

Determinants Influencing Supply Chain Compliance with Public Procurement: A Case Study for Kiambu County, Kenya

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Abstract

Aim: The goal of this study was to examine the variables influencing Kenya's SCM compliance with public procurement.

Methods: To answer the research questions, an exploratory design was used in the study. Supply chain management directors from Kiambu, Kenya's central government departments participated in the study. Respondent information was gathered through personal interviews. Structured questionnaires with both open-ended and closed-ended questions served as the tool. Quantitative approaches were used to analyze the study's data. The results were analyzed using a Likert scale and SPSS software. The cause-and-effect connection between the dependent and independent variables was ascertained using regression analysis. The information was presented using tables, graphs, and charts.

Results: Using SPSS, the information gathered from seven of the eight respondents who were specifically targeted was analyzed and presented using tables, charts, frequencies, and percentages. 87.5 percent of those who responded did so. Compared to the predicted reply rate of 75%, this response rate was quite high. The majority of the targeted respondents returned the questionnaire, which allowed the study's goal to be met.

Conclusion: The majority of respondents agreed that seminars and training sessions are hardly offered.

Recommendation: It is advised that PPOA supply more copies of the Act and regulation to every procurement officer in every public procurement agency based on the findings of the research. To make reading more appealing, PPOA could adopt friendlier wording in the copies.

Keywords: *PPOA, Procurement, SCM.*

INTRODUCTION

Background of the Study

Despite attempts by the Public Procurement Oversight Authority (PPOA) to implement measures to increase compliance with the Public Procurement and Disposal Act (PPDA) of 2005 and the Public Procurement and Disposal Regulations (PPDR) of 2006, compliance levels remain poor in Kenyan public institutions. According to De Boer and Teigen (1998), quoted by Gelderman et al. (2006), compliance is an issue that is not just present in third-world nations but is also noticeable in the nations that make up the European Union. Further causes for non-compliance are advanced by Gelderman et al. (2006) and relate to the propensity to avoid procurement process red tape. However Sewanyana (2009) asserts that the type of goods and services procured sometimes influences the degree of compliance with the procurement regulations. In the past decades, the public procurement system in Kenya has undergone significant developments, evolving from a crude system with no regulations to an orderly legally regulated procurement system. It was a system that had been regulated by Treasury Circulars in the 1970s, 1980s and 1990s; however, the introduction of the Public Procurement and Disposal Act (PPDA) of 2005 and the Public Procurement and Disposal Regulations (PPDR) of 2006 has introduced new standards to comply with for public procurement in Kenya (Government of Kenya, 2007).

In line with the country's public procurement reforms agenda, Kenya in 2006 committed itself to become one of the twenty two countries participating in the pilot testing a new methodology for assessment of National Procurement Systems (Government of Kenya, 2007). The regulation was set to apply to all public procurement and disposal by all public entities in order to assist in avoidance of doubt. It was set to include anybody that uses public funds, anybody that uses public assets in any form of contractual undertaking, private companies owned by a public entity to carry out functions that would have otherwise been performed by the public entity as well as anybody where the government has interest and it is the opinion of the Authority that it is a public entity (Government of Kenya, 2007). The Public Procurement Oversight Authority (PPOA) was created in January 2007 with promulgation of management responsibility for the carrying out procurement procedures and maintains its independence by avoiding participation in other procuring entities decisions on the evaluation of bids or selection, of bidders or contractors (PPOA, 2009).

During the same time frame, the Public Procurement and Disposal Act (PPDA) and related rules went into force. In order to promote the procurement reform initiative and enhance the delivery of health services, the Government of Kenya (GoK) and the Millennium Challenge Corporation (MCC) engaged into a,- threshold Agreement in 2007. (Government of Kenya, 2001). In October 2007, Tetra Tech International Development started working on the Threshold Agreement's section dealing to enhancing the public procurement system. The manuals and other documents that Tetra Tech International Development has prepared enable PPOA to meet its statutory obligations and provide useful tools that will help the procurement staff to understand the requirements of the law and guide them in applying the law and other aspects of good practice to their procurement work.

The training seminars attracted a lot of participants, and reports from monitoring and evaluation revealed that many of them considered the training to be helpful for their job (Government of Kenya, 2004). There is now a framework in place for routine evaluations of procurement. Permanent secretaries and other senior officials have been informed of the shortcomings in their

procurement process and record-keeping procedures, and their commitment to putting the suggested changes into practice has been received. The media efforts gained extensive publicity and were broadcast during prime time news segments on major TV and radio stations. Greater public knowledge of corruption and other procurement-related malpractices may increase support for the PPOA's activities and the procurement reforms (Government of Uganda, 2002).

The Act the Authority provides that the procuring responsibility of a procuring entity should be transferred to another procuring entity or procuring agent in situations where the procuring entity is unable to comply with the Act, these Regulations, or the guidelines due to its size, capacity, or for any other reason, I' where the accounting officer determines that it would be more economical or efficient to delegate the function, and so on. However, it appears that the accounting officer who demands that the Authority outsource its role is ineffectual in the government ministries (Arrowsmith and Hartley, 2002). This might be the cause.

