

International Journal of Supply Chain Management (IJSCM)

INFLUENCE OF STRATEGIC E-PROCUREMENT PRACTICE ON PERFORMANCE OF DEVOLVED SYSTEMS OF GOVERNMENT IN KENYA

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INFLUENCE OF STRATEGIC E-PROCUREMENT PRACTICE ON PERFORMANCE OF DEVOLVED SYSTEMS OF GOVERNMENT IN KENYA

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Abstract

Purpose: The purpose of this study was to establish the influence of strategic e-procurement practice on performance of Devolved systems of government in Kenya.

Methodology: The study adopted cross-sectional survey design using both quantitative and qualitative approaches. The target population was all the 47 devolved systems of government. The sample size was the 10 counties namely; Garissa, Kisii, Nyamira, Narok, Marsabit, Murang'a, Bomet, Nairobi, Kiambu and Homa Bay specifically employees working under finance and procurement department. The study adopted stratified random sampling to pick 186 respondents from finance and procurement department. Data was collected by using questionnaires Descriptive and inferential statistics was used aided by Statistical Packages for Social Sciences version 24 to compute percentages of respondents' answers. Hypothesis testing was carried using multiple regression analysis and standard F tests. The results were presented using tables.

Results: The study findings revealed that Strategic e-procurement practice explained 49.6% of the total variations in performance of devolved systems of government in Kenya. Further, results indicate that the overall model was statistically significant as supported by a p value of 0.000. This was supported by an F statistic of ($F=155.245, p<0.05$) and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. The standardized regression coefficient for Strategic E-procurement was 0.704. This indicates that a unit increase in the Strategic E-procurement would result in 70.4% increase in the performance of Devolved systems of government in Kenya this implied that there is a strong positive relationship between Strategic E-procurement and performance of Devolved systems of government in Kenya .

Unique contribution to theory, practice and policy: Based on the findings, the study recommends that devolved systems of government should adopted e-procurement system and automate all procurement operation procedures to enhance smooth work flow and hence improve efficiency the study further recommends that Devolved systems of government should adopt e-procurement for various uses such as in the standardization of services for representation in the catalog, sourcing goods and services globally, as way of reducing costs in areas such tendering processes, payment and contract management. But management should be aware and cautious that e-procurement is capital intensive in terms of acquisition and laying down the required infrastructure and highly perishable. Thus the study recommends that strategic e-procurement practice should be implemented within the legal framework of public procurement acts and regulations because it moderate has positive correlation with the performance of Devolved systems of government in Kenya. The findings are in harmony with technology acceptance model which suggest that emerging technologies cannot improve organizational effectiveness and performance if the change has not been accepted by the users. Therefore first it's crucial for the users to accept the new technology (e-procurement) so as to reduce administrative costs, possible broadening of suppliers' base, and easy access to preferred goods. In conclusion technology acceptance model can be used by future scholars.

Key words: *Strategic E-Procurement, Devolved Systems of Government, Performance*

1.0 INTRODUCTION

Devolved systems of government has been increasingly outsourcing public service provisions as a way of providing essential services to the public. Thus, public sector organizations are expected to achieve high performance standards in public provision (Boyne & Walker, 2010) and this has enabled procurement to become strategic function in organizations nowadays. Procurement is now playing a strategic role towards achieving strategic objectives of a company (Sobhani *et al.*, 2014). Strategic E-procurement on the other hand has also played a key role in ensuring that the organization achieves its objectives, Electronic procurement especially in the public sector is the business-to-government sales and tendering of goods, works and services via an online system or other networking systems, like electronic data interchange and procurement planning facilities. Typically, e-Procurement solutions allow for registered and qualified economic operators – suppliers and contractors active in the market – to compete for public contracts in response to tenders published online by contracting entities (European Bank for Reconstruction and Development Report, 2015).

E-procurement is very crucial especially in the public sector, since it helps in supplier management, it enables a firm to plan its interactions with strategic suppliers therefore resulting in maximum cooperation hence maximum supplier performance due to transparency of information during the process. The system permits managers to check pricing and leverage preceding agreements to satisfy that latest quote is more competitive than the previous. E-Procurement makes all transaction traceable and standardize, this helps in decision making process since all the information are easily retrievable and neatly organized (Epiq Technologies report, 2010).

