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Otieno, K., Kiongera, F., Odero, J., & Makori, E.

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EFFECT OF SUPPLIER INFORMATION SHARING PRACTICE ON SUPPLY CHAIN PERFORMANCE OF KENYAN SELECTED COUNTY GOVERNMENTS OF NYANZA REGION

[1]Otieno, K., [2] Kiongera, F., [3] Odero, J., & [4] Makori, E.

[1] MBA Student, School of Business & Economics, Masinde Muliro University of Science & Technology, Kenya

[2] PhD, Senior Lecturer, Masinde Muliro University of Science and Technology, Kenya

[3] PhD, Lecturer, Masinde Muliro University of Science and Technology, Kenya

[4] Lecturer, School of Business and Economics, Masinde Muliro University of Science and Technology, Kenya

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ABSTRACT

Effective performance is a desire for any institution when adequate supplier relationship exists. Counties that embrace efficient supplier relationship management have achieved massive economic development. Adequate supplier evaluation and development of supply base can reduce cost of public projects and boost value. However inadequate scrutiny of suppliers leads to poor quality of deliverables, escalated cost and higher risk of non-performance. Poor relations with suppliers coupled with opportunistic tendencies and distrust lead to loss of value. The broad objective was to establish the effect of Supplier information sharing on supply chain performance of Selected County Governments in Nyanza Region Kenya. This study employed a descriptive but correlation research design. The target population was 112 procurement staff and 9 lead prequalified suppliers of the Selected County Governments in Nyanza Region Kenya. The study sampled population by stratified, simple random and purposive techniques. Closed ended Likert scale questions were used. Data analysis involved statistical approaches on basis of descriptive and inferential values. Descriptive employed frequencies, percentages, mean mark and standard deviation. Inferential were employed through Pearson correlations and simple linear regression. Content analysis was used to analyze data from collected interviews. The study found that supplier information sharing had a positive effect on supply chain performance in selected county governments of Nyanza region, Kenya. Simple linear regression results revealed that the Supplier information sharing has a positive effect on performance of supply chain in selected devolved units in Kenyan Nyanza region (R^2 = .266, P<0.05). The study recommended that there is a need for suppliers to share information that would make supplier relationship realistic, need for County governments in Kenya to have trust amongst each other that would lead to smooth flow of procurement activities. This would increase supplier relationship and improve supply chain performance of county governments. The findings of this research will be of much importance to the county government of Selected County Governments in Nyanza Region Kenya and the entire procurement sector.

Key words; *County Government, Supplier Information Sharing, Supply Chain Performance*

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INTRODUCTION

The goal of supplier relations in relation to its management is based on enhancing effectiveness perceived through perfection and efficiency associated with managing highest output with minimal resources. The determination of the number of suppliers who associated well with buyers sums up the meaning of SRM. Organizations focuses on customer relationship management underscoring the value of suppliers which has coasted many entities. Customer relationships build service quality and make deliveries be managed on time. It is noted that both buyers and suppliers should be at equilibrium in the association marking the famous tag of a win-win scenario (Mumelo, Tannenbaum & Salas, 2017).

Supply chain management success is solemnly pegged on sound supplier relationship which leads to effective performance for companies. A competitive enterprise requires information sharing, trust in task execution, a developed supplier and above all an all-round workforce. In the long run this leads to customer satisfaction based on the profits that emanates from a health supplier relationship (Simatupang & sridharan, 2012). Currently day to day operations counts a lot on the association between a supplier and a buyer. Effective daily role executions make performance adequate if the daily supplier roles are perfectly executed in a company. Counties have been on forefront in allocation of tenders which calls upon the roles of suppliers and buyers (Tunisini & Sebastiani, 2015). Consistent association between suppliers and buyers makes the complex roles simple due to proper communication network. A knowledgeable supplier as well as buyer makes the supplier relationship a success (Cousins & Spekman, 2013). Strategic county government settings require supplier relationship management more than any other government entities as they are down to the common citizen who needs supply of goods and services (Jeans, 2018).

