



**INFLUENCE OF SUPPLIER SELECTION CRITERIA ON PERFORMANCE OF PUBLIC CORPORATIONS IN KENYA: A
CASE OF WATER RESOURCES AUTHORITY**

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ABSTRACT

Supplier selection criteria has in the recent years presented dilemma in the public and private procurement processes. Water Resource Authority (WRA), a public corporation in Kenya has experienced shortfalls in performance amidst the implementation of procurement plans over the past several years. This study established the influence of supplier selection criteria on the performance of public corporations in Kenya, using a case of the WRA. The specific objectives of the study were: to establish the influence of supplier regulatory compliance assessment on performance of the WRA, to find out the influence of E-procurement capacity, to determine the influence of supplier quality assurance and to establish the influence of management capacity on organizational performance of the Water Resources Authority (WRA). The study adopted a descriptive case study design and a census survey methodology targeting all the 55 members of the target population which included all the senior WRA departmental heads and other administrative staff. A closed ended questionnaire was used for primary data collection. The researcher carried out a pilot test of the study involving 10 research subjects on the research instrument before administering the instrument to the entire study population. Due to the COVID-19 restrictions in Kenya, the questionnaires were emailed to the respondents through their official emails. The respondents filled and returned back the filled questionnaires through the same format. Data collected was analysed using SPSS and presented using tables and descriptive statistics. The study findings showed a significant influence of supplier regulation compliance on the performance of the Water Resources Authority. The study also established a significant correlation between E-procurement compliance and performance of the Water Resources Authority. Additionally, the study established that there existed a significant influence of supplier quality assurance and supplier management capacity on the performance of the Water Resources Authority. The study would inform the WRA's board of management decision making. Additionally, the knowledge derived would be cascaded downwards to the regional implementing WRA branches for sound supplier selection criteria practices.

Key words: Supplier Selection, Criteria, E-Procurement, Regulatory Framework, Management Capacity, Quality Assurance Compliance

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INTRODUCTION

An efficient, effective and quality delivering public procurement system is the cog with which a country can spurn poverty and economic degradation and prop high quality life for its citizens, faster economic growth and development and break away from servitude. However, in Kenya, the institute of economic affairs (2018) and the World Bank (2019) reports have pointed at a public procurement system with a worrisome performance in terms of critical key performance indicators: efficiency, effectiveness, quality and innovation. Indeed, the poor performance of public procurement system has been pointed at supplier selection criteria that has been designed devoid of the salient characteristics of world class supplier assessment and selection criteria.

Supplier selection is a multi-layered and objective process that is critical to the performance of business organizations and their supply chains (Egerod & Nordling, 2010). Supplier selection process expends large quantities of business resources in locating, assessing and establishing contractual relationships with effective, efficient and reliable suppliers (Taherdoost & Brard, 2019). As such, it is obligatory to develop supplier selection criteria with succinct characteristics such as economy, validity, robustness, inclusivity, compatibility, usefulness, rigour, and behavioral soundness (Caplice & Sheffi, 1994 cited in Egerod *et al.*, 2010). The relationship between these supplier selection criteria and the achievement of procurement and supply chain objectives is well acknowledged in literature (Versei, Soosay, Fahimnia & Sarkis, 2014; Egerod *et al.*, 2010; Taherdoost *et al.*, 2019). However, in Kenya, both in practice and in academia, there is little evidence that this linkage has been proved.

The procurement profession in Kenya has gone through numerous changes since independence (Kennedy & Kiarie, 2015). Ngunyi (2014) affirms that there exist bottlenecks that impede successful procurement practice in many public sector

organizations. Kiage (2016) posits that procurement selection criteria dynamics affects organizational performance hence a key factor of consideration in public procurement practice today. According to (Makori & Muturi, 2018), the existence of systemic inconsistencies in supplier selection criteria is a recipe for gaps and loopholes for unscrupulous business men and organizational staff to be involved in unethical practices. Furthermore, inconsistencies bring about poor service delivery on the part of the institutions and hence a need to stimulate the practices application for efficient (Wachiuri, 2018).

Supplier selection criteria is critical in public business organisations because it makes it possible for organisations to carry out the procurement function within standardised selection biases that are meant to ensure efficiency and effectiveness (Ogohi, 2014). Supplier selection criteria further ensures that the interest of the organisation is achieved without jeopardising the interest of the customers and the vendor hence facilitating improved performance of the organisation (Theuri, 2015).

Global procurement practice postulate that with specific reference to France and Germany that supplier selection criteria has been driven by the motivation to address arising inadequacies and gaps existing in supplier selection practices (Thanga & Kwasira, 2016). A study of procurement in public institutions in South Korea suggest that an efficient public supplier procurement system is imperative to the progression of a national economy of a nation as it facilitates efficient utilization of public resources.(Choi, 2015) .Thanga and Kwasira (2016) point out that poor supplier selection criteria has been a major constraint in successful implementation of public projects in India and other Asian countries resulting to projects becoming uneconomical due to time and cost over-runs and hence negatively affects economic development.