According to Boariu (2018) E-procurement helps in cost reduction through prevention of duplication and elimination of paper-work due to the fact that materials are stored electronically, hence making retrieval of older orders easier. E-procurement also enables companies to decentralize operational procurement processes and centralize strategic procurement processes as a result of the higher supply chain transparency provided by e-procurement systems. Prior to e-procurement, strategic procurement often had to deal with administrative routine work as well, such as individual transactions, converting purchase requests into purchase orders or ensuring the correct allocation of invoices received. Strategic aspects are frequently neglected in the process, with the buyer having little influence over the choice of suppliers and the purchased products (Dameri *et al.*, 2012).

E-procurement in the public sector has seen rapid growth in recent years. Act 590 of Louisiana's 2008 Regular Legislative Session requires political subdivisions to make provisions for the receipt of electronic bids. E-procurement in the public sector is emerging internationally, hence, initiatives have been implemented in Singapore, UK, USA, Malaysia, Australia and European Union (Yong *et al.*, 2012). E-procurement projects are often part of the country's larger e-Government efforts to better serve its citizens and businesses in the digital economy. Many public organizations have adapted the use of computers in managing their procurement process realizing many benefits. For example, in Kenyan, there have been reforms starting with the Public Procurement and Disposal Act 2005 that saw the creation of Public Procurement Oversight Authority. Adoption of e-procurement has rapidly increased, county governments have been facing different challenges associated with the advent and use of e-procurement for instance Nairobi county have been experiencing challenges with the use of integrated financial

management system (IFMIS) which is an e-procurement system, due to lack of trained personnel and mostly due to resistance to change. Despite the overwhelming evidence which shows the advantages of e-procurement systems, proprietary systems such as EDI continue to persist, and have to be included in a County government's overall e-procurement infrastructure. To do so, county government need to know the critical success factors in implementing e-procurement strategies, processes and systems (Ndiiri, 2016).

Problem Statement

Devolved systems of governments have been experiencing major challenges in the execution of procurement practices (Ministry of planning and devolution, 2016). In Kenya, the central government spends about Kshs. 234 billion per year on procurement, however on annual bases, the government losses close to Ksh. 121 billion, about 17 per cent of the national budget due to inflated procurement quotations (KISM, 2015). Majority of the Devolved systems of governments clearly do not observed the benefits that accrue with adoption of strategic e-procurement practice. For instance Nairobi County failed to Leverage on benefits that accrue with the use of Integrated Financial Management Information System (IFMIS) which is an e-procurement system in a tender of supply of asphalt which was supposed to be supplied at KSh. 50,000,000 but contract was awarded at KSh. 150,000,000. These clearly indicated that the tender was not awarded to the lowest bidder (EACC Report, 2016/2017) .Failure of these devolved systems to use e-procurement systems has lead increase in procurement cost due lots of paperwork, on the contrary an organization that use e-procurement is the procurement process has significantly enjoyed the benefits such as cost reduction, information sharing and transparency in procurement processes(Oteki *et al.*,2019).It is hence against this background that this study determined the influence strategic E-procurement on the performance of Devolved systems of governments in Kenya.

The Study Objective

To determine the influence of strategic e-procurement practice on performance of Devolved systems of government in Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Technology Acceptance Model

Technology acceptance model was founded in 1986 by Devis. He established that emerging technologies cannot improve organizational effectiveness and performance if the change has not been accepted by the users. Adoption of any innovation or especially information technology based requires investment in computer based tools to support decision making, planning communication (Kamel, 2014). However, these systems may be risky. It is therefore very critical that the systems are specified on organizational preference and logic. It is also necessary to understand that people may resist technological changes. There must be an effort to understand why people resist changes and the possible ways through which such issues can be resolved. Appropriate organizational culture must be inculcated; the change must be adopted in an incremental way accompanied by communication. Everyone involved must be informed on their roles and empowered to perform the respective roles (Kamel, 2014).

Counties of government in Kenya should adopt technology as a way of enhancing infinite and non-restricted access of information and increases market transparency and economic incorporation based on complementarities (Carayannis & Popescu, 2005). Procurement technologies such as e-procurement grasp a virtual market, open to capable suppliers (and goods) according to not mainly restrictive selection criteria, in which public administrations can choose goods and services offered by several suppliers (Szekely, 2005). E-procurement makes the whole process of procurement to be digital, using digital signature in order to guarantee transactions faster. Also, e-procurement will make county government to reduce administrative costs, possible broadening of suppliers base, easy access to preferred goods (pre-defined quality standards), information intelligibility and ease of comparison among goods and purchases logging and ensuing expenditure monitoring (Dobler, 2003). Thus, the counties should adopt this theory so as to improve performance, enhance productivity, effectiveness and efficiency in their operations. This theory brought an understanding that acceptance and use of new technology in implementation is crucial for organizational success.