Public institutions in countries like China, Malaysia, and Saudi Arabia play a significant role in supplier relationship management. Competitive firm performance was found to be positively affected by supplier relationship management in selected manufacturing firms (Al-Abdallah & Aynman, 2014). The study found that supplier information sharing has a key role on performance among all attributes associated to supply chain performance. In a study Kepher and Ismael (2015) Supply chain performance is highly implicated by supplier relationship in the Kenyan Manufacturing Sector. Supplier collaboration guide initiative allows flow of data and assembling of information within organization set up (Ochieng, 2014). Otieno and Getuno (2017) revealed that supply chain performance rose due to sharing information by suppliers as a result of a number of attributes such as work professionalism, level of transparency, number of inspections done in the school procurement activities.

Statement of the Problem

Efficient, effective and performance is a desire for any institution when adequate supplier relationship exists. Counties that embrace efficient supplier relationship management have achieved massive economic development. Adequate supplier evaluation and development of supply base can reduce cost of public projects and boost value. However, despite having procurement act that guide supplier relationship there is poor relations with suppliers coupled with opportunistic tendencies and distrust leading to loss of value (PPRA, 2020). A report on government returns (PPRA, 2019) reveal that supplier relationship management accounted for 51.64% of public procurement sustainability. It is argued that most Kenyan devolved systems have undertaken ghost projects, supplier malpractices and fictitious workforce implying a high corruption tendency (Caroline, 2018). Forty percent of public Procuring approaches had limited information sharing among procurement staff in Counties (PPOA, 2016). The audit report on Homabay County showed no-compliance tendencies that placed supply chain performance at risk. The risk score places

procurement at risk (PPOA Annual Report, 2021). County government of Kiambu, Tharaka Nithi, Bungoma, Busia, Tana River, Nairobi, Kirinyaga, Migori and Homabay were reported to have irregular procurement activities associated with inefficient supplier relationship (EACC, 2020). The audit discovered that Homabay County Government failed to provide the necessary procurement documentation required to support their procurement processes and as a result the entity was scored zero (PPOA Annual Report, 2021). Mixed findings have been reported by studies. Arrowsmith and Hartley (2016), Kepher and Ismael (2015) and Mumelo, Tannenbaum and Salas (2017) found that supplier relationship positively and significantly affected performance whereas Kiarie (2017) established that Supplier information sharing practice had insignificant effect on general performance. Further the studies were done in different sectors such as in Kenyan public secondary schools (Otieno & Getuno, 2017), and in manufacturing companies (Onyango, Obrien & Ghodsypour, 2015; Kiarie 2017). Additionally, Ringa (2017) recommended for a study to be done in the County government on supplier information sharing. This study filled the gaps by focusing on effect of Supplier information sharing practice on supply chain performance of Kenyan Selected Kenyan County Governments of Nyanza Region.

Objective of the Study

To establish the effect of Supplier information sharing practice on supply chain performance of Kenyan Selected County Governments of Nyanza Region

Research Hypothesis

H_0: Supplier information sharing practice does not have a significant effect on supply chain performance of Kenyan Selected County Governments of Nyanza Region.

LITERATURE REVIEW

Theoretical Literature Review

The theory of Constraint in Supply Chain guided the study. This Supply Chain Constraint Theory was opined through Goldratt (1986) with an intention of improving performance of a system. A constraint is a hindrance on attaining greater performance (Moore & Scheinkopf, 1998). This theory asserts that a system is made up of units called chains. It's the interrelationship among chains that makes things effective. This highlights the need for information sharing to see chain links effective. Supplier trust eliminates constraints created. Developed suppliers through training will easily unlock existing constraints within the system. Furthermore, evaluation process thus supplier evaluation helps in detecting perceived constraints. Lack of evaluation creates constraints in supply chain collaboration among parties involved (Simatupang & Sridharan, 2004). This theory is criticized based on its emphasis on constraint factors yet in some cases supply chain may be undertaken without facing challenges therefore constraints are not necessary. This theory stands out as the leading theory as it highlights the need for information sharing for an effective county government performance.