Statement of the Problem

In order to instruct personnel in charge of procurement in various entities on the laws and regulations that they should adhere with, the Public Procurement and Disposal Act of 2005 and Public Procurement and Disposal Regulations of 2006 were created. To help clear up any ambiguity, the rules were made to apply to all public disposal and purchase by all public agencies (Government of Kenya, 2001). It was set to include anybody that uses public funds, anybody that uses public assets in any form of contractual undertaking, private companies owned by a public entity to carry out functions that would have otherwise been performed by the public entity as well as anybody where the government has interest and it is the opinion of the Authority that it is a public entity (Government of Kenya, 2001). According to the Auditor and controller general report (2010) for the financial year 2009/2010 some shortcoming were pointed out regarding procurement procedures in various government ministries and departments. Some cases which brought heated arguments in the tenth parliament were selling of maize from National Cereal and Produce Board, Procurement of Kenya Embassy in Japan, Procurement of goods and services in the Ministry of water and Irrigation among others. However, despite the implementation of the Act and Regulations there is no significant study has been done to determine the factors affecting Supply Chain Management (SCM) compliance with Public Procurement and Disposal Act and Public Procurement and Disposal Regulations. Therefore, this study was meant to investigate the factors affecting SCM compliance with PPDA and PPDR in central government offices at district level.

General Objective

The study's main goal was to determine the difficulties associated with public offices adhering to the Public Procurement and Disposal Act and regulations.

Specific Objectives

The specific objectives that guided this study were;

1. Look at the impact of professionalism on SCM adherence to the Public Procurement and Disposal Act and Public Procurement and Disposal Regulations.
2. Learn how compliance with the Public Procurement and Disposal Act and Regulations is impacted by one's knowledge with the rules.

3. Analyze the effects of institutional determinants on SCM adherence to the Public Procurement and Disposal Act and Public Procurement and Disposal Regulations.
4. Establish how ICT adoption influences SCM compliance with Public Procurement and Disposal Act and Public Procurement and Disposal Regulations.

LITERATURE REVIEW

Conceptual Review

Professionalism in the Procurement Business

According to Walker (2003), in order to be professionally competent, public officials must carry out their duties as effectively and precisely as feasible. Trionfetti (2003) likewise thinks that encouraging professionalism improves group cohesiveness. Professionalism might aid in the creation of a supportive atmosphere for tendering, where all public sector workers and the general public share the same work values and work to improve the public sector. Professionalism encourages accountable public servants and service providers, which encourages the ongoing growth of ethical behavior (Burton, 2005). What we need in the public sector is a set of national core values, fostering integrity, professionalism, responsibility, accountability, honesty and competence, together with a collective national conscience that cuts through corruption and unethical behaviour. These core values could be an important guideline for public officials in that they should ensure that their behaviour is moral and competent at all times. The behaviour of both the service providers and public officials must reflect these national core values at all times (Prayas Energy Group, 2002).

Familiarity with Regulations

The PPDA of 2005's procedures are followed during the procurement process. To guarantee that all parties participating in the procurement process are treated fairly, certain procedures must be followed. Planning for the necessary procurement over a specified period, identifying the source of the items, highlighting specifications/beginning the procurement, deciding on the procurement process, sourcing (soliciting) offers, evaluating offers, post-qualifying, beginning the contract, contract performance (delivery), and management, record-keeping and accountability, payment, and post-contract performance are among the steps (PPDA, 2005). In Africa, many corporate board members, particularly those of state-owned businesses, have a poor knowledge of their responsibilities and are frequently vulnerable to manipulation by management, chairmen, or major shareholders. Some are outright incompetent. Non-executive directors in Africa need to play any meaningful role in the ensuring compliance. However many simply act as rubber stamps for decisions taken outside the board (Charles & Oludele, 2003). In this perspective, compliance arises from a dynamic equilibrium between the various powers of the state and understanding what their roles are (Fisher, 2004).

Institutional Factors

Guy (2000) asserts that there are SIX dimensions—autonomy, complexity, coherence, congruence, and exclusivity—through which we may assess the institutionalization of any system and its capacity for change. The way organizational operations are carried out is influenced by the connections made between and within organizations. The principal-agency theory proposes that shirking is likely to happen when there is some discord between decision-makers and the

bureaucracy. This theory offers one explanation for these relationships and their impact on the implementation of organizational operations. Civilian political leaders (principals) provide the bureaucracy (agent) autonomy with the understanding that if the agent does not act promptly to represent the principal's preferences for policy, the committee members may express their unhappiness by reducing the organization's budget. Leaders (the principals), through powers of appointment and the purse are in position to influence bureaucratic outputs. Guy, (2004) quoting Calvert et al. (1989), Moe (1985) and wood Waterman (1991) found that politicians wield considerable power in affecting bureaucratic outputs via the power of appointment.

Empirical Review

Lack of professionalism is listed as another reason for non-compliance by Sarah Eyaa and Pross Nagitta (2010). The PPDA Audit Report (2008) found that there was a significant level of unprofessionalism among Kenyan public procurement officials, which may still be ascribed to the industry's relative youth in Kenya. This assertion is supported by Basheka and Mugabira (2008), who claim that there is little to no professionalism in public procurement. Dobler and Burt (1996) define a profession as: "a calling requiring specialized knowledge and often long and intense preparation including instruction in skills and methods, maintaining by force of organization or concerted opinion high standards of achievement and conduct, and committing its members to continued study and to a kind of work to which has for its prime purpose the rendering of a public service" This definition is echoed by Millerson (1964) who lists the following essential features of a profession.