Empirical Review

Muhia and Afande (2014) on their study of adoption of e-procurement strategy and procurement performance in state corporations in Kenya a Case of Kenya Revenue Authority. The study had adopted descriptive case study design revealed that electronic communication positively influenced procurement performance in Kenya Revenue Authority as it leads to instant responses and real-time information. The purpose of e-procurement is to allow the purchasing function to focus on more value adding activities such as serving customers rather than on operational issues. The findings further indicated that that electronic order processing positively influenced procurement performance as it was clearly evident in reduction on lead times. This study however adopted a descriptive case study design, which in actual sense it lack in-depth results to make generalization of entire population.

Guyo *et.al.*,(2013) on their study on the role of e-procurement strategies on the procurement performance in state Corporations in Kenya. The independent variables was customer service levels, procurement cost, inventory optimization and buyer/supplier collaboration, with the adoption of descriptive research design. The findings revealed that E-procurement significantly reduces paper work, time and effort required to complete purchasing transactions and hence reduced procurement cost and increased productivity of clerical staff. The study rather focused on e-procurement strategies rather than looking at the influence of E-procurement itself as an activity which my study is sought to fill.

Dorée (2016) on procurement strategy formation: (re-)designing rail infrastructure project alliances; aimed at helping public clients improve the contribution that procurement makes to performance with the focus on procurement development processes. The results indicated that progress in the development of the alliancing procurement approach has been somewhat evolutionary rather than deliberately planned. As such, this pattern in procurement development raises questions about the overall strategy in applying the concept of project alliancing. Here, the overall strategy refers to the alliancing development process over a range of projects, as opposed to the procurement strategy formed for a single project.

Somba and Bwisa (2017) on role of procurement practices on the performance of projects funded by constituency development fund in Kenya a survey of Machakos county constituencies where the variables included; stakeholder management, supply chain risk management, contract

management, Supplier Appraisal, concluded that contract management had the highest effect on performance of CDF funded project, regular communication with stakeholders was ranked as the most effective stakeholder management, standardizing inputs specifications was found out to be the most effective method for supply chain risk and finally financial appraisal was found to be one of the most undertaken appraisal across many projects. However the study failed to look at e-procurement as a strategic procurement practice and how it influenced performance.

Waiganjo and Makabira (2014) on role of procurement practices on the performance of corporate organizations in Kenya a case study of Kenya national police service where the variables were procurement planning, procurement controls, procurement monitoring and staff training. The findings concluded that procurement planning, controls, monitoring and staff training in procurement practices have a great role in the performance of Kenya National Police Service. This study went further to recommend that the existing procurement practices be reviewed and implement all suggestions on improving organizational performance. The study however adopted case study design which the results can be biased to make a generalized conclusion.

3.0 METHODOLOGY OF THE STUDY

The study adopted cross-sectional survey design using both quantitative and qualitative approaches. The target population was all the 47 Devolved systems in Kenya. The study adopted stratified random sampling technique. Primary data was collected using questionnaires. A pilot study was conducted to measure the research instruments reliability and validity. Descriptive statistics were used aided by Statistical Packages for Social Sciences version 24 to compute percentages of respondents' answers. Inferential statistics using linear regression and correlation analysis were applied to assist examining relationship between the research variables. The results were presented using tables.

4.0 RESULTS AND DISCUSSIONS

4.1 Response rate

A total of 160 self-administered questionnaires were filled out of 186 yielding a response rate of 86%. This response rate was good and representative and confirms to Mugenda (2008) stipulation that a response rate of 50% is adequate for analysis; a rate of 60% is good and a response rate of 70% and over is excellent. This good response rate was attributed to the data collection procedure, where the researcher personally administered questionnaires to the respondents who filled them. The researcher collected the filled questionnaires later. This response rate demonstrated willingness to respond to study.

4.2 Descriptive Statistics

The study sought to determine the influence of strategic e-procurement practice on performance of Devolved systems of government in Kenya. Likert scale Statement questions were set for which the responses are presented in the table 1.

