E-PROCUREMENT PRACTICES AND PROCUREMENT PERFORMANCE IN TURKANA COUNTY, KENYA

Losyel Losike James & Dr. Anthony Osoro, PhD

The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com
Vol. 10, Iss.2, pp 882 – 900. May 14, 2023. www.strategicjournals.com, ©Strategic Journals

E-PROCUREMENT PRACTICES AND PROCUREMENT PERFORMANCE IN TURKANA COUNTY, KENYA

[1] James, L. L., & [2]Osoro, A.

[1] Master Student, Jomo Kenyatta University of Agriculture and Technology, Kenya
[2] Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

Accepted: May 2, 2023

ABSTRACT

This study established the influence of E-procurement practices on operational performance of county governments in Turkana County. The objectives of the study were to determine the e-procurement practices employed by county governments in Turkana County and to examine the effect of e-procurement practices on the operational performance of county governments in Turkana County. Operational performance which was the dependent variable and E-procurement practices that consist of e-ordering, e-tendering, e-invoicing, e-sourcing and E-payment formed the independent variable. This study will adopt a cross sectional descriptive survey research design and the population was 41 respondents in Turkana County Government. The study used original data which was obtained through the use of a standardized questionnaire. Questionnaires were used to collect primary data from the respondents. Prior to the commencement of data collection, the study obtained all the necessary approvals, including an introduction letter from the University which necessitated application for a permit from the National Commission for Science Technology and Innovation (NACOSTI). Further, authority was sought from the county procurement officer to allow data collection from the department. Introduction letters were written to the departmental heads to allow collection of data from the sample concerned. The respondents were supplied with tools of data collection through the departmental heads, given time to respond and return them to their department heads for onward collection. The collected data was entered, edited, and analyzed by SPSS version 26.0 Descriptive statistics were presented in tables and graphs with frequencies and means used respectively. Qualitative data was analyzed thematically according to the respective specific themes in the objective. The study findings established that county government of Turkana has not implemented the E-procurement policy as required despite the procurement policy in place which requires all government entities to apply it. The study established that despite there being not a significant effect of E-procurement and procurement performance, E-sourcing and E-payment seemed to have a significant positive effect hence a predictor of procurement performance. The study Based on the study findings, the study recommends that the government to ensure that the e-procurement policy which is in place is implemented to the letter if procurement performance. The study further recommends that the county government should fully implement E-sourcing and E-procurement practices and they have been found to be a positive significant predictor of procurement performance.

Keyword: *E-Procurement Practices, e-ordering, e-tendering, e-invoicing, e-sourcing, E-payment*

CITATION: James, L. L., & Osoro, A. (2023). E-procurement practices and procurement performance in Turkana County, Kenya**.** *The Strategic Journal of Business & Change Management,* 10 (2), 882–900.

INTRODUCTION

Changalima et al. (2020) opines that in the recent past, most government agencies spent about $35tn on the transactions relating to public procurement. The studies reveal that public procurement signifies about 18.4% of the world gross domestic product (GDP) and 50% or more of total expenditure in developing countries (Changalima et al. 2020) a reason that calls for studies to enhance the function of procurement hence, the review of the studies below.

According to Djankoy et al. (2017) there is need for a more strategic procurement since government departments worked over spend in the excess of $35tn in procuring goods and services. They argue that over 18% of the world's GDP is used up in procuring goods and services. This argument is supported by Changalima et al. (2020) who opines that not only do the developed world spent colossal sums of resources in procurement, but also, in the developing world. They argue that approximately more than 50% of the developing world's GDP is used in procuring goods and services hence, the need for more competitive avenues to eliminating wastage emanating from procurement practices.

Dawar and Oh (2017) opines that majority of the emerging economies for instance Jamaica, procurement to its expenditure accounts about above 9-13% of the Gross Domestic Product. Dawar and Oh (2017) argues that with this kind of resources involved, the sector needs lots of accountability hence, the call for infusion of technology into procurement. Its from this background that the proposed study sought to establish the influence of E-procurement in procurement in Turkana County Governement.

Sanchez-Rodrigues et al. (2020) opines that e-procurement which is the ICT intervation in mitigating wastage in procurement, is more accountable in the due process compared to the traditional procurement procedures. They call for both government and private entities to embrace e-procurement if they leap the benefits of reduced wastage. This is supported by Hogel et al. (2018) who opine that through infusion of technology through e-procurement, it is in record that Boston Consulting Group registered one of their highest returns after embracing e-procurement practices hence calls for other entities to follow suit.

Adoption of e-procurement can reduce time required in processing of orders, reduce the cost of managing orders and payment to suppliers, minimize transactional errors, improve data accuracy and quality of information received (Bahaddad et al., 2018). Similarly, e-procurement could save material cost between 5 and 10 percent, increase productivity to about 30 and 50 percent, enhance innovation, quality, high speed of processing documents in real time and assist in risk management (Hogel et al., 2018). Whereas the studies have shown value addition between e-procurement, studies are lacking locally and especially in Turkana County, a gap that this study will endeavour to fill.

A study by Haque and Islam (2013) in the pharmaceutical in Bangladesh sector observed that e-procurement has value addition unto the sector returns through customer satisfaction feedback. The study particularly identifies technology infusion into business as key in taking a competitive advantage over other competition among other parameters can be taken care of like logistics and organizational culture. Whereas the study was conducted in Bangladesh and looked at customer satisfaction, the proposed study will be carried out in Kenya and procurement performance will be the unit of observation, hence, the study gap that the study aims to fill.

Statement of the Problem

With the advent of information communication technology, procurement web-based models are playing a critical role within companies, especially in the generation of value of supply chain, (Centobelli & Cerchione, 2014).Adoption of e-procurement can reduce time required in processing of orders, reduce the cost of managing orders and payment to suppliers, minimize transactional errors, improve data accuracy and quality of information received

(Bahaddad et al., 2018). Similarly, e-procurement could save material cost between 5 and 10 percent, increase productivity to about 30 and 50 percent, enhance innovation, quality, high speed of processing documents in real time and assist in risk management (Hogel et al., 2018).

