

**PROCUREMENT PROCESS COMPLIANCE AUDITS AND PROCUREMENT  
PERFORMANCE IN THE PUBLIC SECTOR: A CASE OF NATIONAL  
AGRICULTURAL RESEARCH ORGANISATION**

**BY**

**SIMON PETER OBBO OKOTH**

**15/U/14556/GMSC/PE**

**A DISSERTATION SUBMITTED TO GRADUATE SCHOOL IN PARTIAL  
FULFILMENT OF THE REQUIREMENT FOR THE  
AWARD OF A MASTERS OF SCIENCE IN SUPPLY  
CHAIN MANAGEMENT DEGREE  
OF KYAMBOGO UNIVERSITY**

**MAY, 2019**

**DECLARATION**

I, OBBO SIMON PETER OKOTH, do hereby declare that to the best of my knowledge, the work contained in this Dissertation is entirely my own and has never been submitted by anyone to any institution/university before for any award.

**Signature:.....Date.....**

**OBBO SIMON PETER OKOTH**

**APPROVAL**

This is to certify that this Dissertation has been prepared and compiled by Obbo Simon Peter Okoth and that it was done under my supervision. It is now ready for submission to the Graduate School Kyambogo University in partial fulfillment for the requirements of the award of Master’s Degree of Science in Supply Chain Management.

Signature .....

Date .....

**DR. NDANDIKO CHARLES**

**PRINCIPLE SUPERVISOR**

Signature .....

Date .....

**DR. OBANDA PETER**

**CO-SUPERVISOR**

## **DEDICATION**

This study is dedicated to my beloved family: My lovely wife Sharon and my children Divine, Darren, Annabelle, and Arnold. May the almighty God reward all your efforts in your quest for knowledge.

## **ACKNOWLEDGEMENT**

I would like to express my thanks and gratitude to various people who contributed to the completion of this study. It is not possible to name all those who supported me but I am greatly indebted to everyone. I wish to express my sincere gratitude to my supervisors Dr. Ndandiko Charles and Dr. Obanda Peter for their profound efforts to supervise this thesis. I would also in a special way thank Dr. Ssennoga Francis for his untiring guidance during the study. I also appreciate the profound support and encouragement rendered by the graduate school of Kyambogo University during the study which made this study successful.

I extend special thanks to the management and staff of National Agricultural Research Organisation -NARO for accepting to respond to this study with commitment and make it successful.

I want in a special way thank my wife Sharon for being so caring, encouraging and supportive which enabled me accomplish this thesis. To my children Divine, Darren Annabelle and Arnold this is an inspiration for you to achieve greater heights in future.

## TABLE OF CONTENTS

DECLARATION .....	i
DEDICATION .....	iii
ACKNOWLEDGEMENT .....	iv
LIST OF FIGURES .....	ix
LIST OF TABLES .....	x
LIST OF ABBREVIATIONS AND ACRONYMS .....	xi
ABSTRACT .....	xii
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1. Introduction.....	1
1.2. Background to the Study.....	1
1.3. Objectives of the Study.....	6
1.4. Research Questions.....	6
1.5. Scope of the Study .....	6
1.6. Significance of the Study.....	7
1.7. Conceptual framework.....	8
<b>CHAPTER TWO .....</b>	<b>10</b>
<b>LITERATURE REVIEW .....</b>	<b>10</b>
2.1. Introduction.....	10
2.2. Theoretical background to the study.....	10
2.3. Conceptual Review .....	12
2.3.1. Public procurement process .....	12

2.3.2. Procurement Audit .....	14
2.3.3. Procurement performance .....	17
2.4. Procurement Audits Challenges.....	18
2.5.1 Procurement planning process audits and procurement performance in the public sector .....	20
2.5.2. Bidding and contracting process compliance audits and procurement performance in the public sector .....	22
2.5.3. Contract management compliance audits and procurement performance in the public sector .....	23
2.6. Summary of Literature Review.....	24
<b>CHAPTER THREE .....</b>	<b>25</b>
<b>METHODOLOGY .....</b>	<b>25</b>
3.1. Introduction.....	25
3.2. Research Design.....	25
3.3. Study Population .....	25
3.4. Sample Size and Technique .....	26
3.5. Sampling technique.....	26
3.6. Data Collection Methods .....	27
3.7. Data collection Instruments .....	28
3.8. Validity and Reliability.....	28
3.8.2. Reliability.....	29
3.9. Measurement of Variables .....	29
3.10. Data Analysis .....	30
3.11.Ethical Considerations .....	30