Nigerian public enterprises showed flaws in supplier selection criteria and confirming the existence of a significant relationship between supplier selection practices and organizational performance (Ogohi, 2014). This view is augmented by Sunday (2015) who assessed banks in Nigeria have experienced performance bottlenecks created by supplier selection criteria challenges (Sunday, 2015).

In Kenya, supplier selection criteria has been on the spot on many public enterprises as it has been viewed as the biggest challenge in sound procurement implementation. Studies on supplier selection criteria postulate that public organisations have been experiencing supplier selection challenges despite the existence of government regulations to ensure compliance (Onyango & Muturi, 2016). The Public Procurement Regulation Authority (PPRA) in Kenya is a government regulatory body tasked with control and oversight of all public related procurement aimed at bringing about efficiency and effectiveness through standardised supplier selection criteria. Onyango and Muturi (2016) observe that an efficient public procurement system is vital to the advancement of African countries and is a concrete expression of their national commitments to making the best possible use of public resources.

Supplier selection criteria is the standard protocol used to enable organizations to identify, evaluate, and contract with suppliers, (Maina, & Moronge, 2018). Supplier selection criteria is the set mechanisms used to identify, evaluate, and contract with suppliers for the supply of good and services in any organization (Willy & Njeru, 2014). Using the selection criteria, purchasers must characterize and gauge the best methods for the purchasing entity, and execute procurement decisions accordingly (Kennedy & Kiarie, 2015). Typically, supplier selection criteria is classified as preliminary qualification, financials and technical qualification criteria (Murigi, 2018). The preliminary qualification criteria involves assessment of basic

requirement for compliance such as regulatory compliance, firm registration, tax compliance, documentary compliance, inclusion of all required documents, and alignment to tender submission guidelines (Murigi, 2014). To survive in the intensely competitive global economy, it is vital to develop existing supplier selection criteria to promote improved performance (Murigi, 2014).

Literatures on financial selection criteria has illuminated on the prospective tenderers ability to access financing, liquidity, leverage ratio and working capital ratio (Ogohi, 2014). It helps a procuring entity to engage with vendors that do not pose any financial risks to loss of public funds (Shiati *et al.*, 2012). Technical supplier selection criteria are more focussed on ability to deliver deliverables and exceed the public entity's expectations as far as goods, services and works are concerned. They include assessment of a vendors historical experiences and performance, technological capability, quality management systems, human resource practices, relationship building capabilities. Supplier selection criteria has become one of the significant subjects in flexibly chain the executives (Ngunyi, 2016).

Ngunyi (2014) postulates that global, supplier selection criteria decisions are intricate due to the fact that multiple criteria must be considered in the decision-making process. Multi-criteria approach is used in selecting suppliers because of the diversity in procurement systems. Onyango and Muturi (2016) point out that the most important supplier selection criteria are regulation, price delivery method, and quality. Locally, the procurement procedures pretty much follow the international standards to a large extent. This means that even supplier selection criteria determinants are more or less similar to those considered by purchasers (Odhiambo & Theuri, 2015). Studies on supplier selection criteria have identified a set of generic factors that are critical during supplier selection regardless of the industry the firm subscribes to. These interrelated factors have been used in

previous studies in the procurement discipline (Mwikali & Kavale, 2012). This study focuses on supplier selection criteria focusing on regulatory framework, quality assurance assessment, management capability and ethical assessment compliance.

Technological e-processing encompasses a broad cross-section of capabilities that facilitate collaboration, sourcing, transaction execution and performance monitoring between an organization and its trading partners during the procurement processes (Thanga & Kwasira, 2016). Samoei (2018) further argues that procurement personnel should be knowledgeable about specifications so as to be able to secure value for money for their organisations.

Wanyoike (2013) suggest that quality assurance assessment measured in the context of quality of product and service durability is a critical component because it leads to ultimate products lifespan. Odhiambo and Theuri (2015) state that quality is explained in terms of simplicity and flexibility of operation. User friendly products are always better and it is therefore good to include a manual to ease operation of the product. E-procurement is a function of technology which enhances corporate buying by use of the internet (Samoei, 2018).

Maraka and Kibet (2015) postulate that management capacity is the managerial efforts necessary for creating an operating environment in which a business can integrate its supplier capabilities into its operational processes. These managerial efforts can be clustered into several components, namely management responsibility, supplier, staff development, and quality measurement techniques.