Literature from the developed countries as captured in the background of the study indicates that e-procurement has been successfully implemented in the developed countries especially in the Europe and Asia, in procuring goods and services in for the public sector with great success. The emergence of the internet has provided a platform that is enabling a new generation of business nearly everywhere in the world and Kenya in specific;it has become a source for information, goods and services. In effect, this has led to emergence of software systems. These systems are important because they provide information needed by organizations to be more effective, efficient and accurate as well as save on time and cost, the application of this systems range from allowing organizations to keep track of records and trends among others.Despite the fact that e-procurement is gaining popularity due to globalization, technological changes and advancement, and the government adopting the policy requiring all government procuring entities to use the Integrated Financial Management Information System (PPOA, 2013), there are minimal studies in Turkana county to the effect of e-procurement and its value in terms of procurement performance given that there are no studies from the background review on studies done local in the study area. It is from this background that this study endevoured to establish the effect of E-procurement on procurement performance in Turkana County Government.

Objectives of the Study

The main objective of the study was to find out the effect of E-procurement on performance of the procurement at County government of Turkana. The specific objectives of the Study were;

- To establish the influence of E-ordering practiceson procurement performance at Turkana County Government, Kenya.
- To determine the effect of E-sourcing practices on procurement performance at Turkana County Government, Kenya.
- To find out the effect of E-tendering practiceson procurement performance at Turkana County Government, Kenya.
- To evaluate the influence of E-payment practiceson procurement performance at Turkana County Government, Kenya.

LITERATURE REVIEW

Theoretical Framework

The study was based on Dynamic Capability theory, Value Chain theory and e-procurement theory as described below:

Dynamic Capability Theory

The aspect of dynamic capability was first coined by David Teece, Gary Pisano and Amy Shuen (Chien & Tsai, 2012). The theory describes an organization's ability to deliberately organize its resources in an effort to improve performance. According to Chien and Tsai (2012), dynamic capability is the capability of an organization to purposefully adapt an organization's resource base. An organization should be able to react adequately and timely to external changes. This requires the adoption of different strategies that will harness multiple capabilities of the organization and put them into use. This will give the company the ability to integrate, develop, and leverage on the environmental competitive advantage. Indeed, the current business world is very dynamic. Changes ranging from organizational structures, culture, marketing and customer's tastes and preferences are taking a different path. As such, organizations should have the ability to respond to these changes in the most effective manner. The dynamic capability theory asserts that only those organizations able to achieve this will actually be able to break even in this competitive world (Chien & Tsai, 2012).

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Agility is a business-wide capability that embraces organizational structures, information systems, logistics processes and in particular, mindsets (Christopher, 2000). Lee (2004) argues that supply chain agility aims at responding quickly to short-term changes in demand or supply and ensure that the company handles external disruptions smoothly. Christopher (2000) identified four characters of agile supply chain that included sensitivity, virtuality, process integration and network based. Process integration means collaborative working between buyers and suppliers, joint product development, common systems and shared information.

Value Chain Theory

The theory of value chain was founded by Michael Porter in 1985 (Christopher, 1992). To better understand the activities through which a firm develops a competitive advantage and creates shareholder value, it is useful to separate the business system into a series of value-generating activities referred to as the value chain. In his 1985 book Competitive Advantage, Michael Porter introduced a generic value chain model that comprises a sequence of activities found to be common to a wide range of firms (Christopher, 1992).

From the theoretical framework, Electronic material management practice is explained by the Value Chain Theory. Compared to the company-internal focus of Porter's value chain, the supply chain extends the scope towards intra-company material and information flows from raw materials to the end consumer. Porter's value chain consists of a set of activities that are performed to design, produce and market, deliver and support its product. For this study the Value chain theory implies that those firms that adopt E-procurement are able to gain from the growth of the internet and technologies which enable real-time information sharing such as inter-connected ERP systems, web-based EDI, electronic portals between buyers and suppliers and online order processing systems which supports the building of closer links with customers, suppliers and third-party vendors such as logistics service providers.

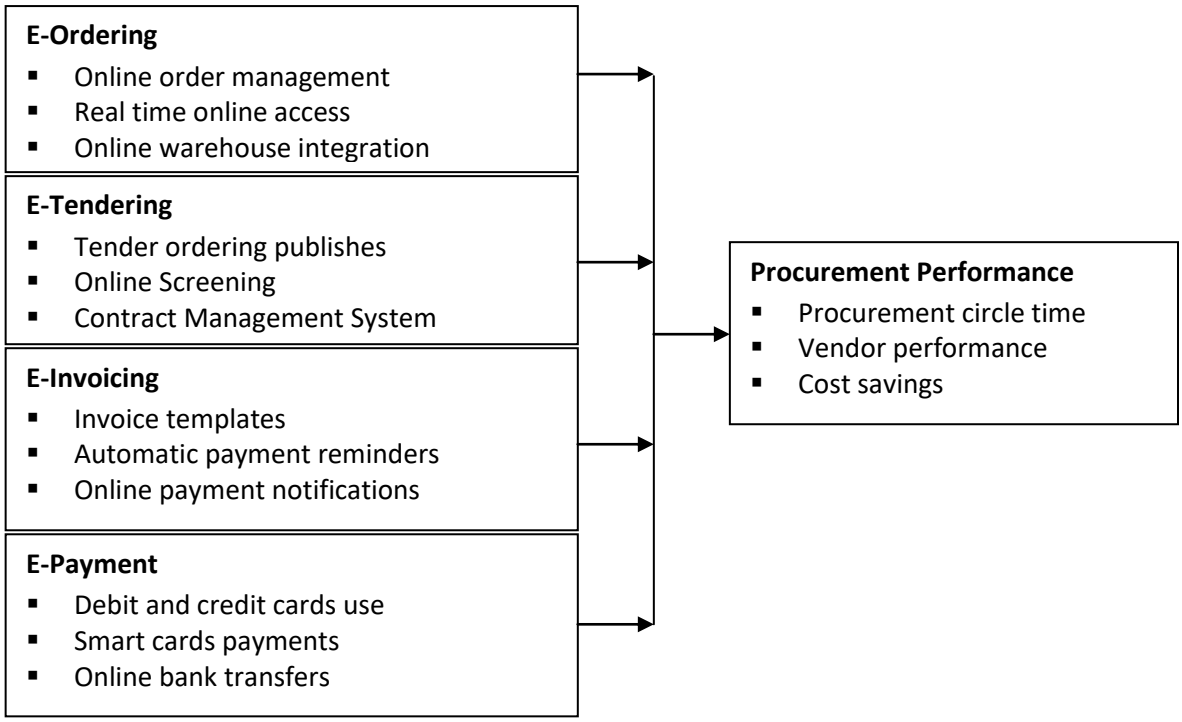
E-Technology Perspective Theory

E-procurement enables customers and suppliers to increase networking channel through the internet in terms of production E-ordering practices , demand management and inventory management, (Lee, 2003). E- Procurement facilitates frictionless procurement paradigm (Brousseau, 2000). The research by Min & Galle (2002) recognizes the extensive nature of e-procurement which refers to e-procurement as a business-to-business (B2B) purchasing practice that utilizes electronic procurement to identify potential sources of supply to purchase goods and services, interact with suppliers and transfer payment.