Table 1: Strategic E-procurement Practice

Opinion Statements	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviation
Allows the automation of authorization workflow	5.0	5.0	10.0	41.3	38.8	4.04	1.069
Enable creation of a central coordination instance for supplier management	5.0	2.5	11.3	46.9	34.4	4.03	1.006
Enable standardization of services for representation in the catalog	2.5	3.8	10.6	52.5	30.6	4.05	0.889
Enable global sourcing of goods and services	3.8	6.3	8.8	42.5	38.8	4.06	1.032
Align procurement strategy	5.0	1.3	7.5	51.3	35.0	4.10	0.960
Reduction of costs	6.3	6.9	20.0	30.6	36.3	3.84	1.176
Diversification of risk with key suppliers for product failure	3.8	5.6	22.5	44.4	23.8	3.79	0.993
composite score						3.99	1.02

From the study findings in Table 1, it was noted by majority of respondents with a mean of 4.04 rated that Devolved systems of government in Kenya have adopted e-procurement through the automation of procurement operation procedures to enhance smooth work flow. This study finding is in harmony with other scholars work reviewed in the literature that most counties have adopted e-procurement to as they are influenced by technology, environment and organizational culture (Ngeno & Omwenga, 2015). E-procurement significantly reduces paper work, time and effort required to complete .However, some 20% of the respondents disagreed that their Devolved systems of government have not automated their procurement operations procedures.

Equally, the study found out that majority of respondents with a mean 4.03 rated that their Devolved systems of government use e-procurement in the creation of central coordination of suppliers' management. E-procurement assists them to maintain and develop database of supplier base. Also, it was noted that from the study that Devolved systems of government use e-procurement in the standardization of services for representation in the catalog. This finding is in an agreement with the study of Muhia and Afande (2014) who established that electronic communication positively influenced procurement performance in Kenya Revenue Authority as it leads to instant responses and real-time information.

Likewise, the study revealed that majority of respondents with a mean of 4.05 rated that the use of e-procurement by devolved systems of government has enabled standardization of services for proper representation in the catalog. E-procurement assists devolved systems in standardization of business document, which makes it easier to retrieve the documents and eliminate paper work. The findings are in agreement with Epiq technologies (2010) report who identified that E-Procurement facilitates proper decision making by ensuring that all relevant documents are kept safely and neatly organized, since all these documents are standardized and easily traceable.

Moreover, the study established that majority of respondents with a mean of 4.06 rated that they use e-procurement for sourcing goods and services globally. E-procurement also, assists Devolved systems of government in reducing costs in areas such tendering processes, payment and contract management. This is in harmony with study of Corsi (2006) who noted that E-

procurement is the process of using electronic methods over the internet to conduct procurement functions such as identification of requirement, tendering process, payment and contract management which drastically reduces the costs of operations. However, 27% of respondents disagreed that e-procurement do not reduce the cost of operations. This may be as a result of high capital intensive which is required to lay good infrastructure for e-procurement to thrive visa vi the benefits.

Equally, it was established from the study that majority of Devolved systems of government with a mean of 4.10 rated that they adopt e-procurement in order to align their procurement strategy with needs and requirement of their citizens. This finding concur with the study of Oyuke and Shale (2014) who established that e-procurement projects are often part of the country's larger e-Government efforts to better serve its citizens and businesses in the digital economy. Many public organizations have adapted the use of computers in managing their procurement process realizing many benefits.

Lastly, it was established that majority of devolved systems of government with a mean of 3.79 rated that adoption of e-procurement has resulted on diversification of risk with key suppliers hence eliminating risks of supplier failure. E-procurement has enabled vertical integration with major suppliers and kept the database of backup supplier, which reduces the risk of stoppage in production in case of supplier failure, due to available alternative supplier. This findings are in harmony with Hung *et,al* (2014) who noted that e-procurement is used as a tactical tool to reduce the supply base by only remaining with a few world class suppliers, where by the procuring entity will leverage on their volume, hence getting the products or services at a competitive price.

4.3 Inferential Statistics

4.3.1 Correlation Analysis

Correlation was used to explore the relationship among the independent variables and in turn assist in testing for multicollinearity. A correlation of above 0.90 is a strong indication that the variables may be measuring the same thing (Tabachnick & Fidell, 2013). The correlation coefficient in the study was between strategic e-procurement practice and performance of devolved systems of government.

