

Factors Influencing Effective Implementation of Procurement Practices In Non-Governmental Organizations: A Case of Caritas Rumbek

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Abstract: This research established the factors influencing effective implementation of procurement practices in non-governmental organizations with a focus on Caritas Rumbek. This study adopted a descriptive research design because it provided flexibility and it helped the researcher to conduct an in-depth research. Effective procurement practices play a vital role in the performance of organizations. For the function to realize its aim properly it has to be effectively managed. The specific objectives that guided the study are; to establish the influence of staff competency; technology adoption; top management support and organizational culture on effective implementation of procurement practices in Non-governmental Organization a case of Caritas Rumbek. The study targeted 120 respondents from the procurement, finance and marketing departments. The Data collected was analyzed for descriptive statistics mainly; ratios, frequencies, percentages and inferential statistics for instance correlations and regression analysis which were used to establish the relationship between the variables involved. The study findings revealed that the study variables, that is, staff competency, technology adoption, top management support and organizational culture have a positive significant influence on implementation of effective procurement. The study recommends that there is a need for the management of humanitarian NGOs to improve staff competency, the management of Caritas Rumbek and other NGOs should improve technology adoption as well as top management support as well as improvement in organizational culture.

Keywords: *Staff competency, Technology adoption, Top Management Support, Organizational Culture, Effective procurement*

Introduction

Procurement is the overarching function that describes the activities and processes to acquire goods and services. It involves the activities involved in establishing fundamental requirements, sourcing activities such as market research, vendor evaluation and management of contracts. It also includes the purchasing activities required to order and receive goods. Procurement activities are very critical to all organizational units from households to firms, organizations, and the government. From the functional viewpoint, procurement is an indispensable activity and its successful achievement is essential to any organization (Adams, 2015).

Procurement is the best though of a verb, not a noun; it is a strategic business function that can add significant value to the organization when able to perform at a level of capability required by the extended enterprise. It does not sit exclusively at the boundary between customer and suppliers. Rather, it permeates all aspects of internal activity and wields huge influence over the suppliers it engages (Wassenhove, 2006). The purchase of goods and services is necessary for the smooth operation of the organization. The aim of the internal control system for the supply of goods and services is to ensure orders are handled by individuals having skills in evaluating what purchases are required from suppliers offering the best deals, to ensure purchases made do not exceed the budget provided and to ensure purchased goods and services conform with the quality, quantity and price specified in the order (George, 2010).

Procurement is recognized as a critically important area in both public and private sectors and organizations are putting great focus and the attention in its effectiveness. In a growing number of companies, cost, effective procurement has become a matter of survival as purchased goods and services can account of up to 80 per cent of the product cost. Similarly in the public sector, there is an ever-increasing demand for effectiveness and efficiency in the procurement process (Ngongo, 2009). Non-governmental organizations deal with emergency humanitarian issues such as supply of drugs, food aid, water and sanitation, providing shelter to the affected communities among others. Humanitarian organizations put a lot of effort into helping nations and people to recover from disasters by providing relief commodities. Responding adequately to a disaster is difficult due to its complexity and uncertainty associated with it. Flexible but efficient supply chains are creating high demand on procurement operations in humanitarian NGOs (Berger & Garyfalakis, 2013). The NGOs therefore need to have a properly working procurement function so as to manage the complex procurement process.

Statement of the Problem

Different donors have different procurement guidelines which should be followed for all procurements in projects which they have funded to ensure that a recipient of donor fund uses it to advance the purpose of the award, spends it wisely and does not procure anything in conflict with the public's interest (NGO Connect, 2010). To ensure less wastage, NGOs are required to have properly functioning procurement functions. With declining donor extensions to NGOs in Kenya, where the new Attorney General's office gazetted miscellaneous bill which slashes funding for NGOs in Kenya to less than 15% of its total funding from external donors, there is more than ever, a need to effect proper procurement functions by the NGOs to efficiently utilize these limited resources. A similar law in Ethiopia forced over 50% of human right organizations to close or scale down in 2009 (Norris, 2012). At the moment in Kenya, the Kenya NGOs coordinating Board report (2016) indicated that up to 90% of NGOs are depending on donor fund.

While limited resources is a reason for having well-functioning procurement, another biggest hurdles to overcome in humanitarian relief supply chain is the huge uncertainty in demand and supply as well as the assessment of the needs accompanied by time pressure to supply on time. Disaster relief takes about 80% of total expenditures of NGOs (Wassenhove, 2006) and poor procurement functions worsens the situation because it leads to panic buying at inflated costs, shortages and poor quality purchases (Balcik, 2008). The economic environments under which NGOs operate in are subject to ongoing currency fluctuations, adverse economic conditions, insurance necessities, and price spikes for commodities used in humanitarian operations – such as fuel which may strain budgets thus making procurement planning difficult (Martindale, 2013). The net outcome is shortages in time of emergencies.