Usually companies adopt e-procurement systems in order to manage the purchase products and services (Min & Galle, 2002). In summary it has been noted that the influence of e-procurement adoption remains in a formative stage, falling short of the type of e-collaboration and e-sourcing suggested by (Morris *et al*, 2000). Common e-procurement tools are direct auctions and online catalogues where reverse auctions remain unpopular with sellers (Basheka & Bisangabasaija, 2010).

Conceptual Framework

A conceptual framework is a diagrammatic model that shows the relationships between the independent and dependent variables in a study (Orodho, 2005). Figure 2.1 shows the relationship between and among the study variables.



Independent Variable **Dependent Variable**

Figure 1: Conceptual Framework

METHODOLOGY

Research Design: Bryman and Cramer (2012) states that a research design is a general strategy chosen by researchers to integrate the various elements of the study in a very coherent and logical approach, thereby, guaranteeing that they with success address the analysis issue. It constitutes the outline for the gathering, measure, and analysis of information. This study therefore used the survey design given that it only collected quantitative data for the study.

Target Population: The target population for this study therefore comprised of all relevant procurement departments involved in procurement that is: records management, dispatch store, procurement warehouse officers and head of departments being a total of 140 officers in the supply chain division as they are fully concerned within the execution of supply chain management practices and 172 e-sourcing and e-tendering customers

Sample and Sampling Techniques

According to Best and Kahn (2011) a sample is a small proportion of a population selected for observation and analysis. Kothari (2011) qualifies this by stating that sampling as the means of getting an appropriate representative of respondents from the wider study population. To achieve this, the Yamane (1967) formula was used to achieve a sample size of 175 respondents.

Data Collection Methods: A research instrument is a tool which assists in measuring a variable(s) of the study (Mugenda, 2011). The study used survey methods and collected quantitative data using questionnaires.

Data Processing and Analysis: Data analysis brings order, structure, and meaning to the mass of information collected by a researcher (Babbie, 2015). In this study, quantitative data collected from the field was cleaned coded and entered into the SPSS Programme version 24.0 and analyzed both quantitatively using both descriptive analyses and inferential statistics (Creswell, 2014).

The linear regression equations were:

$Y= \beta 0+ \beta_1X_1+\beta_2X_2+ \beta_3X_3+ \beta_4X_4+e$

Where Y = is the dependent variable (procurement performance function),

β0 = is the regression constant,

β_1, β_2, β_3, and β_4 = the regression coefficients to be estimated

X_1 = E-ordering

X_2 = E-tendering

X_3, = E-sourcing

X_4 = E-payment

e = an error term

DATA ANALYSIS AND PRESENTATION

Response Rate

The study targeted a total 181 respondents who were given the questionnaires in a bid to collect relevant data on the targeted study variables. Table 1 records the response rate for each category of the respondents and return rate from the field.

Table 1: Response Rate

Total issued	Total Returned	Percentage
175	166	95.0

Table 1 revealed that out of the targeted 175 issued to respondents, 95.0% of the respondents answered the questionnaires fully and returned them for data analysis. This response was considered sufficient to enable data analysis process given that a response rate of 50 percent and above is deemed to be sufficient for data analysis (Zikmund et al., 2010). Therefore, a return rate of 67.96% was considered sufficient return rate to warrant this analysis.

Demographic Characteristics of Respondents

The study sought to establish the respondent's characteristics like gender, age, the educational level of the respondents. The findings were described below.

Age of the respondents

The study sought for information about the gender of the respondents. Table 2 recorded the results.

Table 2: Age of the respondents

	Frequency	Percent
31-49	106	63.85
Above 50	60	36.15
Total	**166**	**100.0**

Table 2 revealed that majority of the respondents (63.85%) was of between the ages of 31-49 percent while 36.15% were between the ages above 50 years. The varied ages responses were confidence on data collected from a variety of ages hence, minimizing age stereotypes.

Gender of the respondents

The study sought for establish the gender of the respondents. Table 3 recorded the results.

Table 3: Gender of the respondents

Gender	Frequency	Percent
Male	97	58.43
Female	69	41.57
Total	166	100.0

Table 3 observed that majority of the respondents 58.43% were female while the rest 41.57% were male. This gender mix was a confidence of the data which was representative and hence minimized of gender stereotypes.

Education Level

The study further sought to establish the education level for the respondents and Table 4 records the findings.

Table 4: Education level

Education level	Frequency	Percent
Diploma	27	22.0
Undergraduate	69	56.0
Postgraduate	70	22.0
Total	**166**	**100.0**

Table 4 revealed that majority of the respondents 56.1% had university education at undergraduate level while 22% had diploma and post graduate qualification respectively. This was evidence of respondents who were literate and aware of the information sought from the questionnaires availed to them.

Descriptive Statistics

Data was first analyzed descriptively before making inferences of the descriptive data through various regression statistics. It was therefore important to explain how the mean values were interpreted throughout this study. The respondents were required to use the 5 point Likert scale which was interpreted using the ranges of 5-3.0= Very Small Extent; 3.5-4.2= Small-Extent; 2.6-3.4= No-Extent; 1.9-2.6= Large-Extent and 1-1.8= Very Large Extent (Nemoto & Beglar, 2014; Joshi, Kale, Chandel & Pal, 2015).

E-Ordering and Procurement Performance

The study sought to assess the influence of E-ordering practice son the performance of the procurement performance at County government of Turkana.