Performance of an organization is seen in the light of the organizations' ability to timely and specifically fulfil its mission through elaborate and sound managerial actions and its never ceasing effort to achieving the set results. Organizational

performance is seen from the perspective of delivering products and services within the range of its customer experience, market dynamics, the processes and financial capability scores of the organization (Willy & Njeru, 2014). In this study, performance was measured in view of the factors selected on supplier selection criteria namely; supplier regulatory compliance, supplier quality assurance assessment and management capability and e-procurement capacity. This study adopted the balanced scorecard to measure performance of the variables of the study in the supplier selection criteria (Samoei, 2018).

The overall performance of an organisation determines its survival and that organizational performance is a set of metrics used to quantify both the efficiency and effectiveness of actions (Wanyoike, 2013). The performance measurement framework of the balanced scorecard provides managers with sufficient information to address parameters used in the determination of the performance. Performance measurement is critical in organisations because it shows the level of accomplishments at any given time (Theuri, 2015).

Objective of the Study

The general objective of this study was to establish the relationship between supplier selection criteria and the performance of public corporations in Kenya using the case of the Water Resources Authority. The study particularly endeavoured to:

- Determine the influence of regulatory compliance on performance of the Water Resources Authority
- Establish the effect of e-procurement capacity on the performance of the Water Resources Authority
- Examine the influence of quality assurance systems compliance on the performance of the Water Resources Authority
- Assess the effect of management capability on the performance of the Water Resources Authority

Empirical Literature Review

A descriptive study by Makori and Muturi (2018) on the impact of supplier selection criteria focussing on public procurement regulations on procurement in Kenya universities established that regulatory compliance had a significant influence of public universities in Kenya. The study established the need for public universities to comply with public procurement requirements for improved performance. Furthermore, a study by Makori and Muturi (2018) found that managing the risks associated with the complex competitive environment give rise to accountability solutions leading to improved performance. Musau (2015) using a case study of environmental factors affecting procurement in Uasin Gishu County established that regulations could be broadly viewed as the actions taken by the regulators to facilitate enforcement on compliance, thereby establishing a significant correlation between regulation compliance as selection and organisational performance.

According to Cherop (2015), using a case study of ken Gen found out that enforcement actions and increased penalties lead to greater levels of compliance with the laws and that corruption among government procurement officials is alarming. Studies on the effect of procurement management and especially supplier selection criteria in developing countries such as Bangladesh, India, Sri Lanka and Nigeria indicate that some countries have been linked to weak enforcement of the rule of law and hence poor organizational performance (Wachiuri, 2018).

Kalu (2016) studying Kenyan owned public companies in a cross-sectional research design established that emerging procurement business have identified the use of technology related business solutions due to their efficiency and effectiveness. This study established that most companies in the public sector use technological advancement with the aim of improving performance through technological business

solutions one of which is e-business. Thanga and kwasira (2016) in their study of the Kenya rural roads authority found that supplier selection criteria should involve technological savviness because technological adaptation has significant influence of organizational performance.

Thanga and Kwasira (2016) established that technological adaptation has a significant influence on the supplier process as a key determinant in organizational performance. Kennedy and Kiarie, (2015) in case study on the impact of procurement at Nyamira County established that e- procurement software application in the procurement function leverages the latest technology capabilities to integrate and enhance supplier-oriented processes along the supply chain and hence performance. Kiarie and Kenedy (2016) point out that these connections may include design-to- source, source-to-contract and procure-to-pay necessary during the procurement process.

Makori and Muturi (2016) in a study of health institutions in Western Kenya established that E-procurement which is a result of technological savviness involves stream lining the processes and communication between buyer and suppliers using software application to enable these processes to be managed more efficiently and effectively. Empirical evidence on influence of technology by Kasisi, Mwangangi and Mwangi (2014) in a study of public organizations focusing on the National oil corporation established that e-procurement practices have significant influence on organizational performance due to the efficiency and effectiveness. Maraka, Yusuf and Iravo (2015) in a study of sugar companies in western Kenya established a positive correlation in supplier selection criteria for its integration of product and service delivery along acceptable lead times that dictate improved performance.

Wanyoike (2013) using descriptive study of quality management practices in manufacturing companies in Kenya established that quality is conformance to

requirements or fit to use. This study also unveils the fact that conformance with quality is also viewed as absence of defects. This study observes that quality can be thought as the extent to which a product or services achieves customer satisfaction and that companies have to offer quality services in order to win their customers. This study by Wanyoike (2013) among manufacturing firms in Thika established a positive significant influence of quality dimension on firm performance.