A good example of lack of effective procurement functions in NGOs is the case of an aftermath of the 2004 Indian Ocean Tsunami, where difficulties in acquiring resources compromised donors' efforts in achieving a successful recovery (Chang, et al, 2011). There was a need to establish the factors influencing effective implementation of procurement practices in non-governmental organizations. There has conceptual, theoretical and contextual knowledge gap in some of the previous studies focusing on procurement in NGOs. Studies by Mwanjumwa and Simba (2015) for instance focused on factors influencing procurement performance in humanitarian relief organization in the case of International Committee of the Red Cross in Kenya, Njeru (2015) focused on procurement practices and donor funding in nongovernmental organizations in Nairobi city county while Ahmed & Student (2004) established accountability and control in non-governmental organizations (NGOs)-A Case of Bangladesh. This study indicated that the focus of Ahmed & Student (2004) was in Bangladesh while the Mwanjumwa and Simba (2015) focused on procurement performance as well as Kenya Red Cross. On the other hand, Njeru (2015) study had a conceptual knowledge gap. Procurement process is a critical process in the humanitarian NGOs but there is less literature on procurement process among the humanitarian NGOs in Kenya (Gelsdorf, 2010). There was hence a need to establish the factors influencing effective implementation of procurement practices in non-governmental organizations.

Research Objectives

- i. To establish the influence of staff competency on effective implementation of procurement practices in Non-governmental Organizations
- ii. To determine the influence of technology adoption on effective implementation of procurement practices in Non-governmental Organizations
- iii. To establish the influence of top management support on effective implementation of procurement practices in Non-governmental Organizations
- iv. To determine the influence of organizational culture on effective implementation of procurement practices in Non-governmental Organizations

Literature Review

Theoretical Review

Resource Based view

The theory describes how business owners build their business from the resources and capabilities that are currently possessed or can be acquired. Resources have been found to be important antecedents to products and ultimately to performance (Armstrong & Taylor, 2014). Resource may be tangible or intangible and are harnessed into strengths and weaknesses by companies and in so doing lead to competitive advantage. The resource based theory continues to be refined and empirically tested (Bharadwaj, Saxena & Halemane, 2010). The resource based view addresses the resources and capabilities of the firm as underlying factors of performance. Capabilities do not depend only on firm resources: they are more than resource sets, more than a function of prior resource deployment. Capabilities govern how resources are transformed into products through firm specific organizational norms and routines; through the development, management and interchange of information and knowledge via human capital and through the creation of an organizational culture that supports the firm's global activities and derives from a collective learning process (Medcof & Song, 2013).

Systems Theory

A system can be defined as an entity, which is a coherent whole (Maull, Ng and Yip, 2009) such that a boundary is perceived around it in order to distinguish internal and external elements and to identify input and output relating to and emerging from the entity. System theory is a theoretical perspective that analyzes a phenomenon seen as a whole and not as simply the sum of elementary parts. The focus is on the interactions and on the relationships between parts in order to understand an entity's organization, functioning and outcomes. Open System theory (OST) looks at relationships between the organizations and the environment in which they are involved. This focus reflects on organization's ability to adapt to changes in environmental conditions with or without the need for information processing. This theory assumes that entities able of processing information about own specific environment show more adaptation skills to shifts in contextual conditions. According to viable system model approach (Christopher, 2007), competitive firm behaviour is strictly linked to the ability to identify and manage functions and relationships, thereby establishing communication channels, organizing information flow, and rationalizing and harmonizing a firm's development aligned with all external relationships.