Table 5: E-ordering and Organizational Performance Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The county government has developed an online warehouse integration platform	166	1	5	3.42	1.285
The county government uses online customized order forms	166	1	5	3.58	1.135
The county government uses an online order management system (OMS	166	1	5	3.63	1.198
The county government allows suppliers to have real time online access to stock information	166	1	5	3.74	1.112
The county government has online order information history well managed	166	1	5	3.91	1.205

E-Sourcing Practices and Performance procurement

The study sought to determine the effect of E-sourcing practices on the performance of the procurement performance at County government of Turkana.

Table 6: E-Sourcing practices and performance

	N	Min	Max	Mean	Std. Deviation
The county government prepares and publishes tenders online	166	1	5	3.61	1.467
The county government does online supplier performance assessments routinely	166	1	5	3.66	1.400
The county government does online screening and selections of suppliers	166	1	5	3.67	1.453
The county government has an internet-based system that keeps historical bid submissions	166	1	5	3.77	1.316
The firm has an online supplier contract management system	166	1	5	3.84	1.345

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

E-Tendering practices and Procurement Performance

The study sought to establish the influence of performance baseline reviews on the performance of the procurement performance at County government of Turkana.

Table 7: E-Tendering Practices and Procurement Performance

	N	Minimum	Maximum	Mean	Std. Deviation
The county government is currently using automatic payment reminders	166	1	5	3.57	1.424
The county government is currently using invoice templates	166	1	5	3.71	1.397
The county government is currently using online invoice processing.	166	1	5	3.75	1.450
The county government is currently using an invoice software	166	1	5	3.76	1.453
The county government is currently using online payment notifications	166	1	5	3.77	1.361

E-Payment Practices and Procurement Performance

The study sought to determine investigate the effect of E-payment practices on the performance of the procurement performance at County government of Turkana.

Table 8: E-Payment Practices and Procurement Performance

	N	Minimum	Maximum	Mean	Std. Deviation
The county government uses smart cards to make payments to suppliers.	166	1	5	3.45	1.496
The county government ensures that suppliers have access to their online supply accounts 24/7	166	1	5	3.48	1.451
The county government uses online bank transfers to make payments to suppliers	166	1	5	3.51	1.451
The county government uses online payment platforms to make payments to suppliers.	166	1	5	3.57	1.381
The county government uses debit and credit cards to make payments	166	1	5	3.69	1.311

Procurement performance

The study sought to determine the procurement performance of the procurement performance at County government of Turkana.

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Table 9: Procurement Performance

	N	Minimum	Maximum	Mean	Std. Deviation
The county government has improved on time delivery commitment	166	1	5	3.47	1.443
The county government has reduced the supplier defect rate	166	1	5	3.58	1.436
The county government has improved schedule/production attainment	166	1	5	3.61	1.451
The county government has improved inventory turns	166	1	5	3.66	1.378
The county government has reduced the levels of customer reject/returns	166	1	5	3.73	1.359

Inferential Statistics

Before running regression, it was important to establish the normality tests of the data set generated. To obtain this, the tests of normality were conducted and finding recorded in Table 10.

Table 10: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
OBJECT 1	.165	166	.000	.909	166	.000
OBJECT 2	.192	166	.000	.833	166	.000
OBJECT 3	.208	166	.000	.812	166	.000
OBJECT 4	.177	166	.000	.863	166	.000
OBJECT 5	.184	166	.000	.852	166	.000

a. Lilliefors Significance Correction

Table 9 indicated that the respondents were more than one hundred and hence to interpret the normality test for data set was based on the Kolmogorov-Smirno probability value. Therefore, since all the P-value for all the four variables were statistically significant with all the p-value being <0.05, it showed that that the data set was not normally distributed unlike the rule of the thumb that states that for data to be normally distributed, the data set should not be statistically significant. To further confirm whether the data sets were normally distributed, the transformed data set was further transformed to the base of log_10 as shown in Table 11.

Table 11: Tests of Normality to Log_10

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
log_Object1	.218	166	.000	.828	166	.000
log_Object 2	.245	166	.000	.763	166	.000
log_ Object 3	.275	166	.000	.727	166	.000
log_ Object 4	.197	166	.000	.817	166	.000
log_ Object 5	.196	166	.000	.809	166	.000

a. Lilliefors Significance Correction

Table 11 also confirmed that after transforming the data set to the log_10, the Kolmogorov-Smirnovp-values were all statistically significant confirming that indeed the data set for this particular study is not normally distributed. Hence, the normality tests confirmed that the data set is non- parametric and to be analyzed as ordinal regression with

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Table 12: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	775.341			
Final	.000	775.341	4	.000

Link Function: Logit.

Table 12 revealed that the model fitting information was statistically significant with a p-value <0.05 implying a good fitting model.

Table 13: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	87.573	1060	1.000
Deviance	101.664	1060	1.000

Link function: Logit.

Table 13 revealed that the Pearson and deviance were both non-significant with a p-value >0.05 implying that the model meets test of goodness-of-fit.

Table 14: Pseudo R-Square

Cox and Snell	091
Nagelkerke	.099
McFadden	.077

Link function: Logit.

Table 14 revealed a Nagelkerke value was .099 implying that 9.9% of the changes in the dependent variable, performance of County Government, as a result of e-procurement variables being, E-ordering practices**,** E-sourcing practices, E-tendering practices and E- payment practices

Table 15: Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	.000			
General	.000[b]	.000	72	1.000

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

b. The log-likelihood value is practically zero. There may be a complete separation in the data. The maximum likelihood estimates do not exist.

Table 15 is the test of proportional odds which reveals that the null hypothesis states that the location parameters (slope coefficients) are the same across response categories indicating that the test are proportional or the same across different thresholds of the outcome variable. The model not to have violated this test of parallel lines, the p-values ought to be not statistically significant. Since the p-value is 1.000 being meets this thresholds given that the p-value is >0.05. Given that the model has not violated the test of parallel lines, the study proceeds to interpret the parameter estimates in the Table 15.