According to Millerson (1964), a profession must include the following characteristics: an ability that is theoretical in nature; one that necessitates study and training. The numerous issues that need to be managed by procurement specialists must be acknowledged, and plans must be developed. Professionals must be perceived as upholders of effectiveness and efficiency and must accept challenges in all of their forms and from all of their sources. Therefore, there is a pressing need to train experts and provide them new, higher-level abilities (Sauber et al., 2008). A skill is the capacity to carry out a certain behavioral task or a particular cognitive process that is tied to a given task (Peterson and Van Fleet, 2004). However, Lan, Riley and Cayer (2005) report that finding, hiring and retaining dedicated, energetic, and ethical employees with special skills is always hard. While we understand that professionalism is a key mechanisms for, and primary targets of institutional change, the precise role of professions and professional service firms in processes of institutional change remain under-theorized (Hwang & Powell, 2009; Scott, 2008).

The whole process of procuring goods and/or services is included in procurement, according to John and Hildah (2010). It starts once an agency decides on its procurement needs and recognizes a need. Risk evaluation, looking for and analyzing alternative solutions, contract award, delivery and payment of the goods and/or services, and, when applicable, ongoing contract management and the examination of alternatives connected to the contract, are all steps in the procurement process. The final disposition of property at the end of its useful life is likewise covered by procurement (Waters, 2004). Sound public procurement policies and practices are among the essential elements of good governance (KIPPRA, 2006). Otieno (2004) notes the irregular procurement activities in public institutions provide the biggest loophole through which public resources are misappropriated.

Thai (2001) asserts that accountability, competitive supply, and consistency are the fundamental principles of good procurement practice. Accountability calls for effective mechanisms to enable procuring entities to spend the limited resources wisely while being aware of their responsibility to the general public. Competitive supply requires that the procurement be carried out by competition unless there are compelling arguments for single sourcing. Informed decision-making, which calls on public entities to make choices on reliable information and I assure that standards are being met, is another aspect of the process that should protect integrity. More still, the Procurement practice should be responsive to aspirations, expectations and needs of the target society. Finally, there is need for transparency to enhance openness and clarity on procurement policy and its delivery (World Bank, 2003). Public procurement has, for long, been overshadowed with inefficiency, corruption and disregard of fundamental "value for money" considerations (John et al., 2010). This has adversely impacted the rate and quality of progress in realizing the objectives of national development, especially in developing and transition countries (Tan et al., 2009).

Wee (2002) asserts that moral principles or values serve as officials' compass in all facets of their work. Honesty, integrity, probity, diligence, fairness, trust, respect, and consistency are all parts of ethical behavior. Avoiding conflicts of interest and abusing a person's position are both examples of ethical behavior. Since public procurement includes the use of taxpayer funds and is open to public inspection, ethical behavior is crucial. Public servants should always act morally and equitably, especially while conducting business. A procurement process may be made more transparent and accountable when suppliers are confident enough to compete in the government market. Ethical behavior can also reduce the cost of managing risks associated with fraud, theft, corruption, and other improper behavior; and enhance confidence in public administration (Wee, 2002).

METHODOLOGY

The study used a quantitative technique and a cross-sectional research design. Using a standardized self-administered questionnaire, information was gathered from respondents who are procurement officials. Eight supply chain management directors from throughout Kiambu County's central government districts made up the study's intended audience. SPSS was used to analyze the data. The degree and direction of the association between the study's variables were determined using correlation analysis. The variance in compliance (dependent variable) that is explained by institutional characteristics, acquaintance with procurement laws, professionalism, and adoption of ICT was examined using regression analysis (independent variables).

DATA ANALYSIS, FINDINGS AND DISCUSSION

Demographic Characteristics

The gender breakdown amongst the respondents of various district SCM officers in Kiambu County were 71.43% male and 28.57% female. Kiambu County was found that no one was below 30 years, 14.29% between ages of 31-34, 42.85% were between 35 to 40 years old. 28.57% were found to be in between age of 41-44 while 14.29% were between 45-50 years. No one was above 51 years. The level of education of supply chain management officers was found to be that all are above primary level. 57.1% have bachelor degrees; 28.6% have diplomas from colleges while 14.3% were secondary school graduates. 14% of the respondents have worked for less than 1 year, 29% have worked for 1 to 5 years, 43% have worked for 6 to 10 years and 14% have worked for

10 years and above. 85.7% of the respondents are district supply chain management heads while 14.3% equivalent to one staff is assistant district head who act as a district head.

Descriptive Analysis

Familiarity with Regulations

On familiarity with procurement procedures and regulations variable five questions were asked to determine whether familiarity with regulations affect compliance with public procurement and disposal Act. The responses are as shown below.

Circulation of copies of the Act and Regulations

From the figure 1, 57% of the respondents agreed that copies were circulated to their respective departments, 14% strongly agreed, 29% disagreed and no one strongly disagreed. This indicated that 71% have the copies of the Act and regulations in their offices.