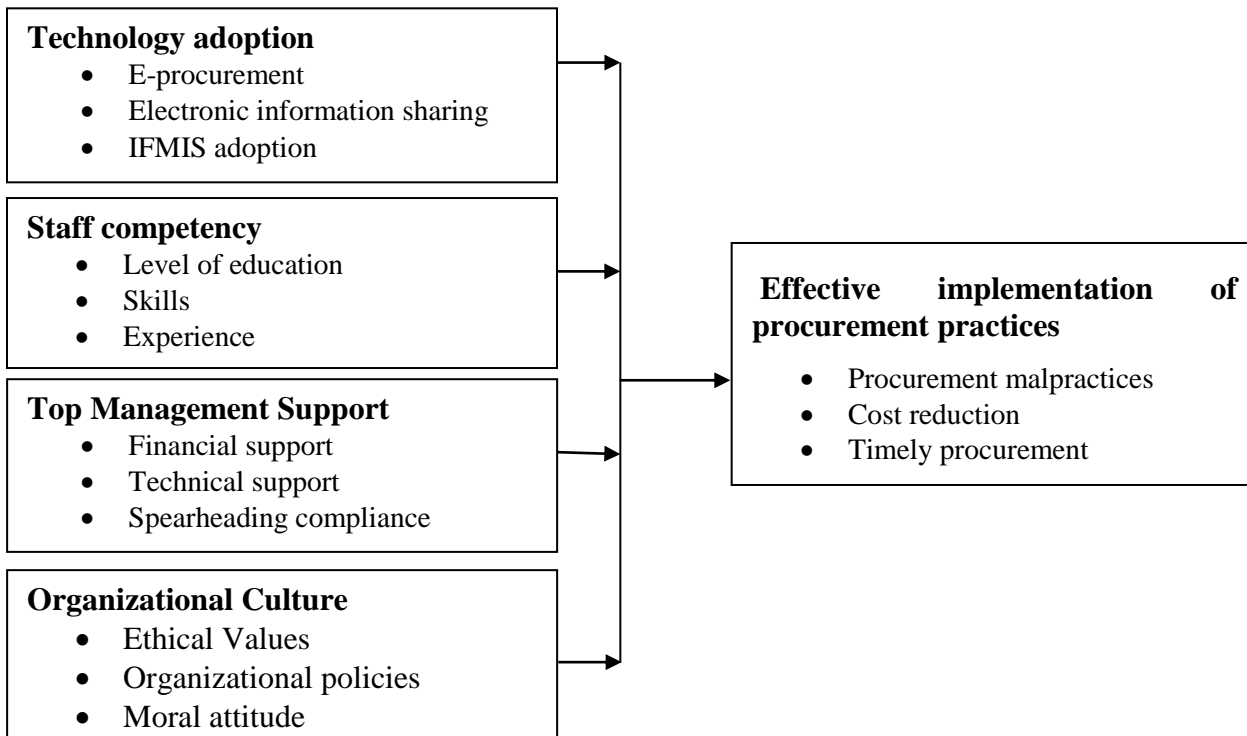
Upper Echelons Theory

Upper-echelons theory has its roots in the behavioral theory of the firm (Cyert & March, 1963; March & Simon, 1958) and the notion of bounded rationality and more specifically selective perception. The nature of the issues that strategic decision-makers face voids the use of a rational economic model. Consequently the choices managers make contain a behavioral component which in some way reflects their own idiosyncrasies. Since the publication of upper-echelons theory there has been much research supporting the relationship between top-management team characteristics and firm efficiency (Eisenhardt & Schoonhoven, 1990; Finkelstein & Hambrick, 1996; Norburn & Birley, 2008; Thomas, Litschert & Ramaswamy, 2001), top-management team tenure and strategy (Gabarro, 2007; Wiersema & Bantel, 1992). This theory is relevant to the study as it links to top management support which is an independent variable. The Upper-echelons theory links top management support with efficiency whereby it recognizes ingredients such as: commitment, frequency of attendance at meetings, level of involvement in information requirements analysis; and the level of involvement in decision-making. Overall it must be acknowledged that there is support for the basic premise of upper-echelons theory, that organizations (their strategies and performance) are a reflection of their top managers' idiosyncrasies and biases (Kingori & Ngugi, 2014).

Human Relations Theory

Human Relations Theory, also known as behavioral management theory, focuses more on the individuals in a workplace than the rules, procedures and processes. Instead of directives coming directly from management, human relations theory provides communication between employees and managers, allowing them to interact with one another to help make decisions. Instead of giving workers quotas and requiring certain procedures, workers are exposed to motivational and emotional tactics to get them to increase productivity. The focus of this style is creating fulfilled, productive workers and helping workers invest in a company (Mayo, 2000).

Conceptual Framework



Independent Variables

Dependent Variable

Figure 1 Conceptual Framework

Staff Competency

Competency is defined as a capability, ability or an underlying characteristic of an individual which is casually related to effective or superior performance. For purposes of this study, competency was used to refer to applied knowledge and skills, performance delivery, and the behaviour required to get things done very well. According to Mungai (2014), competency refers to the specified skills, knowledge, attitudes and behavior necessary to achieve a task, activity or career. Organizations may sometimes distinguish between competencies and competences with the former indicating the desired personal attributes and behaviours while the latter referring to the knowledge and skill required to bring about improved performance (Telewa, 2014). The human capital competency affects the performance of the procurement within the county government procurement officials (Mbae, 2014). The human capital competence can be assessed through the level of education (diploma, degree, post graduate etc.), education specialization, procurement knowledge, professional experience and the technical skills (Mauki, 2014). The efficiency of the staff on the public performance is enhanced by the superior and specialized level of education qualification. In this context, Muange (2013) argues that the possibility of the increase in motivation and subsequent performance lies with having staff with superior level of education which is an aspect of staff competency.

Technology adoption

According to Barry et al (2008), Information technology (IT) in its broadest sense encompasses all aspects of computing technology. IT is concerned with issues related to advocating for users and meeting their needs within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies. The potential of information technology is realised through its integrated use in the various core and support functions of an organization as well as with external business partners. It is therefore ideal if an IT strategy exist that can provide orientation for both the procurement organization and for the further development of IT (Barry et al, 2008). Fasanghari et al. (2008) defines IT as “the use of inter organizational systems that are used for information sharing and/or processing across organizational boundaries”. Fasanghari et al (2008) indicated that companies attempting to find ways to improve their flexibility and responsiveness and in turn competitiveness by changing their operations strategy, methods and technologies that include the implementation of supply chain management paradigm. Hence, information technology (IT) can enhance the ability of procurement.

Top Management Support

The importance of top management support for successful procurement planning implementation has for a long time been recognized in the Supply Chain Management literature (Apiyo & Mburu, 2014). The need for top management support is also well established among other practitioners. In a recently conducted survey (Larson et al., 2007) among senior members of the council of supply chain management professionals, top management support is identified as the most important facilitator for implementation of procurement planning. Despite top management support importance in implementation of procurement planning activities, the commitment for procurement planning issues from top management is however inadequate (Sandberg, 2007). Blair and Wrigh (2012) have identified lack of senior management support as a barrier to sustainable procurement. An organisational structures and processes that are supportive and conducive towards sustainable solutions, as well as senior management support are considered key in sustainable procurement. The Sustainable Procurement Task Force (Defra, 2006) reiterated that there was a lack of clear direction from top management to make delivering sustainable development objectives through procurement a priority.