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Table 16: Parameter Estimates Explained

	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
[PERF = 1.00]	18.819	2.496	56.855	1	.000	13.927	23.710
[PERF = 1.20]	22.174	3.005	54.455	1	.000	16.285	28.064
[PERF = 1.40]	27.192	3.444	62.335	1	.000	20.441	33.942
[PERF = 1.60]	32.238	3.920	67.634	1	.000	24.555	39.921
[PERF = 1.80]	32.950	3.942	69.859	1	.000	25.223	40.677
[PERF = 2.00]	39.434	4.798	67.559	1	.000	30.031	48.838
[PERF = 2.40]	40.559	4.870	69.366	1	.000	31.014	50.104
[PERF = 2.60]	41.198	4.912	70.361	1	.000	31.572	50.825
[PERF = 2.80]	42.429	4.984	72.463	1	.000	32.660	52.199
[PERF = 3.00]	52.981	6.252	71.805	1	.000	40.727	65.236
[PERF = 3.20]	55.003	6.476	72.127	1	.000	42.310	67.697
[PERF = 3.40]	56.261	6.596	72.763	1	.000	43.334	69.189
[PERF = 3.60]	59.249	6.791	76.117	1	.000	45.939	72.560
[PERF = 3.80]	60.868	6.893	77.966	1	.000	47.357	74.379
[PERF = 4.00]	64.451	7.244	79.154	1	.000	50.252	78.649
[PERF = 4.20]	66.148	7.396	79.984	1	.000	51.651	80.644
[PERF = 4.40]	66.504	7.425	80.224	1	.000	51.951	81.057
[PERF = 4.60]	68.403	7.616	80.672	1	.000	53.477	83.330
[PERF = 4.80]	71.211	7.931	80.621	1	.000	55.666	86.755
E-ordering	6.262	1.906	10.790	1	.001	2.526	9.998
E-sourcing	2.486	2.047	1.475	1	.225	-1.526	6.497
E-tendering	-.037	1.575	.001	1	.981	-3.166	3.050
E-payment	7.037	1.430	24.208	1	.000	4.234	9.840

Table 16 revealed that E-ordering is a significant predictor of performance of the procurement performance at County government of Turkana. This is evident since the estimates reveals that for every one unit increase in the E-ordering practices there is a predicated increase in the independent variable of 6.262 in the log-odds of being at a higher level of the performance of the procurement performance at County government of Turkana. E-sourcing practices are a significant predictor of performance of the procurement performance at County government of Turkana. This is evident since the estimates reveals that for every one unit increase in the E-ordering there is a predicated increase in the independent variable of 2.486 in the log-odds of being at a higher level of the performance of the procurement performance at County government of Turkana. The study also observes that the negative estimate coefficient value of -.037 indicating that for every one unit increase in the E-tendering practices, there is a predicted decrease of -.037 in the log-odds of being on a higher level on the performance of the procurement performance at County government of Turkana. The study also shows that E-payment practices were a significant predictor of performance of the procurement performance at County government of Turkana. This was evident since the estimates reveals that for every one unit increase in the performance baseline reviews there is a predicated increase in the independent variable of 7.037 in the log-odds of being at a higher level of the performance of the procurement performance at County government of Turkana.

Correlations Analysis

The study computed a correction analysis to find out the relations between and among the study variables their correlations. The findings were recorded as shown in Table 17.

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

Table 17: Correlations

			E-ordering	E-sourcing	E-tendering	E-tendering	Performance
Spearman's rho	E-ordering	Correlation Coefficient	1.000	.973**	.974**	.976**	.974**
		Sig. (2-tailed)	.	.000	.000	.000	.000
		N	166	166	166	166	166
	E-sourcing	Correlation Coefficient	.973**	1.000	.995**	.990**	.995**
		Sig. (2-tailed)	.000	.	.000	.000	.000
		N	166	166	166	166	166
	E-tendering	Correlation Coefficient	.974**	.995**	1.000	.991**	.993**
		Sig. (2-tailed)	.000	.000	.	.000	.000
		N	166	166	166	166	166
	E-tendering	Correlation Coefficient	.976**	.990**	.991**	1.000	.994**
		Sig. (2-tailed)	.000	.000	.000	.	.000
		N	166	166	166	166	166
	Performance	Correlation Coefficient	.974**	.995**	.993**	.994**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.
		N	166	166	166	166	166

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

Table 17 shows that the correlation between E-ordering practices and procurement performance is statistically significant with a p-value <0.005 and of a good fit at 97.4%. Further, the correlation between E-sourcing practices and procurement performance is statistically significant with a p-value <0.005 and of a good fit at 99.5%. The study also observed that the correlation between E-tendering practices and procurement performance is statistically significant p-value <0.005 with a good model fit at 99.3%. Finally, the study observed that the correlation between E-tendering practices and procurement performance is statistically significant with a p-value <.005 with a good model fit at 99.4%

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of the Findings

The main objective of this study was to establish the influence of E-procurement practices on procurement performance in Turkana County government Kenya. The study aimed at establishing to what extent does E-procurement practices on procurement performance basing on four objectives namely E-ordering practices**,** E-sourcing practices, E-tendering practicesand E-payment practices influenced procurement performance as discussed below.

The study sought to assess the influence of E-ordering practices on procurement performance in Turkana County. A response rate of 166 respondents fully filled the questionnaire and returned on whose analysis this study is based. The descriptive analysis established that to the large extent, the county governments in Turkana County have not implemented E-ordering practices despite there being a policy framework for the implementation of the same. However, despite the poor implementation of the same, regression analysis indicated that E-ordering practices can be a positive and significant predictor of procurement performance.

The study sought to assess the influence of E-sourcing practices on procurement performance in Turkana County. The descriptive analysis

The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

established that to the large extent, the county governments in Turkana County have not implemented E-sourcing practices despite there being a policy framework for the implementation of the same. Regression analysis revealed that there E-sourcing practices was could not be used as a significant predictor of procurement performance.

The study sought to assess the influence of E-tendering practices on procurement performance in Turkana County. The descriptive analysis established that to the large extent, the county governments in Turkana County have not implemented E-tendering practices despite there being a policy framework for the implementation of the same. Regression analysis revealed that there E-tendering practices is not a significant predictor of procurement performance.

The descriptive analysis established that to the large extent, the county governments in Turkana County have not implemented E-payment practices despite there being a policy framework for the implementation of the same. However, despite the poor implementation of the same, regression analysis indicated that E-payment practices can be a positive and significant predictor of procurement performance.

