Thus, the study rejected the null hypothesis  $H_0$  and inferred that LSQ mediated the relationship between LMPs and customer satisfaction of shippers in Kenya. Daniel et al. (2018) found that LSQ fully mediated the relationship between logistics capabilities and customer satisfaction for lubricant oil companies in Brazil. Similarly, King et al. (2014) explained the mediating effect of service quality in the relation between ICT and competitive advantage of logistics firms.

### **Conclusion and Recommendations**

The results of this empirical research show that implementation of LMPs by logistics service providers influence the customer satisfaction of shippers in Kenya. The shippers were slightly keener on their expectations being met than being loyal to their logistics services providers. This was regardless of the duration the firms were in operation or the category of logistics operations they were engaged in. The LSQ needs to be emphasized through the entire logistics process from point of origin to point of final consumption of the desired commodities. The LSQ was operationalized

by functional quality and technical quality and the study further found that the shippers in Kenya were more satisfied with the functional quality compared to the technical quality from their logistics service providers. Constant communication, implementation of timely interventions in operational issues that may affect service offered and consultations on internal matters that concerned the firms were some of the expectations valued highly by the shippers in Kenya. Among the reasons why firms should strive to keep their customers satisfied was that a loyal customer gives referrals, does repeat purchase and gives a positive word of mouth, resulting into business growth, competitiveness and finally wealth creation through logistics.

The study recommends that the governments in Eastern Africa region work closely with the institutions advocating for the interests of shippers. More specifically, the Kenyan government should accommodate the SCEA more as their collaboration will directly boost the economy of the country and help sort out the many challenges facing the shippers which include delays due to lengthy clearance procedures, port congestion, lack of clear policies and legal framework. Specifically, the government bodies involved with the activities at the port of Mombasa and ICD, should deliberately flex the restrictions at the port for both the shippers and the logistics service providers. The study further established that customers were very concerned with their expectations being met. The study therefore commends that the logistics service providers should be focused with delivering their promises noting that customer tastes and preferences

change over time. On the LSQ in particular, which was noted to have a mediating effect on the relationship between LMPs and customer satisfaction of shippers in Kenya, the study recommends the logistics service providers to focus on both the functional and technical quality as they promote customer satisfaction of the shippers.

### **Contribution to Policy and Practice**

Studies by Ki-Moon (2016) and World Bank (2005) noted that the performance of global trade and economy had been anchored on the success of maritime transport, and that all countries world over rely on maritime trade since no country is entirely self-sufficient for their import and export needs. There is therefore need for the government of Kenya, private and public institutions, and all stakeholders at the port of Mombasa to relook the maritime transport, and especially the mission, vision and performance of Kenya maritime authority whose mandate is to regulate, organize and manage maritime affairs in the country. The study further contributed to policy and practice by recommending that the SCEA, in addition to their advocacy role, to work more closely with the various government agencies to streamline policy issues on importation and exportation of all goods at the port of Mombasa and the ICDS. Additionally, the ministry of trade and industrialization should have clear policies, on imports/exports, which should be drafted in consultation with all stakeholders, especially advocacy bodies like SCEA. This was informed by recommendations from shippers that in most cases, the private sector is left out in such deliberations.

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