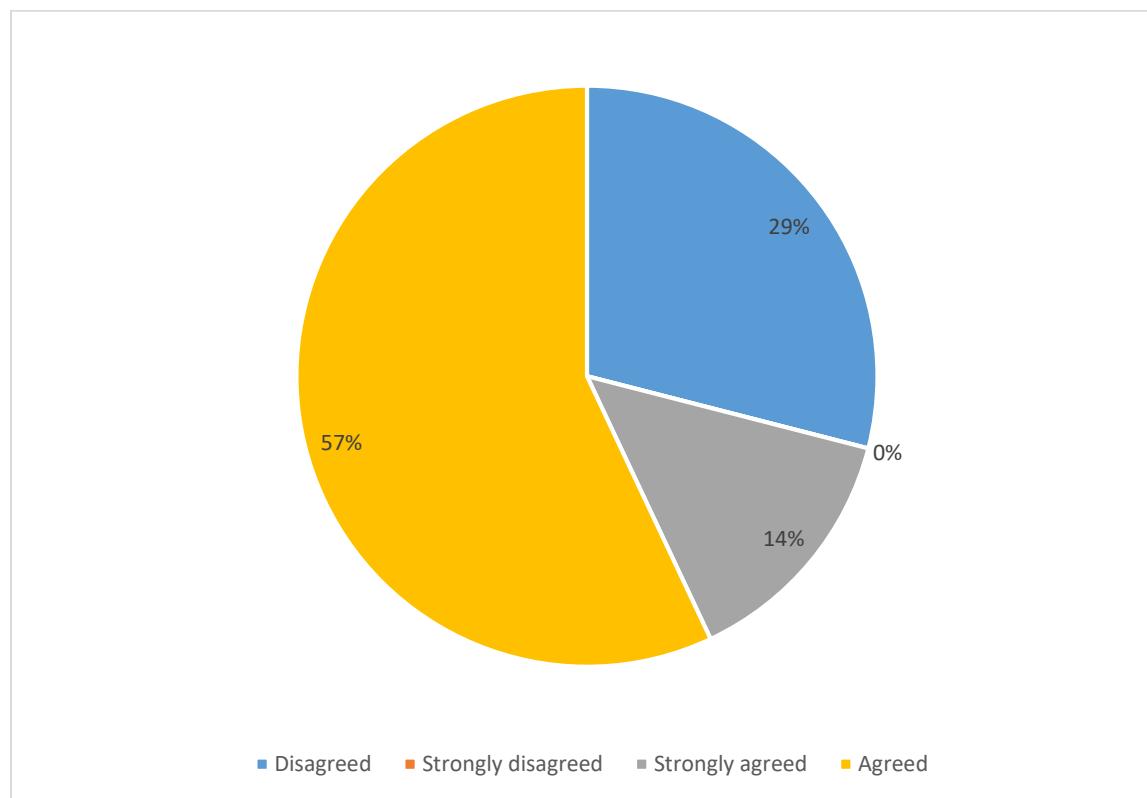


Figure 1: Circulation of Act and regulation copies

Clarity of the act and regulations

Figure 2 below shows that 14% of the respondents strongly disagreed that the Act and regulation were clearly explained, 43% just disagreed on its clarity while 43% agreed it was clearly explained. No one strongly agreed that the Act and regulation was very clear.

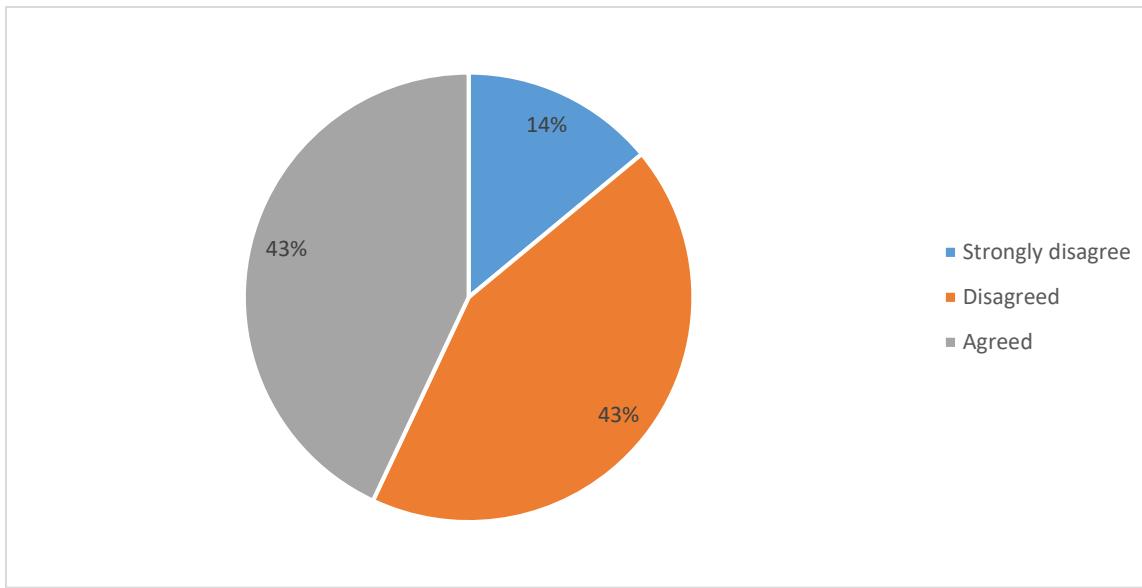


Figure 2: Clarity of the Act and regulations

Professionalism in Public Procurement

On this variable, respondents were asked whether professionalism in public procurement affect compliance with public procurement and disposal Act and Procurement regulations.

Professionalism in Kenya

From the question whether professionalism amongst the public procurement officers is still young in Kenya, 86% agreed while 14% of the respondents disagreed. No respondents strongly agreed or disagreed as shown in the figure 3.