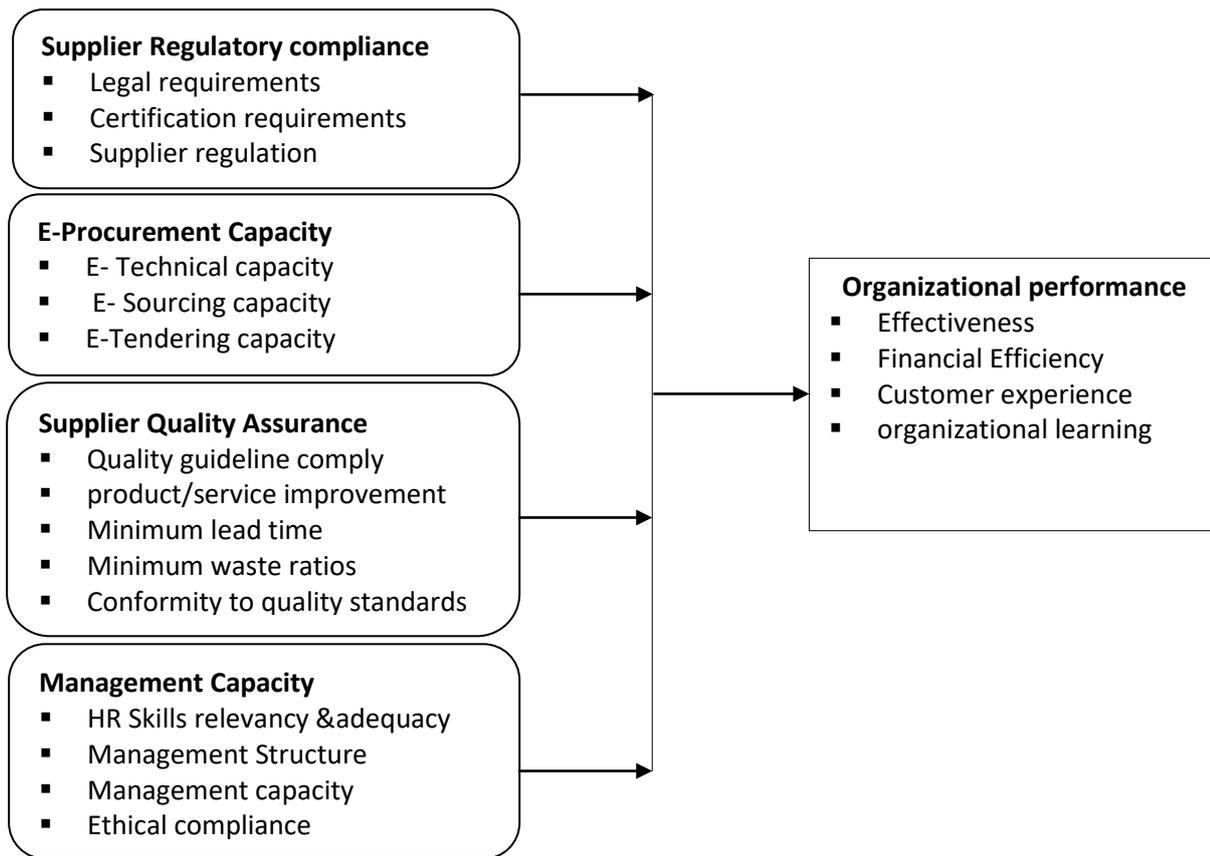
Makori and Muturi (2018) in their study on inventory management practices in the health sector in Kenya have established automation which is quality dimensions had a significant influence on the performance of the health institutions in Kenya. The study concludes that, due diligence and a lot of consideration when procuring raw materials equipment service. Empirical evidence on consideration of supply criteria in the Kenya medical supplies authority affirm that quality assessment plays an important role in the organization performance because it facilitates proper recruitment of suppliers as they usually supply products of the required standard (Maina, & Moronge, 2018). In their study on rural roads Authority in Kenya, Mbuchi and Kwasira (2016) have found that suppliers' need competent technical ability to provide high quality product or service, ensure future improvements in performance and promote successful development efforts while studying public companies in Kenya.

Kenedy and Kiarie (2015) while studying influence of procurement practice on private sector; a case of Diamond Trust Bank established that resource allocation and staff competency positively affected procurement performance and therefore a positive correlation. Furthermore, they postulates that the agency problem appears when agents' goals differ from the principals' and it is difficult or expensive to

verify whether agents have appropriately performed the delegated work meaning more dangers as a result (Kennedy & Kiarie, 2015).

A study conducted on the Kenyan County assemblies of Mombasa County on the relationship between performance and management capability suggest that that effective and efficient procurement process can only be achieved by proper planning by competent staff else there would be flaws in the process (Odhiambo & Theuri, 2015). Wachiuri (2018) while studying supplier evaluation criteria in Kenyan corporations established that management commitment, product development of quality assurance in supply chain, quality assessment in production, inspection and experimentation and quality staff of suppliers are key determinants of the procurement function success. Shiati *et al.* (2012) established that competition is fierce in today's business environment and that quality is recognized as a key consideration in many purchasing decisions.