Organizational Culture

Organizational culture includes the shared beliefs, norms and values within an organization. It sets the foundation for strategy. For a strategy within an organization to develop and be implemented successfully, it must fully align with the organizational culture. Thus, initiatives and goals must be established within an organization to support and establish an organizational culture that embraces the organization’s strategy over time. Culture within an organization can serve many purposes, including unifying members within an institution and help create a set of common norms or rules within an institution that employees follow (Bashuna, 2013). Lack of a professional culture change poses a considerable challenge to the successful and sustained development of the procurement system. Many public servants are continually exposed to a bureaucratic culture that emphasized compliance with procedure rather than the conviction and the realization that the customers need come first, while others have a culture of hierarchy and acceptance of orders rather than questioning of activities or reasoning of decisions. Many of the challenges and concerns relate to the fact that government institutions have not professionalized their procurement processes, systems and staff (Weele, 2010).

Research Methodology

This study used a descriptive research design. The study targeted a population of 120 personnel in the various departments which comprised of top management who manages the personnel in the procurement function, finance department which liaised with procurement for financing and payment of the suppliers, marketing department which provided information forecast in demand and supply and market dynamics to procurement function and procurement department personnel who were tasked with procurement of goods and services for the organization. Yamane (1967) formula was used to establish a sample size of 92 respondents.

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = sample size, N = Population size, e = margin of error set at 5%. Stratified random sampling was then used to select the population. Data was collected using questionnaires which were structured in nature. Quantitative methods of data analysis were used in the study. It involved descriptive and inferential analysis. The factors influencing effective implementation of procurement practices in non-governmental organizations was established using a regression equation as:

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

Where: Y is the dependent variable (Effective implementation of procurement Practices), X₁ is Staff Competency, X₂ is Technology adoption, X₃ is Top Management Support, X₄ is Organizational Culture, β_0 is the regression constant or intercept, β_1 , β_2 , β_3 , and β_4 are the unknown parameters (regression coefficients) and ϵ is the error term

Results

The number of questionnaires that were administered was 92. A total of 64 questionnaires were properly filled and returned. This represented an overall successful response rate of 69.6%

Demographics Analysis

This section contains results on demographic analysis which include; age of the respondents, level of education, department they work in and work experience.

Table 1 Demographic Analysis

Demographic Characteristics	Category	Percentage
Age	20-29 Years	9.4%
	30-39 Years	37.5%
	40-49 Years	34.40%
	50 and Above	18.8%
Level of Education	Diploma	22%
	Degree	7*8%

Demographic Characteristics	Category	Percentage
Department	Procurement	46.9%
	Finance	34.4%
	Marketing	18.8%
Experience	Below 3 Years	28.1%
	4-7 Years	28.1%
	8-10 Years	31.3%
	Above 10 Years	12.5%

Staff Competency

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding staff competency. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 4.3. The findings revealed that majority of the respondents agreed that the procurement staffs level of education is high (Mean = 4.63), there is constant trainings to improve the competency of the procurement staff (Mean = 4.72) and that the professional conduct of the procurement staff is highly considered in the organization (Mean = 3.53). On average, majority of the respondents were neutral on the statement that during recruitment of procurement staff, there is consideration of the technical skills the candidates have (Mean = 3.34) and that during recruitment of procurement staff, there is consideration of the experience the candidates have (Mean = 3.19). On average, the respondents agreed on the importance of staff competency in effective implementation of procurement practices (Overall Mean = 3.88). There was a small variation in the responses meaning that majority of the respondents shared similar opinions (Standard deviation = 1.02). The findings imply that the procurement staffs competency in terms of level of education, experience and technical skills is vital for effective implementation of procurement practices. The results are consistent with Onyinkwa (2013) who studied factors affecting compliance to procurement regulations in public secondary schools in Kenya and established that competence among staff contributes to compliance of procurement regulations.

Table 2 Descriptive Statistics for Staff Competency

Statement	Mean	Standard Deviation
The procurement staffs level of education is high	4.63	0.79
There is constant trainings to improve the competency of the procurement staff	4.72	0.67
During recruitment of procurement staff, there is consideration of the technical skills the candidates have	3.34	1.12

Statement	Mean	Standard Deviation
During recruitment of procurement staff, there is consideration of the experience the candidates have	3.19	1.22
The professional conduct of the procurement staff is highly considered in the organization	3.53	1.31
Average	3.88	1.02

Technology Adoption

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding technology adoption. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses were as shown in Table 3. The results indicated that majority of the respondents agreed that the organization had enough IT framework for adoption of E-procurement (Mean = 3.84) and that the IT department has enough staff required to run the E-procurement program (Mean = 3.94). The respondents on average, were neutral on the statements that the organization has set a strong support system for adoption of E-procurement (Mean = 3.38), necessary measures has been put in place to counter threats of virus attacks to the system (Mean = 3.22) and that the organization has allocated resources towards effective running of E-procurement program (Mean = 3.38). On average, the respondents agreed on the importance of technology adoption in effective implementation of procurement practices (Overall Mean = 3.55). There was a small variation in the responses meaning that majority of the respondents shared similar opinions (Standard deviation = 1.39). The findings imply that technology adoption in terms of e-procurement, electronic information sharing and IFMIS adoption is vital for effective implementation of procurement practices. The results are consistent with Mwanjumwa and Simba (2015) who assessed the factors influencing procurement performance in humanitarian relief organization in the case of International Committee of the Red Cross in Kenya and established that application of information technology significantly affected the procurement performance at ICRC-Kenya.