<b>CHAPTER FOUR.....</b>	<b>31</b>
<b>PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS.....</b>	<b>31</b>
4.1. Introduction.....	31
4.2. Response Rate.....	31
4.3. Background Information about the Respondents.....	31
4.4. Procurement planning process compliance audits influences procurement performance in NARO.....	33
4.5. Bidding and contracting process compliance audits influences procurement performance in NARO.....	39
4.6. Contract management process compliance audits influences procurement performance in NARO.....	43
4.7. Procurement performance in NARO.....	48
4.8. Multiple regression model.....	49
<b>CHAPTER FIVE .....</b>	<b>52</b>
<b>SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>52</b>
5.1. Introduction.....	52
5.2. Summary of the study findings.....	52
5.3. Discussion of the study findings.....	53
5.4. Conclusions of the study.....	56
5.5. Recommendations of the Study.....	57
5.6. Contributions of the Study.....	58
5.7. Limitations of the Study.....	59
5.8. Areas for further research.....	59
<b>REFERENCES .....</b>	<b>60</b>



APPENDICES .....	62
Appendix 1: Study Questionnaire.....	62
Appendix II: Interview Guide.....	67
Appendix III: Documentary Checklist.....	68
Appendix IV: Table for Determining Sample Size from a given Population.....	69

**LIST OF FIGURES**

Figure 1: Model showing the relationship between procurement process compliance  
audits and Procurement  
Performance.....9

## LIST OF TABLES

Table 3.1: Population category, population, sample size and sampling guidelines.....	26
Table 3.2: Validity and Reliability Results.....	29
Table 4.1: Position the respondents in relation to procurement function .....	32
Table 4.2: Level of education of the respondent.....	32
Table 4.3: Time worked with NARO .....	32
Table 4.4: Descriptive results for procurement planning process compliance audits.....	33
Table 4.5: Correlation matric between procurement planning process compliance audits .....	39
Table 4.6: Descriptive results for bidding & contracting process compliance audits .....	40
Table 4.7: Correlation matric between procurement planning process compliance audits .....	43
Table 4.8: Descriptive results for contract management process compliance audits .....	44
Table 4.9: Correlation matric between contract management process compliance audits	47
Table 4.10: Descriptive results for procurement performance .....	48
Table 4.11: Regression model.....	49

## **LIST OF ABBREVIATIONS AND ACRONYMS**

COC	:	Certificate Of Compliance
CVI	:	Content Validity Index
EOT	:	Extension Of Time
INTOSAI	:	International Organisation of Supreme Audit Institutions
NARO	:	National Agricultural Research Organization
OAG	:	Office of the Auditor General
OECD	:	The Organisation for Economic Cooperation and Development
PDE	:	Procurement and Disposal Entity
PDU	:	Procurement and Disposal Unit
PPDA	:	Public Procurement and Disposal of Public Assets
Reg.	:	Regulations
SPSS	:	Statistical Package for Social Science
TOR	:	Terms Of Reference
UGX	:	Uganda Shillings
VAT	:	Value Added Tax

## **ABSTRACT**

The general objective of the study was to examine the relationship between procurement process compliance audit and procurement performance in NARO. The specific objectives of the study related to examining the relationship between procurement planning, bidding and contracting, contract management process compliance audits and procurement performance in NARO. The study used a case study design using both quantitative and qualitative approaches. The study population consisted of 140 staff who interact with the procurement function as Accounting Officer, Contract Committee, PDU, and user Department. Data was collected using a questionnaire, interview guide and document review. The study found a statistically weak but positive relationship between procurement planning process compliance audit and procurement performance. The study found a moderately strong positive relationship between bidding & contracting process compliance audit and procurement performance. There was a moderately strong positive relationship between contract management process compliance audit and procurement performance. The study recommends that for enhanced procurement performance, the accounting officer should conduct a market price survey to guide the development of the procurement budget. The PDU should require bid securing declaration forms from bidders at bid receipt to avoid the risk of awarding contracts to non-compliant bidders. The PDU should additionally create a record of bid issue, opening and receipt for enhanced transparency and maintain a central repository of records of all action files to ensure accountability. The user departments should ensure that order delivery should reconcile receipts with the order forms to enhance service delivery.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1. Introduction**

The study examined the relationship between procurement process compliance audits by the PPDA Authority and the procurement function performance in NARO Uganda. Procurement process compliance audit is the independent variable while procurement performance is the dependent variable. This chapter presents the background to the study, statement of the problem, objectives of the study, research questions, conceptual framework, scope of the study, and significance of the study.