Conceptual Review

Supplier Information Sharing

Information sharing refers to the flow of data from parties involved basically the suppliers and buyers of given firms (Khan & Siddiqui, 2018). According to Rached (2015) supplier information sharing is vital for supply Chain performance. Additionally, it is a supplier collaboration guide initiative that allows flow of data and assembling of information within organization set up (Ochieng, 2014). Supplier information sharing management practice measured by supplier collaboration, communication skills and innovation. Studies have shown that supplier information sharing enhances performance (Kiarie, 2017, Anyango, 2015, Tangus, 2015). Courtsen and Felde (2015) opined that better relations with suppliers contribute to increased innovation capacity. Supplier information sharing reduces logistics cost and increase connectivity and willingness to perform better. It is believed that supplier information sharing is a strategy to

increased attainment of Supply Chain performance (Marinagi et al., 2015). In the context of increasing productivity, competitiveness must be enhanced through adequate supply chain performance. This calls for maximum use of suppliers and exchanging valuable information meant to enrich commitment and trust within the workforce (Kosgei & Gitau, 2016).

Supply Chain Performance

Supply Chain Performance is the process of quantifying the efficiency and effectiveness of action thus quality improvement, lead time application and customer satisfaction process of inter organizational processes (Neely et al, 2005). Global World Bank, (2015) associates a sound supply chain performance with proper governance. The level of effectiveness, customer satisfaction and level of efficiency makes supply chain performance a reality. Roberts, Neumann, and Cauvin (2017) associate performance measurement with financial ratios while Carroll, Johansen and Mouritsen (2011) associate it with the overall market share as well as increased return on investment. Odalo, Njuguna and Achoki, (2016) measured performance using market share. This study will use efficiency, effectiveness, quality improvement and customer satisfaction to measure supply chain performance of Migori, Homabay and Kisumu County.

Empirical Review

A study by Arrowsmith and Hartley (2016) in the United States of America established the effect of supplier information sharing verses supply chain performance for organizations-based in New York City. The effect of supplier relationship was critically monitored the study found a positive significant relationship between supplier relationship basically on information shared by suppliers and supply chain performance. This indicated that supplier information sharing was a key ingredient in achieving supply chain performance of a firm.

Otieno and Getuno (2017) carried out a comprehensive study in Kenyan public secondary schools within Nairobi City County, basically to evaluate the influence of supplier sharing information on supply chain performance of mentioned schools. The study employed all schools under census survey for six secondary schools collecting primary data. The study based on how transparent procurement processes were, number of inspections done, reforms executed in procurement in schools, tendering processes, the development in professionalism and how they imparted on performance. The aforementioned had a direct positive influence on performance. This study failed to approach key supplier relationship attributes of trust, evaluation, development and evaluation.

On further inquiry into Kenyan manufacturing companies Onyango, Obrien and Ghodsypour (2015) investigated the influence of information shared by suppliers on performance of manufacturing companies. The study evaluated the role of supplier decision making process, supplier communication and internal operations. The aforementioned had a positive significant role on performance. This study shed light on supplier relationship though failed to approach key supplier relationship attributes of trust, evaluation, development and evaluation.

A study on SMEs in Bungoma town was conducted by Mumelo, Tannenbaum and Salas (2017) to ascertain the influence of supplier relationship management practices on supply chain performance of SMEs. The study found a positive significant relationship on information shared among suppliers and the performance SMEs realized in their supplier-buyer relationship.

Gatobu and Moronge (2018) carried out a study on strategic supplier alliances and performance of agricultural firms in Kenya. The strategic alliance monitored majored on how suppliers shared their information and its resultant impact on performance. It emerged that supplier information sharing alliance positively and significantly imparted on procurement performance. The study also found that supplier alliances was a competitive strategy as it distinguished procurement functionality among organizations.

Kiarie (2017) joined the list of scholars who analyzed supplier information sharing relationship management practice influence on firm performance. The study was based on large manufacturing companies in Kenya. The study found that Supplier information sharing practice had insignificant effect on general performance of large manufacturing companies in Kenya. The study also found supplier trust and supplier commitment as an impetus to organizational performance.