Table 3 Descriptive Statistics for Technology Adoption

Statement	Mean	Standard Deviation
The organization has enough IT framework for adoption of E-procurement	3.84	1.41
The organization has set a strong support system for adoption of E-procurement	3.38	1.55
The IT department has enough staff required to run the E-procurement program	3.94	1.42
Necessary measures have been put in place to counter threats of virus attacks to the system	3.22	1.42
The organization has allocated resources towards effective running of E-procurement program	3.38	1.15
Average	3.55	1.39

Top Management Support

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding top management support. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 4. The study findings indicated that majority of the respondents agreed that the top management promotes transparency in procurement activities (Mean = 3.88), the top management promotes accountability during procurement (Mean = 4.31), the top management facilitates oversight and provides a good basis to prevent corruption (Mean = 3.53), the top management is dedicated to ethical corporate behavior (Mean = 3.72) and that the top management spearheads compliance to procurement practices (Mean = 3.88). On average, the respondents agreed on the importance of top management support in effective implementation of procurement practices (Overall Mean = 3.86). There was a small variation in the responses meaning that majority of the respondents shared similar opinions (Standard deviation = 1.23). The findings imply that top management support in terms of financial support, technical support and spearheading compliance is vital for effective implementation of procurement practices. The findings are consistent with Kingori and Ngugi (2014) who investigated the determinants of procurement performance at Retirement Benefit Authority in Kenya and revealed that top management commitment among other variables significantly affected procurement practices and performance.

Table 4 Descriptive Statistics for Top Management Support

Statement	Mean	Standard Deviation
The top management promotes transparency in procurement activities	3.88	1.30
The top management promotes accountability during procurement	4.31	1.05
The top management facilitates oversight and provides a good basis to prevent corruption.	3.53	1.15
The top management is dedicated to ethical corporate behaviour	3.72	1.31
The top management spearheads compliance to procurement practices	3.88	1.30
Average	3.86	1.23

Organizational Culture

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding organizational culture. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 4.6. The findings reveal that majority of the respondents agreed that the organization culture is supportive towards compliance to the public procurement practices (Mean = 4.63), the organization culture is supportive of moral ethical values when conducting any activity on its behalf (Mean = 4.78), the organization culture supports rewarding of good morals and compliance to procurement practices (Mean = 4.56), the organization culture supports employees practices which favors compliance to organizational practices (Mean = 4.34) and that the organization encourages provision of penalties for non-compliance to procurement practices (Mean = 4.4).

On average, the respondents agreed on the importance of organizational culture in effective implementation of procurement practices (Overall Mean = 4.54). There was a small variation in the responses meaning that majority of the respondents shared similar opinions (Standard deviation = 0.60). The findings imply that organizational culture in terms of ethical values of the procurement staff, organizational policies and moral attitude of procurement staff is vital for effective implementation of procurement practices. These findings are consistent with Namugenyi (2012) who conducted a study to investigate the relationship between ethical culture, moral awareness, moral attitude and moral action of staff involved in public procurement in Uganda and revealed that ethical culture, moral awareness and moral attitude were significant predictors of moral action and affected implementation of procurement practices.

Table 5 Descriptive Statistics for Organizational Culture

Statement	Mean	Standard Deviation
The organization culture is supportive towards compliance to the public procurement practices	4.63	0.79
The organization culture is supportive of moral ethical values when conducting any activity on its behalf	4.78	0.42
The organization culture supports rewarding of good morals and compliance to procurement practices	4.56	0.50
The organization culture supports employees practices which favors compliance to organizational practices	4.34	0.82
The organization encourages provision of penalties for non-compliance to procurement practices	4.41	0.50
Average	4.54	0.60

Implementation of Procurement Practices

The study sought to find out the extent to which the respondents agreed or disagreed with the statements regarding implementation of procurement practices. A Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Moderately Agree, 4 = Agree and 5 = Strongly Agree was used. The summary mean responses are as shown in Table 6. The results show that majority of the respondents agreed that implementation of procurement practices has led to a reduction in procurement cost (Mean = 4.63), implementation of procurement practices has led to a reduction in order cycle time (Mean = 4.78), implementation of procurement practices has led to a reduction in delays in procurement (mean = 4.66), implementation of procurement practices has led to a reduction in shortages (Mean = 3.53) and that implementation of procurement practices has led to a reduction in procurement malpractices (Mean = 4.09). On average, majority of the respondents agreed that if there is implementation of procurement practices, it would lead to an improvement in order cycle lead time, reduction in procurement malpractices and reduction in procurement costs.

Table 6 Descriptive Statistics for Implementation of Procurement Practices

Statement	Mean	Standard Deviation
Implementation of procurement practices has led to a reduction in procurement costs	4.63	0.79
Implementation of procurement practices has led to a reduction in order cycle time	4.78	0.67
Implementation of procurement practices has led to a reduction in delays in procurement	4.66	0.54
Implementation of procurement practices has led to a reduction in shortages	3.53	1.49
Implementation of procurement practices has led to a reduction in procurement malpractices	4.09	0.39
Average	4.34	0.78

The respondents were asked to indicate the changes in cost involved in procurement of the organization for the last four years from the year 2013 to the year 2016. The findings revealed that highest costs were recorded in the year 2013. However in the subsequent years, that are 2014 to the year 2016, there had been a decrease in the costs but by a small margin of less than 50%. The findings revealed that the problem of procurement in humanitarian NGOs had not yet been fully solved. There is a need to implement procurement practices effectively with the aid of structures such as having top management support, competent staff, positive organizational culture and technology adoption.