Mwikali and Kavale (2012) assessed optimal supplier evaluation on Kenyan firms established that management capability is the managerial efforts necessary for creating an operating environment in which a manufacturer can integrate its supplier capabilities into its operational processes. These managerial efforts can be clustered into several components, namely: management responsibility, supplier selection, supplier development, supplier integration, quality measurement and conducting supplier audits. Onyango and Muturi (2016) in their study have established that supplier selection, supplier development and supplier integration can be regarded a forming a supplier management system with management responsibility seen as the driver of all other supplier selection criterion.



Independent variables

Dependent variable

Figure 1: Conceptual framework (Source: Author 2021)

METHODOGY

In this study the research methodology laid down the analysis of the plan and the methods that were used to answer the research problem. In this research the management staff working in Water Resources Authority were the targeted population and were drawn from all senior staff from the key departments that make up the Water Resources Authority at the headquarters. The study involved all the 55-management staff at the WRA, because they were best placed to give relevant information regarding supplier selection criteria dynamics due to the fact that they continuously undertake procurement assignments as part of their job descriptions. The study used census to select all the 55 employees of the water resource authority situated at the head office in Nairobi city. The study used a structured questionnaire in the collection of primary data. The use of the structured questionnaire was necessitated by the fact that this

research was focused on studying the influence of supplier selection criteria on firm performance. To be able to obtain data from the management staff of the Water Resources Authority, the researcher administered the questionnaires through e-mail because of the COVID 19 regulations on social distance. This kind of techniques is deemed adequate in this study because it would give the respondents time to have enough time to understand the questionnaire before providing answers or responses. The respondents were requested to fill the questionnaire and return through email. Quantitative methods of data analysis were used in this study. Quantitative approach involved the use of mathematical formulations and statistical analysis to produce the study results. The researcher used the causal relationship test between the study variables. In order to establish the causal relationships leading to the answer of the research problem, the researcher

used regression analysis tables. The researcher used SPSS to generate outputs and in interpreting the data collected. Additionally, the researcher used the Likert scale to establish the level of the causal relationships on the variables under measurement in the research as given by the respondents. The data was presented by the use of tables and descriptive statistics. The data was tabulated by calculating the causal relationships of the variables in the study and presented using tables 'and then presenting it in percentages, standard deviation and the mean values. The regression model took the following form;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where; Y= Firm performance

β_0 is Constant

X_1 is Supplier regulatory capacity measured by a composite score

X_2 is E-procurement capacity measured by a composite score

X_3 is Supplier quality assurance systems measured by a composite score

X_4 is Management capacity measured by a composite score

ϵ is error term.

β_1, \dots, β_4 = Beta coefficients of variables i the measure of the change in Y associated with a change in X. β_0 = Regression constant; while ϵ refers to the expected error that is assumed to be associated with the variables. The coefficient of determination (R-square) obtained gave the explanatory power of the model while the correlation coefficient (Beta factor) for each of the four independent measures gave the nature and extent of relationship with the dependent variable. The results of significance were interpreted at 5% level of significance. The p-values were then be interpreted for significance. The findings were presented in tables.

RESULTS

This study had a sample size of 55 respondents out of which only 36 questionnaires were received back for analysis. This was achieved by making several phone calls and sending emails to the respondents.

The response rate was 65.45% and according to Kothari (2004) this is acceptable for analysis since the threshold set was usually at 60%. Out of 36 respondents, 66.6 % were male while 33.34 % were female. This indicated that there was no equal gender representation at Water Resources Authority.

The study sought to find out the number of years worked. 25 % of the respondents worked for the organization for more than 10 years, 30.55% had worked for 3 years and below, 27.77% had worked between 4-6 years and while 16.66 % had worked for between 7-10 years. This indicated that majority of respondents had worked for 3 years and below at the Water Resources Authority.

The study sought to find out the number of years respondents had served in their current positions at Water Resources Authority. The response showed that majority of respondents 33.3% worked for Water Resources Authority in their current positions for more than 10 years, 22.2% had worked for between 7-10 years, 25% had worked between 4-6 years and the remaining 19.4% had worked for three years and below. This indicated that majority of had worked in their current positions for more than 10, hence indicative of a generally well experience staff.

The study sought to find out the level of education. 43.48% of the respondents had attained first degree, 8.69% attained a diploma, and 32.61 had attained master's degrees, while 15.22% of the respondents had PhD level of education. This implied that majority of the respondents had attained university education with 47% having attainment of masters and PhD education.

Cronbach's Alpha was used to test the reliability of the research instrument. Saunders *et al.* (2015) provides a benchmark 0.7 and above for assessing whether the scale is reliable or not. The results obtained established a high level of internal consistency for all the items utilized in this empirical study. All the items had an alpha coefficient of more than 0.7 thus confirming the reliability.