According to Tangus, Tabachnick and Fidell (2015) on their study on the effect of supplier information sharing relationship management practice on supply chain performance companies. The study had specific regard to manufacturing companies within Kisumu City County of Kenya. The results was that the basic tenets of supplier relationship management practices were supplier development, segmentation and information sharing of which all had a positive significant effect on firm performance.

METHODOLOGY

The study used descriptive survey design. The research targeted one hundred and twelve (112) participants with a clear view on supplier-buyer relationship in Selected County Governments in Nyanza Region, Kenya (Homabay, Migori, Kisumu Employee Report, 2021 and Annual Development Plan (ADP) for 2021-2022). The study used a breakdown of one hundred and twelve (112) staff and nine (9) lead prequalified suppliers, (three **(**3**)** suppliers) each for the selected counties. This study utilized stratified and simple random sampling technique to get the sample. Purposive sampling was used to select lead prequalified suppliers from each county whereby three (3) were selected in each county. In attaining the sample goals Yamane Taro sample determination was employed; The sample size was 88. Primary data was gathered through self-administered questions. The study area movements were easily managed through questionnaire drop and pick approach (Kothari, 2017). A pilot study was done in Kakamega County where nine (9) procurement staff members were selected. For Validity content validity was employed where the questionnaire was discussed with one of the procurement managers in the county and also with study supervisors. For data analysis descriptive statistics and inferential statistics were used. Descriptive employed frequencies, percentages, mean mark and standard deviation. Inferential were employed through Pearson correlations and simple linear regression. Content analysis was used to analyze data from collected interviews. Results were presented in form of tables. The following regression model applied:

$Y= \beta_0+\beta aXa + \varepsilon$

Where;

Y = Dependent Variable (Supply Chain Performance)

X= Aggregate effect of supplier information sharing practice

Independent variables, which include:

X_a is Supplier information sharing practice

β_0 = the constant

β_a = the regression coefficient

ε = Error term

RESULTS AND DISCUSSION

Response Rate: From a list of eighty eight (88) participants, seventy six (76) turned up for the study giving a turnout of 86.4% desirable for research finding for procurement staff members. All the nine (9) prequalified staff participated in the interview schedule thus 100% response.

Reliability Results: According to Mugenda and Mugenda, (2013), reliability was sought to test accuracy of results given during data collection. The study employed a threshold for Cronbach's Alpha (α) which was more than 0.7. The results for pilot study are presented in table 1 as follows;

Table 1: Results of Reliability test

Variables	Cronbach Alpha	Items
Supplier information sharing	0.720	5
Performance of Supply Chain	0.837	5

Source: Research data (2022)

Descriptive Statistics

To assess the respondent's levels of agreement based on statements supplier information sharing, the analysis used a scale of 1 to 5 where 1 indicated strongly disagree, 2 indicated disagree, 3 indicated fairly agree, 4 agree, and 5 implied strongly agree.

Table 2: Descriptive Analysis on Supplier Information Sharing Practice

Statement	5	4	3	2	1	Mean	Std Dev
	Freq Perc	Freq Perc	Freq Perc	Freq Perc	Freq Perc	Freq Perc	Freq Perc
1. My county has a Supplier Collaboration and logistics alliances	5 (7)	53 (70)	13 (16)	2 (3)	3 (4)	3.70	0.79
2. My county has technology	8 (11)	48 (63)	13 (17)	4 (5)	3 (4)	3.61	0.88
3. My county adopts internal services and technology innovativeness	12 (16)	42 (55)	12 (16)	6 (8)	4 (5)	3.67	1.01
4. My county embraces good communication with the suppliers	4 (5)	52 (68)	10 (13)	7 (9)	3 (4)	3.61	0.88
5. My county has established strong relationships with its suppliers	9 (12)	41 (54)	15 (20)	10 (13)	1 (1)	3.60	0.91
Valid listwise 76							
Grand mean = 2.95							

Source: Research data (2022)

From table 2, most participants agreed (70%), strongly agreed (7%) that there is a Supplier Collaboration and logistic alliance. The 3.70 mean shows that Supplier Collaboration program enhanced supply chain performance. Furthermore, 63% and 11% of participants agreed and further strongly agreed that the county has technology for supply chain.