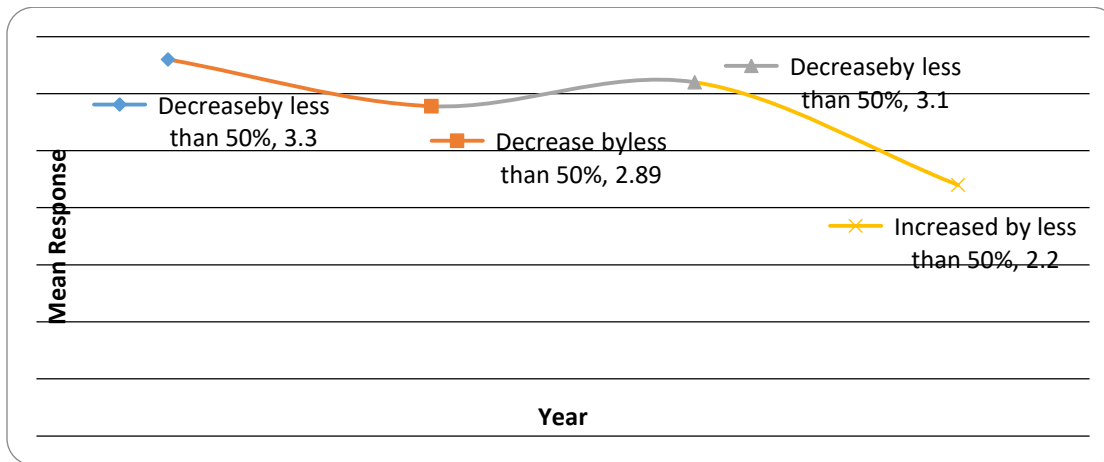


Figure 2 Changes in Procurement Costs (2013 -2016)

The respondents were asked to indicate the changes in order cycle lead time in the organization for the last four years from the year 2012 to the year 2016. The findings revealed that highest order cycle lead time was recorded in the year 2012.

The order cycle lead time has been improving through the years to a massive decrease by over 50% in the year 2016. This can perhaps be attributed to an improvement in implementation of procurement practices. It can specifically be attributed to adoption of technology to speed up the procurement process.

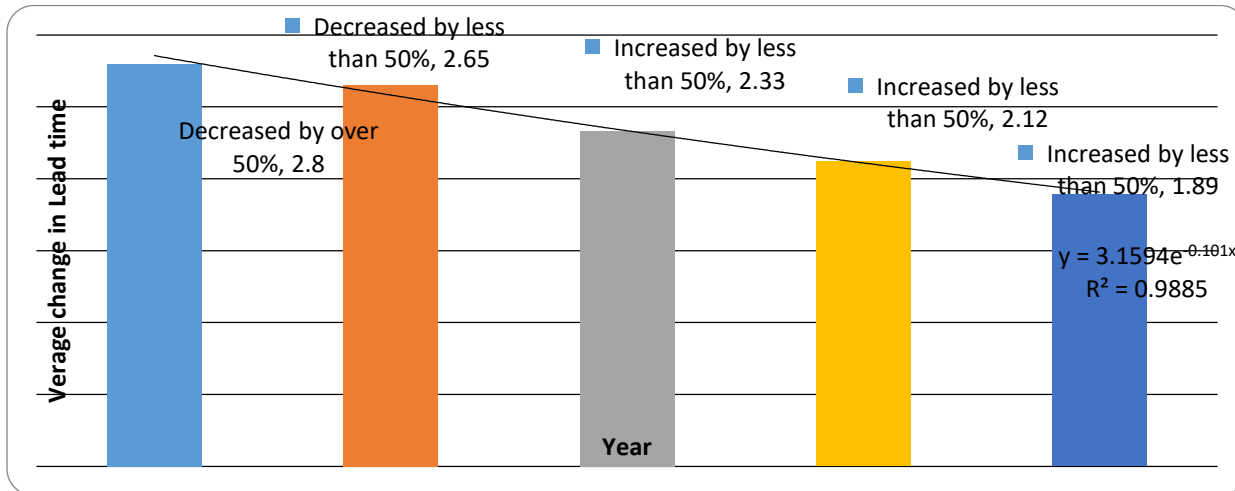


Figure 3 Changes in Order cycle lead time (2013 -2016)

Correlation Analysis

The study used correlation analysis to establish the association among the variables used in the study. The findings showed that staff competency has a positive and significant correlation with effective implementation of procurement practices ($r = 0.353$, $\text{sig} < .05$). This shows that improving staff competency in terms of procurement staff technical skills, experience and level of education is associated with a significant increase in implementation of procurement practices in humanitarian NGOs. The findings are consistent with Lin and Lee (2007) who revealed that implementing of procurement legislation needs skill and knowledge to operate in the organizations and most organizations do not implement it because organizations' employees are not conversant with new technology. The findings also showed that technology adoption has a positive and significant correlation with effective implementation of procurement practices ($r = 0.247$, $\text{sig} < .05$). This shows that improving technology adoption in terms of e-procurement, electronic information sharing and IFMIS adoption is associated with a significant increase in implementation of procurement practices in humanitarian NGOs. These results are consistent with Thai (2008) who established that the quality of procurement, procurement related workforce and existing technology influences the efficiency of the procurement process and the degree of compliance to policies.