### **1.2. Background to the Study**

World over, public procurement become of interest as stakeholders expressed dissatisfaction with public procurement processes. To reform the procurement process and make it more responsive to service delivery, many developing countries undertook to reform their procurement operations and overall audit oversight of the procurement system to ensure compliance (OECD, 2005; World Bank, 2003).

In developing countries, it is widely accepted that an effective public procurement system is defined as offering a high level of transparency, accountability and value for money in public procurement. To achieve value for money procurements, there is need to audit all procurement processes from planning, supplier solicitation and contract management (Odiambo& Kamau, 2003; OECD, 2005; Thai, 2004).

In Uganda, the blatant procurement inefficiencies led to reforms in the public procurement system starting with the promulgation of the procurement Act and regulation (2003). The act and its attendant Regulations 2003 as amended provides the legal statute to guide Public Procurement and Disposal of Public Assets system in the country, establishes among others, the PPDA Authority. Functions of the PPDA Authority as provided for in section 7 (j) states

that the functions of the Authority include instituting (i) procurement or disposal audits during the bid preparatory process; (ii) contract audits in the course of the execution of an awarded bid; and (iii) audit after the completion of the contract in respect of any procurement or disposal, as may be required (PPDA Act and Regulations, 2003). To this effect, the specific objectives PPDA Authority Audits include:

To establish the level of compliance of the internal procurement systems with provisions of the PPDA Act, Regulations and Guidelines and the adequacy for effective procurements” and disposals.

To assess procurement planning, contracting, and implementation processes based on a representative sample of contracts to confirm the level of compliance with the PPDA Act, Regulations and Guidelines.

To assess the level of compliance of the asset disposal contracts with the PPDA Act, Regulations and Guidelines.

To establish the level of procurement performance of the Entity and the achievement of value for money for each of the sampled contracts in terms of time, competition and cost.

Based on the key findings on the procurement systems, processes, and performance, to offer an opinion on attainment of value for money and recommend measures to improve procurement function performance.

However, despite the procurement audits, there are mixed results on level of the procurement performance in the PDE in NARO as summarized in table 1.1 below.

**Table 1.1: Procurement performance indicators in NARO 2012- 2016**

Procurement performance indicator	Year			Comments
	2011	2015	2016	
<b>Compliance</b>				
Procurement system compliance (records, AO, PDU, US)	72% (overall compliance to procurement laws)	83% (highly satisfactory)	72 (satisfactory)	The entity has not complied with some procurement system requirement
Procurement process levels of compliance (planning, solicitation, contract management).		80% (highly satisfactory)	84(highly satisfactory)	The entity is improving although it has not complied with some procurement process requirement
Disposal		85%, highly satisfactory	100% highly satisfactory	Disposal requirements are adhered to.
<b>Procurement performance</b>				
Efficiency (time required to execute tasks to avoid slow implementation of the contracts)	Not featured	22.5%	48%	A reasonable number of procurements were not conducted in planned timelines
Effectiveness (time taken to pay contractors such that the contract implementation is not delayed more especially the advance payments and contracts that are paid cumulatively)	Not featured	70.5%	40%	Reasonable number of contractors were not paid in time
Economy-A (variance between the total value of the awarded contract and the cost estimate in the procurement plan)	Not featured	32.5%	48%	There was significant under estimation in contract price.
Economy-B (Budget Absorption Rate)	Not featured	105% (indicator of unplanned procurements and expenditures)	11%	Many planned procurements were not initiated
Economy- C (Final contract cost on completion as compared to the total contract award price)	Not featured	Some contracts were on-going	89%	There were a few variations at contract implementation.