Table 1: Internal Consistency Results

Variable	No. of items	Cronbach's Alpha	Decision
Supplier Regulatory Compliance	4	0.788	Accept
E-Procurement Capacity	4	0.881	Accept
Supplier Quality Assurance	4	0.897	Accept
Supplier Management Capacity	4	0.895	Accept
Organizational Performance	13	0.955	Accept

Regression Analysis

The main objective of the study was to assess the influence of supplier selection criteria on performance of public corporations in Kenya using Water Resource Authority as a case study. The independent variables under study were management capacity, regulatory compliance assessment, e- procurement capacity, quality

assurance assessment. Regression analyses were done based on the specific objectives of the study.

Supplier Regulatory Compliance and Organizational Performance

Table 2 showed the empirical results of the relationship between supplier regulatory compliance and the organizational performance which was the first objective of the study.

Table 2: Model Summary of Regression Analysis

Model	R	R ²	Adj. R ²	SEE
1	0.844*	0.712	0.704	0.63277

Predictors: (Constant), Supplier Regulatory Compliance

From the model summary Table 3, the correlation coefficient ($r = 0.844$, $p < 0.05$) shows that there was a strong positive and significant correlation between supplier regulatory compliance and organizational performance. The coefficient of

determination (R^2) suggest that 71.2% of variation in organizational performance is explained by the supplier regulatory compliance while the remaining 28.8% is accounted for by other factors not taken into consideration in this study.

Table 3: Analysis of Variance (ANOVA)

	Squares (Sum)	df	Squares (Mean)	F	p-value
Regression	33.718	1	33.718	84.211	0.000
Residual	13.613	34	0.400		
Total	47.331	35			

Dependent Variable: Organizational Performance

Predictors: (Constant), Supplier Regulatory Compliance

The findings in table 3 showed that the overall regression model generated is statistically significant in predicting the relationship between supplier regulatory compliance and organizational performance. The significance value in testing the reliability of the overall model for the relationship

was obtained as 0.000 which is less than 0.05, the critical value at 95% significance level as indicated by the ANOVA Table 4 ($F = 84.211$, $p < 0.05$). This suggested that the sample data used was ideal for making conclusions about the population parameters.

Table 4: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	Beta	SE	Beta			
Constant	-0.176	0.378			-0.465	0.645
Supplier Regulatory Compliance	0.930	0.101	0.844		9.177	0.000

Dependent Variable: Organizational Performance

Predictors: (Constant), Supplier Regulatory Compliance

As indicated in Table 4, the empirical findings revealed that there was a positive and statistically significant effect of supplier regulatory compliance and organizational performance ($\beta = 0.930$, $t = 9.177$, $p = < 0.005$). This suggested that a unit increase in supplier regulatory compliance leads into a corresponding improvement in organizational performance by 0.93 units. The final prediction model is as specified below;

$$Y = -0.176 + 0.930X$$

The findings of this study agreed with those of Muturi and Onyango (2016) who established that one of the basic factors of procurement law is the level of awareness or familiarity with the procurement regulations which in turn improves performance in the organizations. Similarly, the results also confirm the findings of Cherop (2015

who suggested that enforcement actions and increased penalties lead to greater levels of compliance with the laws and that corruption among government procurement officials. The empirical findings of this study contradict those of Namusonge and Makokha (2017) who established that familiarity with the regulations may not necessarily bring about compliance and that it may bring about smarter suppliers to beat the loopholes inherent in the regulations to their advantage.

E-Procurement Capacity and Organizational Performance

Table 5 showed the empirical findings of the relationship between e-procurement capacity and the organizational performance which was the second objective of the study.

Table 5: Model Summary of Regression Analysis

Model	R	R ²	Adj. R ²	SEE
1	0.922*	0.849	0.845	0.45812

Predictors: (Constant), E-Procurement Capacity

Table 5 showed the correlation coefficient denoted by R ($r = 0.922$, $p < 0.05$). This suggested that e-procurement was strongly and significantly positively correlated with organizational performance. Furthermore, the coefficient of

determination (R^2) confirms that nearly 84.9% of variation in organizational performance is as a result of e-procurement capacity while the remaining 15.1% is accounted for by other factors not taken into consideration in this study.

Table 6: Analysis of Variance (ANOVA)

	Squares (Sum)	df	Squares (Mean)	F	p-value
Regression	40.195	1	40.195	191.521	0.000
Residual	7.136	34	0.210		
Total	47.331	35			

Dependent Variable: Organizational Performance

Predictors: (Constant), E-Procurement Capacity

The regression output in table 7 indicated that the overall regression model produced is statistically significant in predicting the link between e-procurement capacity and organizational performance. The significance value in assessing the reliability of the overall regression model for the

relationship was obtained as 0.000 which is less than 0.05, the critical value at 95% significance level as shown by the ANOVA Table 6 ($F = 191.521$, $p < 0.05$). This implied that the sample data employed was perfect for making conclusions about the population parameters.