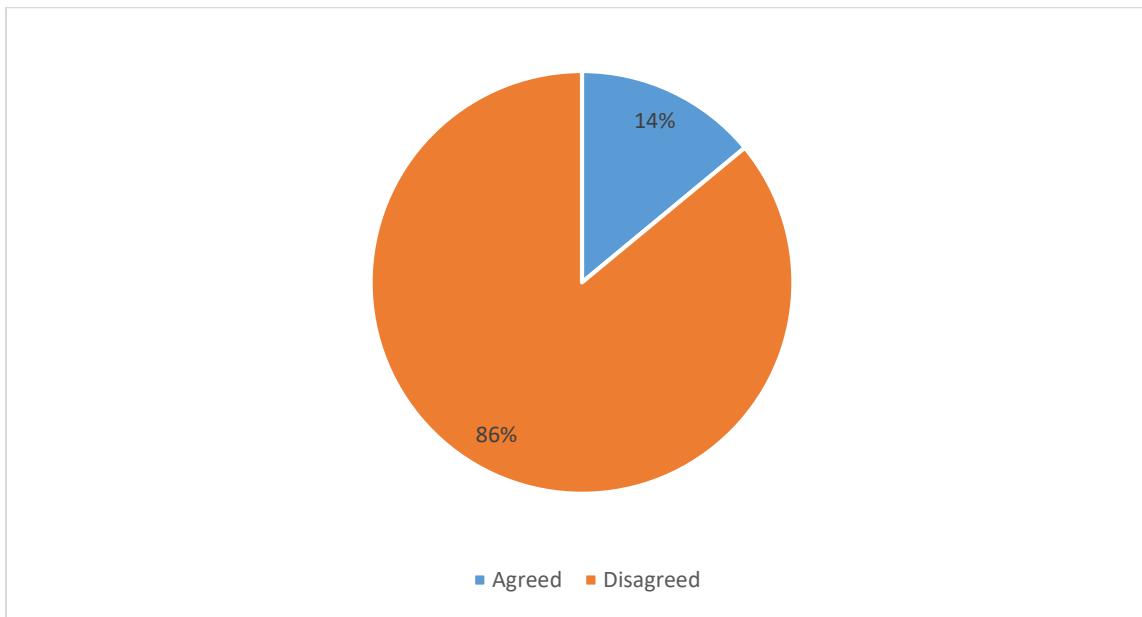


Figure 3: Professionalism in procurement

Professionalism and efficiency

Figure 4 below shows that 86% of the respondents agreed that professionalism requires public procurement officers to fulfil their roles as efficiently as possible. 14% of the respondents disagreed as indicated in figure 4.

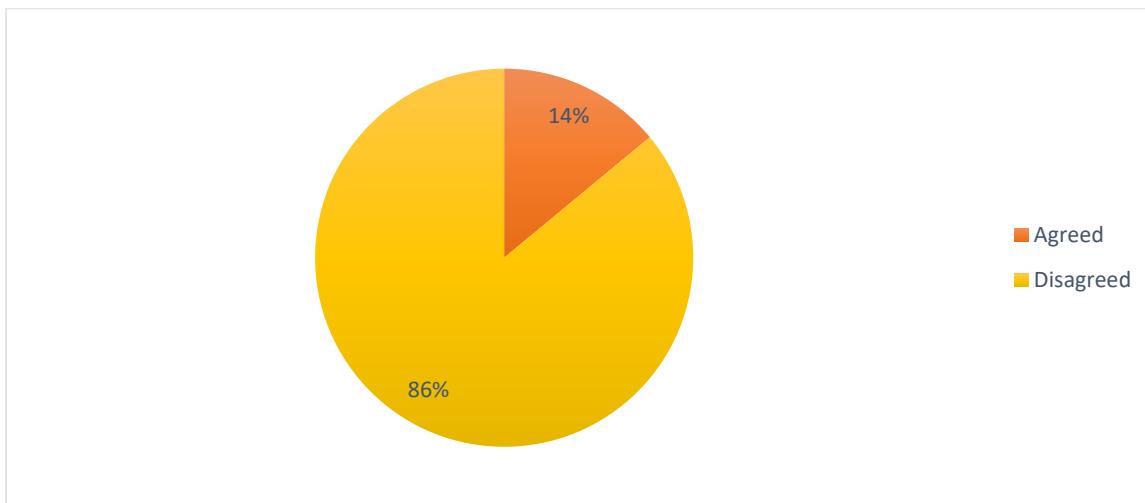


Figure 4: Professional and efficiency

Institutional Factors

Under this variable the respondents were asked questions whether institutional factors affects Supply Chain Management officers compliance with procurement Act and Regulation as illustrated below.

Adoption of new procurement procedures and regulations

The respondents were asked whether supply chain management are ready to adopt new procurement procedures and regulations. 43% strongly agreed whole 57% agreed. Respondent did not disagree as shown below.