Conclusion

From the study findings, the study concludes that the county government of Turkana does not practice e-procurement even though the policy requires that government agencies ought to implement e-procurement practices as a form enhancing efficiency in procurement performance. Further, the study concludes that there is no significant influence between e-procurement practices and procurement performance in the County government of Turkana. Further. The study concludes that the four variables in the study being: E-ordering practices**,** E-sourcing practices, E-tendering practicesand E-payment practicesare significantly positive correlated.

Recommendations

Based on the study findings, the study recommends that the government to ensure that the e-procurement policy which is in place is implemented to the letter if procurement performance is attained. Its only through implementation of the policy that the procurement performance can be measured.

The study further recommends that even though the county governments have not implemented e-procurement as required by policy, E-ordering practices seemed to have a positive significant influence on procurement performance in the county government of Turkana and hence the study recommends that the establishment strengthens E-ordering practices.

Since the study established that e-payment had some positive significant influence on procurement performance, the study recommends that the county government of Turkana should embrace E-procurement practices and a way of enhancing the procurement performance function in Turkana County.

E-sourcing practices, E-tendering practicesand E-payment practicesare significantly positive correlated they should make effort in implementing the e-procurements practices as a way of finding out what value e-procurement practices contributes onto procurement performance

Suggestions for Further Research

The study was based quantitative approach and the study area limited to Turkana County, the study recommends that further studies be conducted using other research approaches in other counties in Kenya and a bid to establish the influence of e-procurement practices on procurement performance.

REFERENCES

Abel, E. (2016). Determinants of unethical public procurement in local government systems of Uganda:A case study. *International Journal of Procurement Management*, *3*(1), 91–104.

Afande, F. O. (2015). *Adoption of E-Procurement Strategy and Procurement Performance in State Corporations in Kenya* (A Case of KRA).

Akakikunda, T., Akankwasa, A., Nangoma, M., Twesigye N. (2022). Analysis of the relationship between electronic procurement and performance of manufacturing Firms in Uganda: Empirical Studies from Igara Tea Estate Company Limited in Bushenyi District. *International Journal of Academic Management Science Research*, 6 (6), 23-34.

Akoth, A. B. (2015). Kaizen sustainability and operational performance: A case of county governmentsin Mombasa County, Kenya. *Unpublished MBA Project.* University of Nairobi.

Alomar, M. A., & Visscher, C. (2017). Which factors can affect e-public procurement adoption by private firms? The case of Belgium. *Electronic Journal of E- Government*, *15*(2), 103-115.

Audu, J. (2018). Technology adoption in Democratic Republic of Congo (DRC): An empirical study investigating factors that influence online shopping adoption. *Doctoral dissertation,* Universitéd' Ottawa/University of Ottawa.

Babbie, E. R. (2015). *The practice of social research*. Nelson Education

Bagozzi, R. P., Davis, F. D. & Warshaw, P. R. (1992). Development and test of a theory of technological learning and usage.*Human Relations*, 45 (7), 660–686.

Basheka, Benon & Bisangabasaija, Edward. (2010). Determinants of unethical public procurement in local government systems of Uganda: A case study. International *Journal of Procurement Management*. 3. 10.1504/IJPM.2010.029777.

Barasa, W. F., Namusonge, G.,& Fredrick, O. (2017). Effects of e-procurement on the procurement performance of County Governments in Kenya: A case study of Bungoma County Government. *International Journal of Recent Research in Commerce Economics and Management*, *4*(4), 161-182.

Barratt, M., & Rosdahl, K. (2002). Exploring Business-to-Business Market Sites. *European Journal of Purchasing & Supply Management*, 8 111-122.

10.1016/S0969-7012(01)00010-7.

Barngetuny, D. C., & Kimutai, G. (2015). Effects of e-procurement on supply chain management performance in Elgeyo-Marakwet County. *International Academic Journal of Procurement and Supply Chain Management*, *1*(5), 99-120.

Bayo-Moriones, A., & de Cerio, J. M. D. (2002). Human resource management, strategy and operational performance in the Spanish manufacturing industry. *Management*, *5*(3), 175-199.

Betru, Z. (2010). Determinants of saving and credit cooperatives (SACCOs) operational performance in Gondar Town, Ethiopia. *Unpublished Thesis*. Mekelle University, Ethiopia.

Benbasat, I., Barki, H. (2007). Quo vadis, TAM? *Journal of the Association ofInformation Systems,* 8 (4) 211–218.

Best, J. W. & Kahn, J. V. (2011). *Research in Education*. (10th Ed). New Delhi: PHI Learning Private limited.

Bilali, J., & Bwisa, H. (2015). Factors influencing the Adoption of e-Procurement: A case of Garissa County Government. *The Strategic Journal of Business & Change Management*, *35*, 662-682.

Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford University Press, USA.

Candra, S., & Gunawan, F. E. (2017). The impact of e-procurement practice in Indonesia government: A preliminary study (The case of e-procurement service at Bekasi district). *Journal of Physics: Conference Series, 8*(1), 12-23.

Carabello, C. (2017). An examination of employee retention strategy in a private organization in Zimbabwe. *African Journal of Business Management* 4(10), 2103– 2109.

Centobelli, P.,& Cerchione, R. (2014). E-procurement and E-supply Chain: Features and Development of E-collaboration. *International Conference on Future Software Engineering and Multimedia Engineering*. (2014)

Chau, K. B. (2017). Adoption of inter organizational system standards in supply chains: an empirical analysis of Rosetta Net standards. *Industrial Management and Data Systems*, 108 (4), 529–547

Chege, J., Ngui, D. & Kimuyu, P. (2016). Scoping paper on Kenyan manufacturing. *Working Paper No. 25*, Africa Growth Initiative at Brookings.

Chien, S., & Tsai, C. (2012). Dynamic capability, knowledge, learning, and firm performance. *Journal of Organizational Change Management*, 25, 434-444. 10.1108/09534811211228148.

Christopher, M. (1992). *Logistics and Supply Chain Management*. London: Pitman Publishing

Corina, P. S. (2011). The role of the e-procurement in the purchasing process. *The Annals of the University of Oradea*, 1, 687-691.

Cooper, D.R., & Schindler, P. S. (2003). *Business research methods.* 8th Edition. Boston: 15McGraw-Hill Irwin.