A total of (55%) indicated that the counties have an adopts internal services and technology innovativeness 16% further strongly agreed on the subject. The 3.67 mean shows that, county government uses innovation program. The study further showed that 68% were in agreed that there is an established strong relationship with its suppliers as 5% agreed on the subject. The 3.60 mean shows that there are good communication skills.

During interviews suppliers acknowledged that there was collaboration between counties and suppliers hence information sharing was given a priority. This study's findings are in agreement with those of Onyango, Obrien and Ghodsypour (2015) who studied the association between supplier information sharing and supply chain performance of Kenyan manufacturing companies and Otieno and Getuno (2017) who investigated the influence of supplier information sharing regarding it to be positive and significant for performance of public secondary schools in Nairobi City County in Kenya.

Descriptive Analysis Results on Supply chain performance

To assess the respondent's levels of agreement based on statements supply chain performance, the analysis used a scale of 1 to 5 where 1 indicated strongly disagree, 2 indicated disagree, 3 indicated fairly agree, 4 agree, and 5 implied strongly agree.

Table 3: Descriptive Analysis on Supply chain performance

Statement	5	4	3	2	1	Mean	Std Dev
	Freq Perc	Freq Perc	Freq Perc	Freq Perc	Freq Perc	Freq Perc	Freq Perc
My county ensure it delivers services to suppliers within the stipulated time.	5 (7)	53 (70)	13 (17)	2 (2)	3 (4)	3.71	0.79
My county ensures that theirs is cost effectiveness.	8 (11)	48 (63)	13 (17)	4 (5)	3 (4)	3.72	0.88
My county ensures proper supply of goods	12 (16)	42 (55)	12 (16)	6 (8)	4 (5)	3.60	1.01
My county ensures that user departments are secure.	4 (5)	52 (68)	10 (13)	7 (9)	3 (4)	3.61	0.88
My county ensures that there is consistent supply of goods	9 (12)	41 (54)	15 (20)	10 (13)	1 (1)	3.62	0.91
Valid listwise 76							
Grand mean = 3.65							

Source: Research data (2022)

Table 3 indicates that most participants (70%) agreed as (7%) strongly agreed that the counties ensure they deliver services to suppliers within the stipulated time. The 3.70 mean shows that the counties ensure that there is cost effectiveness. Furthermore, 63% of participants agreed as 11% strongly agreed respectively that the devolved system ensures that there is cost effectiveness.

Most participants (55%) agreed that the counties ensure that users are in terms with supplies made while16% strongly agreed on the subject. The 3.62 mean showed that the counties ensure that the there is consistently in good quality supply. The study showed that 68% agreed that there is secured relationship with its suppliers as 5% agreed on the subject. The 3.60 mean shows that counties ensure that user departments are secure. This finding agrees with Erasmus (2015) who did a study on employee service delivery and found supply chain performance to be of positive influence on service delivery. It further agrees with Onyinkwa (2015) who investigated the antecedents of procurement compliance on performance of Nyamache Sub-County public secondary schools in Kenya and found supply chain performance to be of significant influence. During interviews suppliers acknowledged that supplier management practices enhanced performance as right quantity and quality of goods were supplied and there was cost saving.

Correlation Matrix

Table 4: Correlation Matrix

		SIM	SCP
SIM: Supplier Information Management	Correlation Pearson	1	.504**
	Sig. (2-t)		.000
	N	76	76
SCP: Supply Chain Performance	Correlation Pearson	.504**	1
	Sig. (2-t)	.000	
	N	76	76

Source: Field data (2022)

Pearson Correlation was conducted to find the interrelationship between the variables. Correlation value for supplier information sharing was positively correlated to supply chain performance (r=0.504; p<0.01).