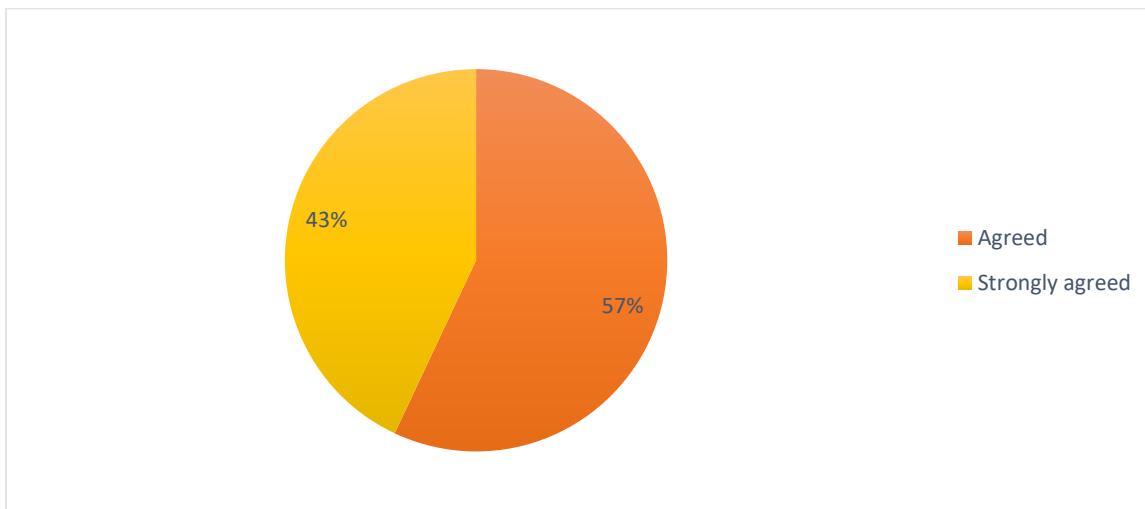


Figure 5: Adoption of new procurement procedures and regulations

Organizational activities and relationships

As shown in the figure 6 below 14.3% respondent strongly agreed that organizational activities depend on the relationships between and within organizations, 71.4% agreed while 14.3% disagreed.

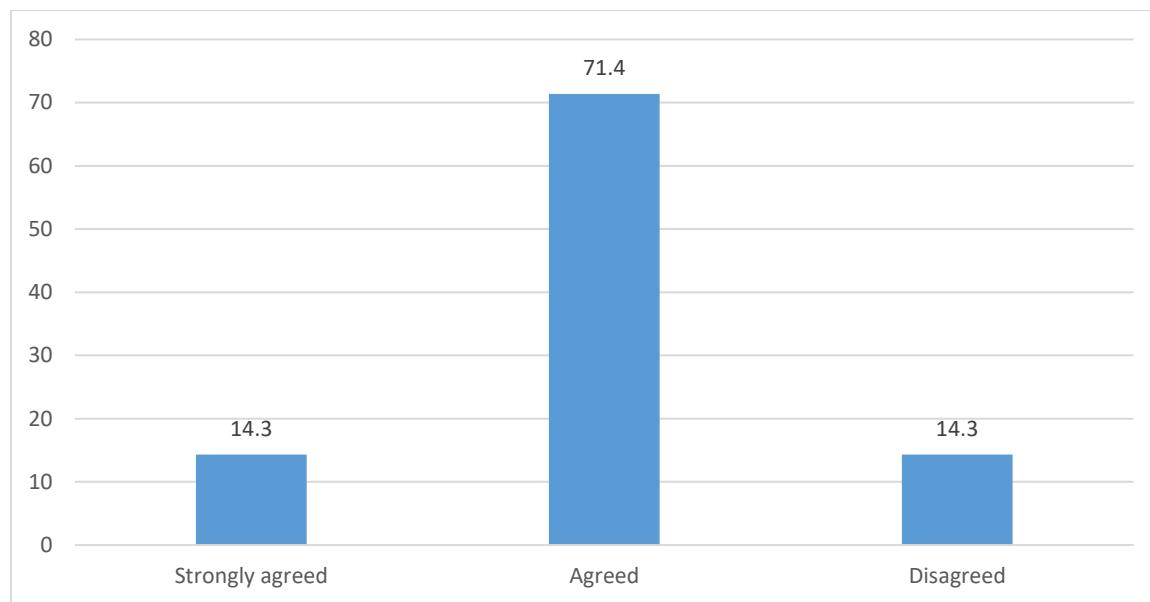


Figure 6: Organizational activities and relationships

ICT Adoption

ICT services, cost and productivity

From figure 7, 100% respondents strongly agreed that procurement department are turning to ICT to enhance the services by lowering costs and increasing productivity. No respondents disagreed on the said issue.

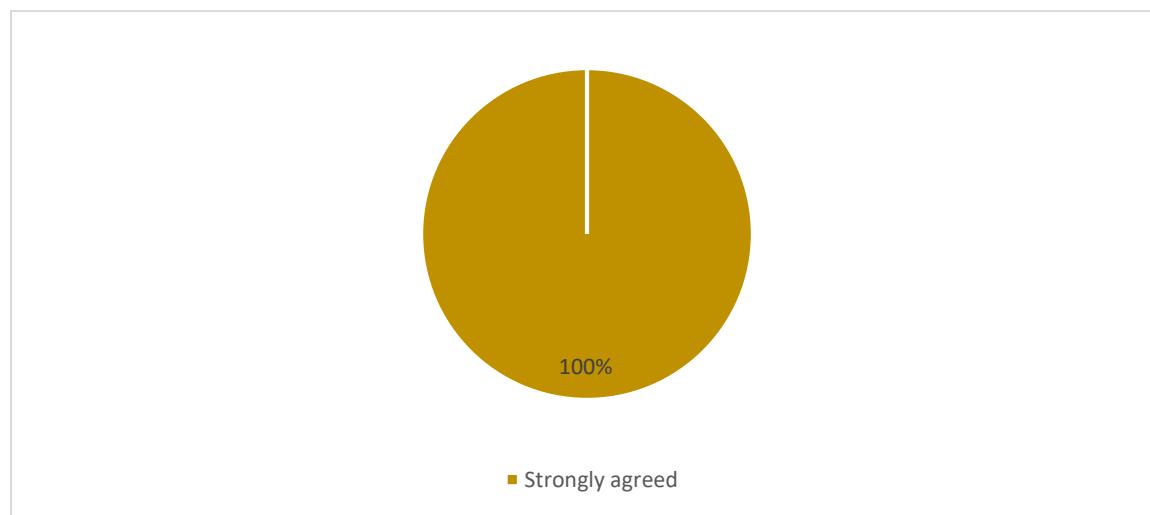


Figure 7: ICT services, cost and productivity

Public agencies and utilization of ICT

As illustrated in the figure 8 below 14.3% of the respondents agreed that government has come to realize that public agencies must utilize ICT in order to enhance the procurement processes in the public sector. 71.4% disagreed that government has yet realized while 14.3% strongly disagreed.