Creswell, J. W. (2013). *Research Design (International Student Edition): Qualitative, Quantitative and Mixed Methods Approaches.* Thousand Oaks: Sage.

Cresswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed method research* (2nd Ed). Thousand Oaks, CA: Sage.

Croom, S. R., & Brandon-Jones, A. (2005). Key issues in e-procurement: procurement implementation and operation in the public sector. *Journal of Public Procurement*, *5*(3), 367-387.

Djankov, S., Ghossein, T., Islam, A. M. & Saliola, F. (2017). *Public procurement regulation and road quality.* World Bank Policy Research, Working Paper (8234).

Davila, A., Gupta M. & Palmer, R. (2003).Moving procurement systems to the internet: the adoption and use of e-procurement technology models. *European Management Journal*, 21(1), 11-23.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology.*MIS Quarterly*, 13 (3), 319–340. doi:10.2307/249008

Davis, F. D., Bagozzi, R. P., Warshaw, P. R. (1989). User acceptance of computer technology: Acomparison of two theoretical models. *Management Science*, 35: 982–1003, doi:10.1287/mnsc.35.8.982.

Dawar, K.,& Oh, S.C. (2017). *The role of public procurement policy in driving industrial development, no. 8.* Inclusive and Sustainable Industrial Development Working Paper Series, Vienna.

Djankov, S., Ghossein, T., Islam, A. M. & Saliola, F. (2017). *Public procurement regulation and road quality*. World Bank Policy Research, Working Paper (8234).

Eadie, R., Perera, S., Heaney, G.,& Carlisle, J. (2007).Drivers and Barriers to Public Sector e-procurementwithin Northern Ireland's Construction Industry. *ITcon Journal*, 12, 103-120.

Flynn, B., Huo, B. & Xhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management*, 28 (1), 58-71.

Ghossein, T., Islam, A.M. & Saliola, F. (2018). *Public procurement and the private business sector:* evidence from Firm-Level data (English). No. WPS 8575, Policy Research Working Paper, Washington, DC.

Ghossein, T., Islam, A.M. & Saliola, F. (2018). *Public procurement and the private business sector: evidence from Firm-Level data*. No. WPS 8575, Policy Research Working Paper, Washington, DC.

Global Agricultural Information Network, (2017). *Kenya Annual Sugar Report*, Nairobi: GAIN.

Hamisi, M. A. (2018). The impact of human resource management practices on performance in for-profit and nonprofit organizations. *Academy of Management Journal,* 39, 949– 969.

Haque, M., & Islam, R. (2013). Effects of Supply Chain Management Practices on Customer Satisfaction: Evidence from Pharmaceutical Industry of Bangladesh. *Global Business and Management Research: An International Journal*, 5(2 & 3), 120-136.

Hoong, A. L. S., Thi, L. S., & Lin, M. H. (2017). Affective technology acceptance model:Extending technology acceptance model with positive and negative affect*. In Knowledge Management Strategies and Applications*. InTech.

Hwang, G., Han, S., Jun, S., & Park, J. (2014). Operational performance metrics in manufacturing process: Based on SCOR Model and RFID Technology. *International Journal of Innovation, Management and Technology*, *5*(1), 50-55.

Ibem, E. O., & Laryea, S. (2015). E-procurement use in the South African construction industry. *Journal of Information Technology in Construction*, *4*(2), 364-384.

Ihkaya, T. Y. (2012). The role of e-marketplaces in supply chain management. *Industrial Marketing Management,* 33 (2), 97-105.

Joseph & Dai. (2019). A decade of SCM literature: past, present and future implications.*Journal of Supply Chain Management,* 44, 66-86.

Kamotho, D. K, (2014). *E-Procurement and procurement performance among state corporations in Kenya.* Unpublished Master of Business Administration, School of Business, University Of Nairobi

Kaplan, R. A. (2015). The impact of JIT-II-selling on organizational performance*. Industrial Management & Data Systems,* 107, (7), 1018–1035.

Kariithi, J. N., & Kihara, A. (2017). Factors affecting performance of county governments in Kenya: A case of pharmaceutical firms in Nairobi County. *Strategic Journal of Business & Change Management,4*(2), 817-836.

Kaynak, H. & Hartley, J. L. (2008). A replication and extension of quality management into the supply chain. *Journal of Operations Management*, *2*(6), 468-489.

Kim, S., H., Jang, S. Y., & Yang, K. H. (2017). Analysis of the determinants of software-as-a- service adoption in small businesses: risks, benefits, and organizational and environmental factors. *Journal of Small Business Management*, 55(2), 303-325.

Kituzi, A. E. (2016). Influence of e-procurement on organizational performance: The case of Kenya association of manufacturers firms in Nairobi County, Kenya. *Unpublished MBA Project*. University of Nairobi.

Kothari, C. R., (2004). *Research Methodology –Methods and Techniques, 2nd Ed.,* New Age International (P) Ltd., New Delhi.

Kothari, C. R (2011). *Research Methodology*: *Methods and Techniques*. New age International Publishers– New Delhi.

Krajewski, L., & Ritzman, L., & Malhotra, M. (2011). Operations Management: Processes and Supply Chains.

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *JISTEM-Journal of Information Systems and Technology Management,14*(1), 21-38.

Lee, F. K., Sheldon, K. M., & Turban, D. (2003). Personality and the goal striving process: The influence of achievement goal patterns, goal level, and mental focus on performance and enjoyment. *Journal of Applied Psychology*, 88, 256– 265.

Madhani, P. M. (2009). Resource based view (RBV) of competitive advantages: Importance, issues and implications. *Indian Management Research Journal*, *1*(2), 01-15.

Masheti, C. (2016). E-procurement practices and operational performance of pharmaceutical county governments in Nairobi. *Unpublished MBA Project.* University of Nairobi.

Matunga, D., Nyanamba, S., & Okibo, W. (2013). The effect of e-procurement practices on effective procurement in public hospitals: A case of Kisii level 5 hospital. *American International Journal of Contemporary Research, 3*(8), 103-111.

Mikalef, P., Pateli, A., Batenburg, R., & van de Wetering, R. (2013). Investigating the impact of procurement alignment on supply chain management performance. *Procedia Technology,* 9, 310-319.

Min, H., & Galle, W. (2001). Green Purchasing Practices of US Firms. International *Journal of Operations & Production Management*, 21. 1222-1668.