The study results also revealed that top management support has a positive and significant correlation with effective implementation of procurement practices ($r = 0.427$, $\text{sig} < .05$). This implies that improving top management support in terms of financial support, technical support and spearheading compliance is associated with a significant increase in implementation of procurement practices in humanitarian NGOs. The findings of the study are consistent with the findings of the study by Kirui and Wanyoike (2015) who noted that when top management supports implementation of procurement practices and gives much greater emphasis to developing competence of the procurement staff as well as adoption of the best practices more widely, it improves adherence to procurement practices and policies.

The findings lastly revealed that organizational culture has a positive and significant correlation with effective implementation of procurement practices ($r = 0.466$, $\text{sig} < .05$). This implies that improving organizational culture in terms of ethical values of the procurement staff, organizational policies and moral attitude of procurement staff is associated with a significant increase in implementation of procurement practices in humanitarian NGOs. The findings agree with Kibet, & Metto (2016) who conducted a study to assess the influence of organization culture on the implementation of public procurement strategic plans in public institutions and revealed that culture determines the work climate that influences public procurement processes; it contributes to the procedures of implementation of procurement plans. The study findings further revealed culture promotes policies and harmony as well as accountability in the procurement systems.

Table 7 Correlation analysis

		Staff Competency	Technology adoption	Top Management support	Organizational culture	Implementati on of Procurement practices
Staff Competency	Pearson Correlation Sig. (2-tailed)	1				
Technology adoption	Pearson Correlation Sig. (2-tailed)	-0.229 0.069	1			
Top Management support	Pearson Correlation Sig. (2-tailed)	-0.153 0.226	-0.243 0.053	1		
Organizational culture	Pearson Correlation Sig. (2-tailed)	0.114 0.371	0.087 0.495	.322** 0.01	1	
Implementation of Procurement practices	Pearson Correlation Sig. (2-tailed)	.353** 0.004	0.242* 0.045	.427** 0.000	.466** 0.000	1

** Correlation is significant at the 0.01 level (2-tailed).
 * Correlation is significant at the 0.05 level (2-tailed).

Regression Analysis

The study used a regression analysis to test the effect of the four independent variables that is staff competency, technology adoption, top management support and organizational culture on effective implementation of procurement practices using the multivariate regression model indicated as:

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

Where: Y is the dependent variable (Effective implementation of procurement Practices), X_1 is Staff Competency, X_2 is Technology adoption, X_3 is Top Management Support and X_4 is Organizational Culture.

The significance of the beta coefficients was tested at 5% level of significance. The results for model summary, fitness and coefficients are presented.

Table 8 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.795	0.632	0.607	0.259354

The regression results show that staff competency, technology adoption, top management support and organizational culture jointly have a positive correlation with effective implementation of procurement practices (R = 0.795). This implies that an improvement in the four variables jointly, has a positive effect on effective implementation of procurement practices. The findings also presented the coefficient of determination (R-square). Generally, a higher value of R-Square means that you can better predict one term from another. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (effective implementation of procurement practices) that is explained by all the four independent variables that is staff competency, technology adoption, top management support and organizational culture.

From the findings 63.2% of the variation in effective implementation of procurement practices in humanitarian NGOs is attributed to combination of the four factors (staff competency, technology adoption, top management support and organizational culture) investigated in this survey at 5% level of significance. This implies that the remaining 36.8% of the variation in effective implementation of procurement practices in humanitarian NGOs is attributed to other factors not investigated in this survey; therefore, further research should be conducted to investigate them. The study also conducted an Analysis of Variance to establish the model fitness or significance. The results are presented in Table 9.

Table 9 Model Significance (ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.809	4	1.702	25.306	.000
Residual	3.969	59	0.067		
Total	10.777	63			

The ANOVA Table shows that the test for the joint significant which is given by the F statistic is 25.306 and as observed in table 4.10, it is statistically significant (0.000 which is less than .05) at 5 percent level of significance. This implies that staff competency, technology adoption, top management support and organizational culture significantly predict effective implementation of procurement practices in the humanitarian NGOs in Kenya.

The ANOVA statistics at 5% level of significance shows that the value of F calculated (F computed) is 25.306 and the value of F critical (F tabulated) at 4 degrees of freedom and 59 degrees of freedom at 5% level of significance is 0.1859. Since F calculated (F computed) is greater than the F critical (F tabulated) (25.306>0.1859), this shows that the overall model was significant at 5% significance level. This therefore reveals that the regression model developed is statistically significant and the variation in the results is insignificant that cannot result to a much difference in case of a change in the study units (population) and therefore the model can be relied upon to explain the determinants of effective implementation of procurement practices in humanitarian NGOs. The model coefficients were lastly established as indicated in Table 10.