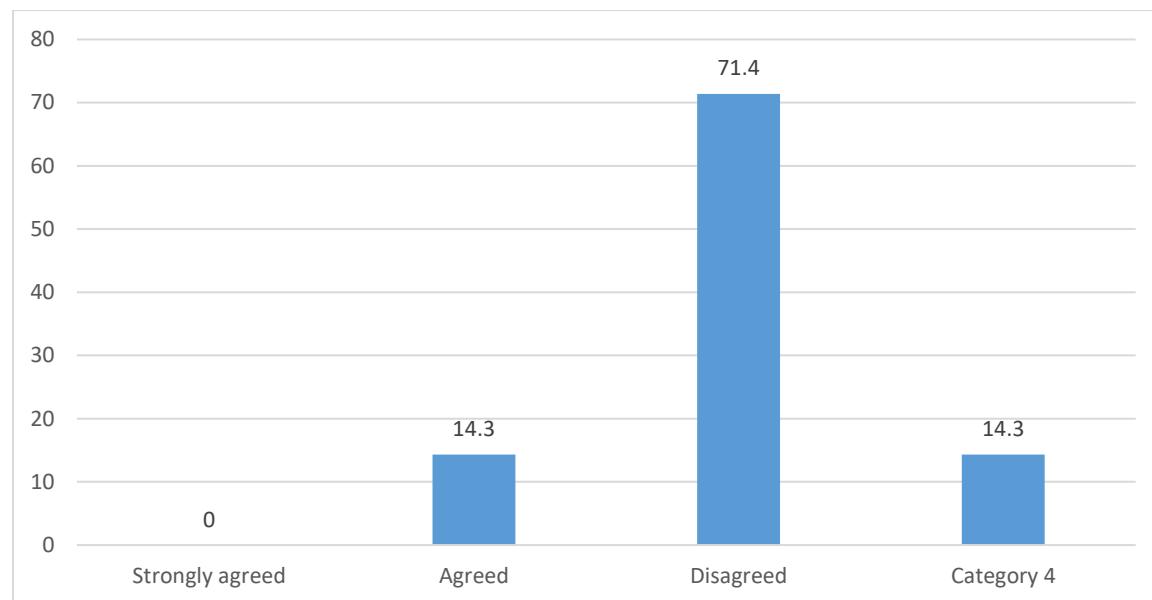


Figure 8: Public agencies and utilization of ICT

Provision of perfect services

Table 1: Provision of perfect services

Category	Frequency	Percentages	Cumulative Percentages
Strongly Agreed	7	100	100
Agreed	0	0	100
Disagreed	0	0	100
Strongly Disagreed	0	0	100
Total	7	100	

Respondents were asked whether the public sectors are expected to provide excellent servicers to their constituents in an effective and transparent manner. 100% of respondents strongly agreed as shown in the table 1.

Effects of ICT adoption in procurement procedures

Figure 9 below 72% respondents agreed that adoption of ICT affects procurement of supplies in the public sector. 14% respondents strongly agreed while 14% disagreed on the same issue. No respondents strongly disagreed.

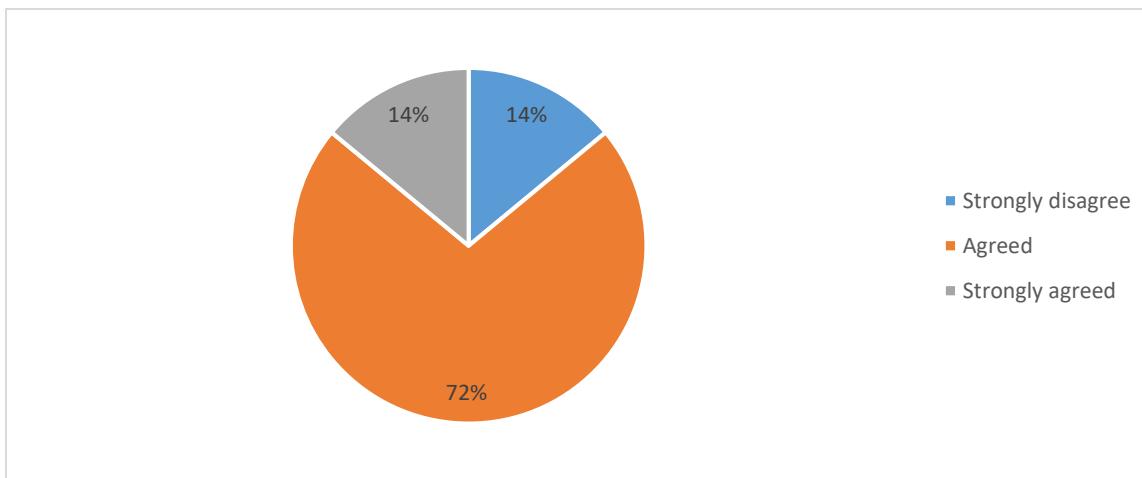


Figure 9: Effects of ICT

Regression Analysis

In addition, the researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on the compliance with public procurement and disposal Act and regulations. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table 2: Regression model

Model	R	R squared	Adjusted R squared	Std. Error of Estimate
1	0.904 ^a	0.817	0.279	0.64322

From table 1 R is 0.904 R squared 0.817, Adjusted R squared 0.279 and Std. Error of Estimate 0.64322.