Morris, A., Stahl, A. & Herbert, R. (2000). *E-procurement: Streamlining Processes Maximize Effectiveness*. Luminant Worldwide Corporation: Houston, TX

Mugenda, A.G. (2011). *Social Science Research*. *Theory and Principles*. Nairobi: Applied Research& Training Services Press.

Munaku, D. Mwangi, M. D., Arani, W. N. (2021). Influence of E-Procurement on the performance of state corporations in Kenya. *International Journal of Management Science and Business Administration*, 7 (6), 45-51.

Munir, N. I. (2014). The public procurement reforms in Nigeria: implementation and compliance challenges. *Journal of Asian Business Strategy,* 4(12), 153-166

Munubi, K. Z., Kinanga, R.,& Ondiba, K. P. (2017). Effects of electronic procurement on organizational performance: a case study of major supermarkets in Nairobi County. *International Academic Journal of Procurement and Supply Chain Management, 2*(3), 92-105.

Munyao, J. M., & Moronge, M. (2018). Influence of e-procurement practices on the performance of procurement in public universities in Kenya. *Strategic Journal of Business & Change Management, 5*(2), 1623-1628.

Narasimhan, R. Talluri, S., & Ross, A. (2013). Evaluating E-procurement solutions. CAPS Research,www.capsresearch.org

Nganga, K. S. (2017). The impact of e-procurement on operational performance of parastatals in the ministry of energy in Kenya. *Unpublished MBA Project.* University of Nairobi.

Odero, J. A., & Ayub, S. E. (2017). Effect of procurement practices on procurement performance of public sugar county governments in Western Kenya. *International Journal of Management Research and Reviews, 7*(4), 521-535.

Oh, S., Yang, H., & Kim, S. W. (2014). Managerial capabilities of information technology and firm performance: role of e-procurement system type*. International Journal of Production Research, 52* (15), 4488-4506.

Ongore, V. O., & K'Obonyo, P. O. (2011). Effects of selected corporate governance characteristics on firm performance: empirical evidence from Kenya. *International Journal of Economics and Financial,* Issues Vol. 1(3), 99-122.

Patrick, C., Robert, D.,& Amy, F. (2014). *Understanding E-procurement*.quantifying the benefits.

Porter, M. E. (1985). *Competitive advantage. creating and sustaining superior performance.* New York: The Free Press

Purchase, S., & Dooley, K. (2010). The acceptance and use of e-procurement systems. *International Journal of Logistics: Research and Applications 13*(6), 459-473.

Quesada, G., González, M. E., Mueller, J., & Mueller, R. (2010). Impact of e-procurement on procurement practices and performance. *An International Journal, 17*(4), 516-538.

Raphaeli, O., Berman, S., & Fink, L. (2015). E-business value creation from a resource based perspective: A review of the last decade of empirical research. *Foundations and Trends® in Information Systems,1*(1), 1-68.

Richard, P., & Devinney, T., & Yip, G., & Johnson, G. (2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*, 35.

Riyadi, S., &Munizu, M. (2013). Creating superior operational performance through total quality management practices at manufacturing companies in Surabaya, *Indonesia. European Journal of Business and Management*, *5*(10), 39-50.

Rotich, G. K., & Okello, B. (2015). Analysis of use of e-procurement on performance of e- procurement functions of County Governments in Kenya. *International Journal of Economics, Commerce and Management,3*(6), 1381-1398.

Ruzindana I. & Kalaskar, P. B. (2016). The adoption of e-procurement and its impact on e-procurement performance of selected telecommunication companies in Rwanda. *European Journal of Business and Management, 8*(15), 125-133.

Sababu, B. M. (2011). The Effect of Business Policy on Organizational Performance: The Case of Consumer Cooperatives in Kenya. Egerton University PhD Thesis.

Shukla, A., Khan, M. A., & Shah, M. (2016). Literature review of adoption of e-procurement practices by construction industries. *AIMA Journal of Management & Research, 10*(2), 01-25.

Simichi-Levi, D., Kaminisky, P., & Simichi-Levi, E. (2000). *Designing and Managing the Supply Chain,* Boston: McGraw-Hill.

Singh, I., & Punia, D. K. (2011). Employee's adoption of e-procurement system: an empirical study. arXiv preprint arXiv:1112.2699.

Sitar, C. P. (2011). E-procurement: The future of purchasing management. *In International Conference Modern Approaches in Organizational Management and Economy, 5(*1*),pp. 542-546).* Faculty of Management, Academy of Economic Studies, Bucharest, Romania.

Smart, A. F. (2010). E-procurement and its impact on supply management–evidence from industrial case studies. *International Journal of Logistics: Research and Applications,* 13(6), 423-440.

Suliantoro, H., Ghozali, I., & Wibowo, M. A. (2015). E-procurement adoption in government institution: predicting social values effect on intention and usage behavior of E-procurement. *International Journal of Business & Society*, *16*(2), 167-184.

Teo, T. S., & Lai, K. H. (2009). Usage and performance impact of electronic procurement. *Journal of Business Logistics, 30*(2), 125-139.

Vaidyanathan, G., & Devaraj, S. (2008). The role of quality in e-procurement performance: An empirical analysis. *Journal of Operations Management*, *26*(3), 407-425.

Vencataya, L. (2011). *An assessment of the operational performance of supermarkets in Mauritius.* University of Mauritius

Vickery et al., (2013) The Effect of an Integrative supply chain strategy on customer service and financial performance: An analysis of direct verses indirect relationships. *Journal of operations management,* 21(5), 523-52.

Voss, C. A., Åhlström, P., & Blackmon, K. (1997). Benchmarking and operational performance: some empirical results. *International Journal of Operations &Production Management,17*(10), 1046-1058.

Were, A. (2016). *Manufacturing in Kenya: Features, challenges and opportunities. A scoping exercise.* Overseas Development Institute

Wakabira & Waiganjo. (2014). Effect of procurement practices on performance of public projects in Rwanda. *International Journal of Economics, Commerce and Management United Kingdom, 4(5) 377-*397.

Waithaka, R. K., & Kimani, J. G. (2021). Effect of E-procurement practices on supply chain performance. *Global Journal of Purchasing and Procurement Management,*1(1), 32-42.