PPDA Compliance Audit report, 2012-2016



Table 1.1 shows although the procurement process compliance audit improved from a 80%-83% between 2015 and 2016 which highly satisfactory in areas of procurement planning, internal controls, Evaluation Committees, Contracts Committee, User Departments, Accounting Officer and Procurement and Disposal Unit, there were significant value for money gaps (PPDA Authority Compliance Report on NARO, 2015-2016). The PPDA Audit reports reveal low procurement efficiency which is the time required to execute tasks to avoid slow implementation of the contracts where it was found that the Entity was unable to complete 77.5% and 52% procurements within the contractual completion time between 2015 and 2016 respectively an indicator of low performance.

On Effectiveness which assessed the time taken to pay contractors such that the contract implementation is not delayed more especially the advance payments and contracts that are paid cumulatively, NARO was not able to pay contractors on time in 29.5% and 60% between 2015 and 2016 respectively.

On economy, there were variances between the total value of the awarded contract and the cost estimate in the procurement plan of which 67.5% and 52% of the contracts were not awarded within the cost estimate in the procurement plan between 2015 and 2016 respectively. On Budget Absorption Rate indicators of economy there was 105% funds absorption an indicator of unplanned procurements and expenditures in 2015 and 11% in 2016 an indicative of many planned procurements not being initiated. It is not certain if satisfactory and unsatisfactory procurement performance (efficiency, effectiveness and economy) in NARO could be attributed to the periodic audit procurement process audits by PPDA, internal audits and other agencies.

### **1.3. Statement of the Problem**

Procurement process audits provide unbiased, objective assessments of whether public resources are responsibly and effectively managed to achieve value for money (Thai, 2004, OECD, 2005; Agaba& Shipman, 2007). PPDA Authority has over the years since its inception carried out audits in PDEs as mandated by section 7 (j) of the PPDA Act, 2003 aimed at enhancing efficiency, effectiveness and economy indicators of value for money expectations. However, despite the procurement process audits on NARO and recommendations thereof made for management actions, the level of attainment of value for money procurements are still constrained. The value for money indicators of efficiency (48%), effectiveness (40%) and economy especially for budget absorption (11%) were found to be low (PPDA Authority Compliance Report on NARO, 2015/16). There were also variance between the planned and actual contract values, and delays in contract execution. The procurement performance gaps are catastrophic to the entity as it has adverse effect on the level of attainment of NARO's strategic objective of a market-responsive, client-oriented and demand driven agricultural research system for sustainable economic growth.

Although the procurement performance in NARO may be attribute to many factors, this study examines the relationship between procurement process audits and value for money in NARO. Studies examining the relationship between procurement process audits and value for money are still nascent (Nguyen &Chileshe, 2015; Rostami&Oduoza, 2017). There was need for empirical study on the relationship between procurement process audits and procurement to offer procurement audit policy and managerial recommendations to enhance service delivery.

### **1.3. Objectives of the Study**

#### **1.3.1. General Objective**

To examine the relationship between procurement process compliance audits and procurement performance in NARO.

#### **1.3.1. Specific Objectives**

1. To examine the relationship between procurement planning process compliance audits and procurement performance in NARO.
2. To examine the relationship between bidding & contracting process compliance audit and procurement performance in NARO
3. To examine the relationship between contract management process compliance audit and procurement performance in NARO.

### **1.4. Research Questions**

1. What is the relationship between procurement planning process compliance audits and procurement performance in NARO?
2. What the relationship between bidding and contracting process compliance audit and procurement performance in NARO?
3. What is the relationship between contract management compliance audit and procurement performance in NARO?

### **1.5. Scope of the Study**

#### **1.5.1. Content scope**

The study concentrated on how procurement process (planning, bidding & contracting and contract management) compliance audits as the independent variable are related to procurement performance which is the dependent variable. Procurement performance is the dependent variable and considers three indicators of economy, efficiency and effectiveness.

### **1.5.2. Geographical scope**

The study was carried out in NARO secretariat and its 6 National Regional Research Institute directors, 9 Zonal Research Institute throughout Uganda. These being the institutes through which NARO implements its mandate across Uganda.

### **1.5.3. Time scope**

The study covered the period 2015- 2018 the time NARO was implementing its 5 years strategic plan but was constrained with performance of the procurement function as evidenced in the PPDA Audit and OAG Reports, 2015.