Table 2: Correlation Matrix

		Correlations	
		performance of Counties	Strategic E-procurement practice
performance of Counties	Pearson Correlation	1	.704**
	Sig. (2-tailed)		.000
	N	160	160
Strategic E-procurement practice	Pearson Correlation	.704**	1
	Sig. (2-tailed)	.000	
	N	160	160

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

The study found that strategic e-procurement practice had a positive strong linear relationship with performance of Devolved systems of government in Kenya with Pearson correlation coefficient of 0.704 at 0.01, significance level as shown in Table 2. This implied that there was a positive correlation between strategic e-procurement and performance of Devolved systems of

government. Thus, automation of systems and central co-ordination of suppliers is crucial for success of an organization since it has resulted to higher supply chain transparency hence saving on organizational purchasing cost, hence improving on the overall cost of the organization performance of the organization (Kirimi & Noor, 2014).

Test Of Hypothesis

The researcher conducted regression analysis so as to establish the influence of strategic E-procurement on performance of Devolved systems of government in Kenya. The hypothesis tested was:

H_0 : Strategic E-procurement does not have a positive significance influence on performance Devolved systems of government in Kenya.

The standardized regression coefficient for Strategic E-procurement was 0.704. This indicates that a unit increase in the Strategic E-procurement would result in 70.4% increase in the performance Devolved systems of government in Kenya. The result is shown in table below therefore, strategic E-procurement has a strong positive influence on performance of Devolved systems of government.

Table 3: Model Summary of Strategic E-Procurement Practice

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704 ^a	.496	.492	.46875

Predictors: (Constant), Strategic E-procurement practice

Further test on ANOVA shows that the significance of the F-statistic ($F=155.245$, $p<0.05$). As indicated in table below. This implies that there is a positive significant relationship between strategic E-procurement and performance of Devolved systems of government. Therefore, strategic E-procurement improves performance of Devolved systems of government in Kenya, This findings are in harmony with the study of Oteki *et al.*,(2019) who pointed out electronic procurement practices; e-tendering, e-ordering, e-material management and e-supplier management had a positive influence on supply chain performance.

Table 4: ANOVA^a of Strategic E-Procurement Practice

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	34.111	1	34.111	155.245	.000 ^b
	Residual	34.717	158	.220		
	Total	68.828	159			

a. Dependent Variable: Performance of Devolved systems of government

b. Predictors: (Constant), Strategic E-procurement practice

Further test on The t-statistic for the regression coefficient for strategic E-procurement was significant at 5% level of significance ($T=12.460$, $p<0.05$) implying rejection of null hypothesis. On the basis of these statistics , the study concludes that there is strong positive relationship between strategic E-procurement and performance of Devolved systems of government in Kenya.

Table 5: Coefficients^a of Strategic E-Procurement Practice

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.852	.119		32.318	.000
	Strategic E-procurement practice	.640	.051	.704	12.460	.000

a. Dependent Variable: Performance of Devolved systems of government

5.0 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

Summary

The study found out that Devolved systems of government in Kenya have adopted e-procurement through the automation of procurement operation procedures to enhance smooth work flow. Although, few devolved systems of government have not automated their procurement operations procedures. Also, the study found out that Devolved systems of government use e-procurement in the creation of central coordination of suppliers' management. Likewise, the study noted that Devolved systems of government use e-procurement in the standardization of services for representation in the catalog. Further, the study established that majority of Devolved systems of government use e-procurement for sourcing goods and services globally. In addition, the study alluded that Devolved systems of government have adopted e-procurement in order to align their procurement strategy with needs and requirements of their citizens. The study also found out that strategic e-procurement practice showed a strong positive correlation with Devolved systems of government in Kenya. The study indicated that there was a positive correlation between strategic e-procurement and performance of Devolved systems of government in Kenya. Hence strategic e-procurement improves performance of devolved systems of government.

Conclusion

Based on the findings of this study, it could be concluded that devolved systems of government in Kenya have adopted e-procurement through the automation of procurement operation procedures in order to enhance smooth work flow. Also, it could be concluded that devolved systems of government use e-procurement in the creation of central coordination of suppliers' management which in turn helps in maintaining and developing a database of supplier base and increasing transparency levels. Likewise, the study concludes that Devolved systems of government adapt e-procurement for the purpose of reducing costs in areas such as tendering processes, payment and contract management.

Recommendation

The study recommends that Devolved systems of government should adopt e-procurement system and automate all procurement operation procedures to enhance smooth work flow and hence improve efficiency. The study further recommends that Devolved systems of government should adopt e-procurement in the creation of central coordination of suppliers' management, this would assist Devolved systems of government in the management of suppliers and develop a database of supplier base. Further, the study recommends that strategic e-procurement practice should be implemented within the legal framework of public procurement acts and regulations.

because it moderate has positive correlation with the performance Devolved systems of government in Kenya.

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