Simple Linear Regression Results on effect of Supplier Relationship Management on supply chain performance

Simple linear regression analysis was conducted to establish the relationship between supplier information Sharing and supply chain performance in selected county government of Nyanza Region Kenya. The R square was used to establish contribution of supplier information sharing on supply chain performance. The results are as shown in Table 5.

Table 5: Simple Linear Regression Results on Supplier Information Sharing

Model Summary

Model	R	R Square	Adj R Square	Std. Er of Estim	Change Statistics				
					R Sq Change	F Change	df 1	df2	Sig. F Change
1	.504[a]	.266	.256	.615077	.266	26.759	1	74	.000

ANOVA[a]

Model		Squares Sum	Df	Square Mean	F	Sig.
1	Regression	10.124	1	10.124	26.759	.001[b]
	Residual	27.996	74	.378		
	Total	38.119	75			

Coefficients[a]

Model		Unstd Coeff		StdCoeff	T	Sig.
		B	Std. Error	Beta		
1	(Const)	1.344	.406		3.311	.001
	Supplier Information Sharing	.563	.109	.504	5.173	.000

Source: Field data (2022)

The findings were that there was significant and positive association between Supplier Information Sharing and performance of Supply chain in the devolved governments. Supplier Information Sharing accounted for 26.6% (R^2 = 0.266) variations.

The F value was more than zero, F=26.759, P=.000, therefore, Supplier Information Sharing is a significant factor on performance Supply chain of devolved governments.

Supplier Information Sharing had a linear, significant and positive (P<0.01) association with the Supply chain performance in the county governments {B=0.563, t=5.173, P=0.01}. The results are represented in the following model:

$Y = \beta_0 + \beta_a X_a + \varepsilon$
Where Y= Performance of Supply chain,
β_0=1.344 (constant)
β_1= 0.563
Xa= Supplier Information Sharing
Replacing in the equation above: $Y=1.344 + .563X_a$

The equation constant value is of 1.344, p=0.000, Supplier Information Sharing has regression .563 as the coefficient value. Implication is that a unit increase in the Supplier Information Sharing results to an increase that is significant in performance of supply chain by 56.3%The study hypothesis stated that H01: Supplier information sharing practice does not have a significant effect on supply chain performance of Kenyan Selected County Governments of Nyanza Region. The hypothesis was rejected as supplier information sharing positively and significantly influenced supply chain performance. These findings have been corroborated by Onyango, Obrien and Ghodsypour (2015) who studied the association between supplier information sharing and supply chain performance of Kenyan manufacturing companies and Otieno and Getuno (2017) who investigated the influence of supplier information shared regarding it positive and significant for performance of public secondary schools in Nairobi City County in Kenya. These findings also agrees with Arrowsmith and Hartley (2016) study found a positive significant relationship between supplier relationship basically on information shared by suppliers and supply chain performance. However, the findings disagrees with Kiarie (2017) who found that Supplier information sharing practice had insignificant effect on general performance of large manufacturing companies in Kenya.

CONCLUSION AND RECOMMENDATIONS

The study concluded that Supplier information sharing has significant effect on performance of supply chain in selected devolved units of Nyanza region, Kenya. This implies that increase in Supplier information sharing practices through supplier collaboration, good communications and innovation would results to improvement in supply chain performance. The study contributes to knowledge in the area of procurement as it provides an insight into the influence of supplier information sharing on supply chain performance. The findings may be used by policy makers to improve on policies touching on supplier information sharing.

There is a need for suppliers to share information that would make supplier relationship realistic. This can be achieved through supplier collaborations, improved communications skills and innovation enhancement thus improving performance of supply chain of devolved units.

Suggestions for Further Research

Current study based on the effect of supplier information sharing practices on performance of supply chain of selected devolved units (Kisumu, Homabay and Migori) Nyanza region Kenya. There is need for studies in other region in Kenya. The study also focused on Supplier information sharing practices hence other studies should be done on other supplier related issues. A similar study be undertaken in other organizations as this focused in County government.

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