Table 7: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	Beta	SE	Beta	t	Sig.
Constant	0.165	0.229		0.720	0.476
E-Procurement Capacity	0.196	0.066	0.922	13.839	0.000

Dependent Variable: Organizational Performance

Predictors: (Constant), E-Procurement Capacity

As specified in Table 7, the study findings indicated that e-procurement capacity was a positive and significant predictor of organizational performance ($\beta = 0.196$, $t = 13.839$, $p = < 0.005$). This suggested that a unit increase in e-procurement capacity results into equivalent improvement in organizational performance by 0.196 units. The final prediction model is as specified below;

$$Y = 0.165 + 0.196X$$

This study findings correspond with Thanga and Kwasira (2016) who found out that supplier selection criteria should involve technological savviness because technological adaptation has significant influence of organizational performance. Furthermore, Kennedy and Kiarie (2015) established that e-procurement software application in the procurement function leverages the latest technology capabilities to integrate and enhance supplier oriented processes along the supply chain

and hence performance. Similar findings are reported by Mwangangi and Mwangi (2014) who established that e-procurement practices have significant influence organizational performance due to the efficiency and effectiveness. Moreover, the findings of this study are in line with those Muema (2017) who established a significant relation between telecommunication and organizational performance. However, the findings are contrary to those of Mwenga (2016) who established that e-procurement may not automatically lead to improved performance.

Supplier Quality Assurance and Organizational Performance

Table 8 presented the empirical results of the relationship between supplier quality assurance and the organizational performance which was the third objective of the study.

Table 8: Model Summary of Regression Analysis

Model	R	R ²	Adj. R ²	SEE
1	0.890*	0.792	0.786	0.53838

Predictors: (Constant), Supplier Quality Assurance

Table 8 showed the correlation coefficient symbolized by R ($r = 0.890$, $p < 0.05$). This implies that supplier quality assurance was strongly and significantly positively correlated with organizational performance. Moreover, the coefficient of determination (R^2) suggest that 79.2%

of variation in organizational performance is due to supplier quality assurance while the remaining 20.8% is accounted for by other factors not taken into consideration in the regression model under investigation.

Table 9: Analysis of Variance (ANOVA)

	Squares (Sum)	df	Squares (Mean)	F	p-value
Regression	37.476	1	37.476	129.294	0.000
Residual	9.855	34	0.290		
Total	47.331	35			

Dependent Variable: Organizational Performance

Predictors: (Constant), Supplier Quality Assurance

The empirical results in table 9 suggested that the overall regression model produced is statistically significant in predicting the association between supplier quality assurance and organizational performance. The significance value in assessing the reliability of the overall estimation model for the

relationship was obtained as 0.000 which is less than 0.05, the critical value at 95% significance level as indicated in the ANOVA Table 9 ($F = 129.294$, < 0.05). This suggests that the sample data utilized was perfect for making conclusions about the population characteristics.

Table 9: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	Beta	SE	Beta	t	Sig.
Constant	0.416	0.257		1.617	0.115
E-Procurement Capacity	0.824	0.072	0.890	11.371	0.000

*Dependent Variable: Organizational Performance
Predictors: (Constant), Supplier Quality Assurance*

As indicated in Table 9, the regression output suggests that the effect of supplier quality assurance on organizational performance was positive and significant ($\beta = 0.824$, $t = 11.371$, $p < 0.005$). This imply that a unit increase in supplier quality assurance results into improvement in organizational performance by 0.824 units. The final prediction model is as specified below;

$$Y = 0.416 + 0.824X$$

These findings of the current study are in line with those of Makori and Muturi, (2018) who established that automation, a quality dimensions had a significant influence on the performance of the health institutions in Kenya. Similarly, these findings concur with the findings in a study by Ngunyi (2014) who suggested established that supplier quality selection criterion is a measure of

product or service technical compliance to quality specifications. The study concluded that quantity, compliance with due date, compliance with packaging standard, production planning systems of suppliers, and maintenance activities of suppliers and material maintenance processes is key supply selection criteria that dictate the performance of key public organizations in Kenya.

Supplier Management Capacity and Organizational Performance

Table 10 showed the results of the relationship between supplier quality assurance and the organizational performance which was the fourth objective of the study.

Table 10: Model Summary of Regression Analysis

Model	R	R ²	Adj. R ²	SEE
1	0.946	0.894	0.891	0.38376

Predictors: (Constant), Supplier Management Capacity

Table 10 displayed the correlation coefficient represented by R ($r = 0.946$, $p < 0.05$). This suggest that supplier management capacity was strongly and significantly positively correlated with organizational performance. Additionally, the coefficient of determination (R^2) shows that 89.4%

of variation in organizational performance is due to supplier management capacity whereas the remaining 10.6% is accounted for by other factors not taken into consideration in the regression model under investigation.