Table 10 Regression Model Coefficients

Predictor Variables	B	Std. Error	t	Sig.
(Constant)	0.556	0.467	1.19	0.239
Staff Competency	0.341	0.055	6.195	0.000
Technology adoption	0.173	0.031	5.560	0.000
Top Management Support	0.232	0.037	6.239	0.000
Organizational Culture	0.214	0.103	2.074	0.042

a Dependent Variable: Effective implementation of Procurement Practices

Optimal Regression Model

Effective Implementation of Procurement practices = 0.556 + 0.341 (Staff Competency) + 0.232 (Top Management Support) + 0.214 (Organizational Culture) + 0.173 (Technology adoption)

The data findings analyzed shows that Staff competency has a positive and significant influence on effective implementation of procurement practices among humanitarian NGOs in Kenya (Beta = 0.341, P- value = 0.000). These results imply that, taking all other independent variables constant at zero, a 1% increase in staff competency indicators such as experience of the procurement staff, their skills and level of education will lead to a 0.341% significant increase in effective implementation of procurement practices. The results are consistent with the results of a study by Hui, Othman, Normah, Rahman & Haron (2011) who sought to investigate the barriers to e-procurement implementation and ranked in order of importance the factors affecting e-procurement implementation as inadequate technical infrastructure, lack of skilled personnel, inadequate technological infrastructure of business partners, lack of integration with business partners, implementation costs, company culture, inadequate business processes to support e-procurement, regulatory and legal controls, security, cooperation of business partners, inadequate e-procurement solutions and upper management support.

The results further revealed that technology adoption has a positive and significant influence on effective implementation of procurement practices among humanitarian NGOs in Kenya (Beta = 0.173, P- value = 0.000). These results imply that, taking all other independent variables constant at zero, a 1% increase in technology adoption indicators such e-procurement, electronic information sharing and IFMIS adoption will lead to a 0.173 % significant increase in effective implementation of procurement practices. These results are consistent with Lubuulwa (2006) who conducted a study to investigate the viability of e-Public Procurement in Uganda and concluded that electronic tender document evaluation systems can improve the procurement process significantly and if they are well adapted, they can save time in terms of bid evaluation.

The regression findings also showed that top management support has a positive and significant influence on effective implementation of procurement practices among humanitarian NGOs in Kenya (Beta = 0.232, P- value = 0.000). These results imply that, taking all other independent variables constant at zero, a 1% increase in top management support indicators such financial support, technical support and spearheading compliance will lead to a 0.232% significant increase in effective implementation of procurement practices. These results are consistent with the results of a study by Mauki, (2014) who sought to find out the factors influencing Implementation of Public Procurement and Disposal Act in Kenyan Judiciary from a regional perspective and revealed that accountability, ICT adoption, stakeholders' ethics, top management support and staff competence affected implementation of Public Procurement and Disposal Act at the Kenyan Judiciary.

The findings lastly showed that organizational culture has a positive and significant influence on effective implementation of procurement practices among humanitarian NGOs in Kenya (Beta = 0.214, P- value = 0.042). These results imply that, taking all other independent variables constant at zero, a 1% increase in organizational culture indicators such ethical values of the procurement staff, organizational policies and moral attitude of procurement staff will lead to a 0.214% significant increase in effective implementation of procurement practices. These findings agree with Sitenda (2012) who conducted a study to examine the relationship between Ethical Culture, Justice Perceptions, Legitimacy of the procurement law enforcement authority and compliance with the public procurement law in Central government procuring and disposing entities based in Uganda and revealed that ethical culture and legitimacy of the public procurement law are significant predictors of compliance.

Conclusions

The summary of the findings led to the conclusions of the study. This was also done in line with the objectives of the study. The study sought to establish the factors influencing effective implementation of procurement practices in non-governmental organizations. This is established under this section. The findings of the study led to the conclusion that staff competency has a positive and significant influence on effective implementation of procurement practices. Improving staff competency in terms of procurement staff technical skills, experience and level of education is associated with a significant increase in implementation of procurement practices in humanitarian NGOs. The study concluded that technology adoption has a positive and significant influence on effective implementation of procurement practices. Improving technology adoption in terms of e-procurement, electronic information sharing and IFMIS adoption leads to a significant increase in implementation of procurement practices in humanitarian NGOs. The study also concluded that top management support has a positive and significant influence on effective implementation of procurement practices. Improving top management support in terms of financial support, technical support and spearheading compliance leads to a significant increase in implementation of procurement practices in humanitarian NGOs. Another conclusion made by the study is that organizational culture has a positive and significant influence on effective implementation of procurement practices. Improving organizational culture in terms of ethical values of the procurement staff, organizational policies and moral attitude of procurement staff leads to a significant increase in implementation of procurement practices in humanitarian NGOs.

Recommendations of the study

The study recommends that since staff competency has a positive and significant influence on effective implementation of procurement practices there is a need for the management of humanitarian NGOs to improve staff competency in terms of procurement staff technical skills, experience and level of education. Another

recommendation is that since technology adoption has a positive and significant influence on effective implementation of procurement practices, the management of Caritas Rumbek and other NGOs should improve technology adoption in terms of e-procurement, electronic information sharing and IFMIS adoption.

The study recommends that since top management support has a positive and significant influence on effective implementation of procurement practices, the management of Caritas Rumbek and other NGOs, should consider improving top management support in terms of financial support, technical support and spearheading compliance. The study recommends that since organizational culture has a positive and significant influence on effective implementation of procurement practices, there is a need for Caritas Rumbek and other NGOs to improve organizational culture in terms of ethical values of the procurement staff, organizational policies and moral attitude of procurement staff.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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