Coefficient of Determination

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 (compliance) that is explained by all the four independent variables (Professionalism, Familiarity with regulation, Institutional factors and ICT adoption).

Table 3: Coefficient of determination

Model 1	Unstandardized Coefficients		Standardized Coefficients	Sig	t
	B	Std. Error	Beta		
Constant	1.11	1.222		0.355	0.901
Professionalism	0.22	0.114	0.156	0.277	1.071
Familiarity with act and regulation	0.181	0.144	0.088	0.187	0.577
Institution factors	0.397	0.214	0.156	0.044	0.97
ICT adoption	0.121	0.095	0.225	0.0322	0.344

The researcher conducted a multiple regression analysis so as to determine the relationship between compliance with public procurement and disposal Act and regulations and the four variables. As per the SPSS generated table above, the equation ($Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$) becomes: $Y = 0.22X_1 + 0.181X_2 + 0.397 X_3 + 0.121 X_4 + 0.111$

Where Y is the dependent variable (compliance), X_1 is the Professionalism variable, X_2 is Familiarity with regulation variable, X_3 is Institutional factors and X_4 is ICT adoption variable. The possible value of Y when all independent variables are equal to zero is 0.111. According to the regression equation established, taking all factors into account (Professionalism, Familiarity with regulation, Institutional factors and ICT adoption) constant at zero, compliance will be 1.111. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Professionalism will lead to a 0.22 increase in compliance process; a unit increase in familiarity with regulation will lead to a 0.181 increase in compliance process, a unit increase in Institutional factors will lead to a 0.397 increase in compliance and a unit increase in ICT adoption will lead to a 0.121 increase in compliance.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The study concluded that familiarization with the Act and regulation affects compliance. For example some of the respondents did not receive copies of the Act and regulation for them to study. The respondents were of the opinion that the clarity and language used in the Act and regulation needed to have been improved. Majority of respondents were for the opinion that training and seminars are rarely held.

Recommendations

Based on the research conclusion it is recommended that PPOA should provide more copies of the Act and regulation to every procurement officers in all public procurement department. PPOA should make the language used in the copies friendlier to make reading more attractive. PPOA should arrange more training and seminars to procurement staffs. The study also recommends that government (National and county) to train more professionals in the procurement field to reduce the shortages. The study recommends that the relationship between and within procurement department needs to be improved through seminars and training. Political interference and bureaucracy should be reduced for quick implementation of public procurement and procedures. The study also recommends SCM should make more use of ICT to reduce paperwork through training. PPOA should provide more computers to procurement department which are connected to internet so that full benefits of ICT can be achieved. A further study should be conducted to determine the compliance in local government, public schools and private sector. Also further research on other factors affecting procurement departments' compliance with laid procedures and regulations apart from should be conducted.

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Conflict of Interest

The authors declares no conflict of interest.

REFERENCES

Arrowsmith, S. and K. Hartley (2002), Public procurement: 52 articles, dating from 1961 to 2000. The International Library of Critical Writings in Economics Series), Edward Elgar Publishers.

Abeille, B. (2003), "Overview of Procurement Reforms in Africa." Paper presented at the Joint World Trade Organisation/World Bank Regional Workshop on Procurement Reforms. Available at: www.wto.org.

Burton, R. A. (2005). "Improving Integrity in Public Procurement: the Role of Transparency and Accountability." In OECD (Ed.), Fighting Corruption and Promoting Integrity in Public Procurement (pp. 23-28). Paris, France: OECD.

Chaney, L. H., and Jeanette S. M. (2002). Business research, 2ed edition, Higher Education Press, Beijing.

Development Assistance Committee (2005), Harmonising Donor Practices for Effective Aid Delivery: Volume 3: Strengthening Procurement Capacities in Developing Countries. Paris, France: OECD.

Drabkin, D. and K. V. Thai (2008), US federal government procurement: Structure, process and current issues. A paper presented at the International Purchasing and Supply Education and Research Associations Comparative Public Procurement Cases Workshop, Budapest, Hungary, 10-11 April 2003.

Government of Kenya (200 I), Kenya Gazette Supplement o. 24 of so" March, 200 I; Legislative Supplement o. 16, The Exchequer and Audit (Public Procurement). Regulations, 200 I.

Government of Kenya (2007), Economic Recovery Strategy for Wealth and Employment Creation (2003-2007), Nairobi: Government Printer.

Government of Kenya (2004). Report on the Development and Performance of the Public Procurement System (1960-2004), Nairobi.

Government of Uganda (2002), "The Public Procurement and Disposal of Public Assets Bill, 2002". Bills Supplement to the Uganda Gazette No. 19, Volume XCV of 5th April 2002.

Monczk, R; Trent, Rand Handfield, R. (2005). Purchasing and Supply Chain Management. Washington, DC: Thomson Corporation.

Organisation for Economic Cooperation and Development (2002). The Size of Government Procurement Markets. Paris, France: Author.

Prayas Energy Group (2002). The Bujagali Power Purchase Agreement: an Independent Review. Berkeley, CA: International Rivers Network.

Saunders, M. (1997). Strategic Purchasing and Supply Chain Management: 2nd Edition. London: Pitman Publishing.

South Africa Republic, (2003). Regulations In Terms of the Public Finance Management Act, 1999: Framework for Supply-Chain Management. National Treasury. Pretoria: Government Printers