Table 11: Analysis of Variance (ANOVA)

	Squares (Sum)	df	Squares (Mean)	F	p-value
Regression	42.324	1	42.324	287.385	0.000
Residual	5.007	34	0.147		
Total	47.331	35			

Dependent Variable: Organizational Performance

Predictors: (Constant), Supplier Management Capacity

The study findings in table 11 showed that the overall regression model generated is statistically significant in predicting the relationship between supplier management capacity and organizational performance. The significance value in evaluating the reliability of the overall regression model for

the relationship was obtained as 0.000 which is less than 0.05, the critical value at 95% significance level as presented in the ANOVA table 11. (F = 287.385, < 0.05). This means that the sample data utilized was perfect for making conclusions about the population parameters.

Table 12: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	Beta	SE	Beta	t	Sig.
Constant	0.589	0.164		3.587	0.001
Supplier Management Capacity	0.910	0.054	0.946	16.952	0.000

Dependent Variable: Organizational Performance

Predictors: (Constant), Supplier Management Capacity

As indicated in Table 12, the regression output indicate that the effect of supplier management capacity on organizational performance was positive and significant ($\beta = 0.910$, $t = 16.952$, $p = < 0.005$). This suggest that a unit increase in supplier management capacity leads into improvement in organizational performance by 91%. The final prediction model is as specified below;

$$Y = 0.589 + 0.910X$$

The findings of this study were in line with those of Kenedy and Kiarie (2015) who established that resource allocation and staff competency positively affected procurement performance and therefore a positive correlation. Similarly, the results are consistent with those of who established that management capability is the managerial effort necessary for creating an operating environment in which a manufacturer can integrate its supplier capabilities into its operational processes. Furthermore, the current findings reflect those of Mbuchi and Kwasira (2016) who found out that suppliers and their financial structure which are

predictors of management capability to do business based on the past history has a positive relationship with organizational performance.

CONCLUSIONS AND RECOMMENDATIONS

Numerous conclusions were made based on the empirical findings. Supplier regulatory compliance was found to positively and insignificantly influence organizational performance. Therefore, from the findings, it was concluded that improvement in supplier regulatory compliance will result to enhanced organizational performance.

E-procurement capacity was established to significantly affect performance of supermarkets. Furthermore, the estimated influence of e-procurement capacity on performance was found to be positive. Consequently, from the empirical results, it was concluded that improved e-procurement capacity enhances organizational performance.

There was significant influence of supplier quality assurance on organizational performance. Likewise, the effect of supplier quality assurance was

established to be positive. This was a confirmation that performance of Water Resources Authority was influenced by supplier quality assurance. Therefore, based on the estimation results, conclusion drawn was that enhanced supplier quality assurance led to improved organizational performance.

Finally, supplier management capacity was significantly affected by organizational performance. Likewise, supplier management capacity was found to influence the performance of Water Resources Authority. This suggests that performance of Water Resource Authority was significantly and positively influenced supplier management capacity. From the empirical findings, it was concluded that supplier management capacity resulted into improved organizational performance.

First, the study recommended that Water Resources Authority should ensure that its processes conform to regulatory requirement of the government for this will impact on its performance. Furthermore, the Water Resources Authority should tighten its supplier selection criteria processes to ensure that only the suppliers who comply with the government supplier regulation agencies to check on regulatory hurdles that negatively impact on performance.

Second, the study recommended that Water Resources Authority should use technology to secure its supplier selection criteria and help its suppliers comply with the e-procurements capacity for improved performance. This will reduce risks of fraud and other malpractices and hence help to improve performance of Water Resources Authority.

Third, the study recommended that Water Resources Authority should enforce supplier quality assurance compliance. This will enhance its

customer satisfaction and have positive impact on their performance. The study recommends that the Water Resources Authority should subject suppliers to continuous improvement standards.

Fourth, the study recommended that Water Resources Authority should enhance supplier management capacity to boost the supplier's capacity to deliver and hence improve the organizational performance.

Areas for Further Research

The current study solely relied on non-financial indicators of performance. Since performance is a multi-faceted construct comprising of both financial and non-financial indicators, future studies should amalgamate both metrics or rather focus on financial indicators so as to establish whether similar results will be confirmed. Moreover other measures of supplier selection criteria should be used in the future considering the fact that the construct is multi-dimensional in nature.

The current study only focused Water Resources Authority. Further studies should consider other contexts of the study and more specifically the private sector for instance similar study can be replicated in other contexts such as the banking, insurance and manufacturing sectors so as to determine whether contextual variations in terms of regulatory and cultural variations leads into mixed findings.

The current study focuses only on two variables; implying that it is bivariate in nature. Nonetheless, there is sufficient evidence from empirical literature that suggest that the relationship between supplier selection criteria and the performance is indirect since it is influenced by other external factors popularly referred to as control variables such as size, age and leverage. Future studies should consider using moderating and mediating variables to examine the hypothesized linkage.

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