## **1.6. Significance of the Study**

The study is useful in the following ways:

To the Government of Uganda and PPDA Authority the study helps to provide information on the effectiveness of procurement process compliance audits which could be used for enhancing the public procurement audit policies to help achieve the objectives of public procurement reforms, procurement performance to guarantee value for money.

To the management of PDEs the study generates managerial recommendations for enhanced implementation of performance of the audit functions that leads to user satisfaction with the procurement function and value for money procurements.

To the academia, the study helps cover literature gaps on the extent to which procurement process audits is related to performance of the procurement function in a developing country- Uganda which is strengthening its procurement systems.

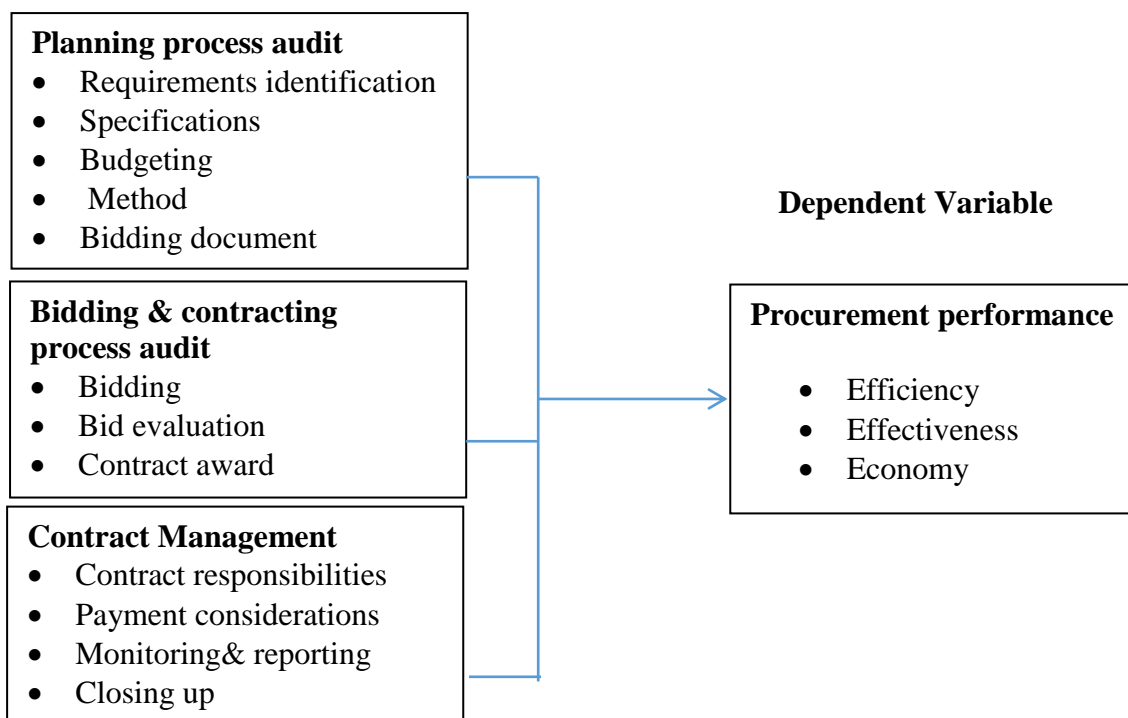
## 1.7. Conceptual framework

The conceptual framework below shows the relationship between the procurement process compliance audit and procurement performance. Procurement process audit is the independent variable while procurement performance is the dependent variable.

**Figure 1: Model showing the relationship between procurement process compliance audits and Procurement Performance**

### Independent Variable

#### Procurement Process compliance Audit



Source: Adopted with modifications from the Agency Theory by Jensen & Meckling, 1976 and PPDA Act and Regulations, 2003.

The model above shows that public procurement process compliance audits has a relationship with procurement performance. Procurement process compliance auditing includes dimensions of procurement planning, bidding and contracting, and contract management process audit. Procurement performance has indicators of economy, efficiency and effectiveness. It is therefore hypothesized that procurement process compliance audit of procurement planning, bidding and contracting and contract management process audit has a significant relationship with Procurement performance.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1. Introduction**

These chapters review the existing body of literature in procurement process audit and procurement performance based on what other scholars have observed with a view of identifying literature gaps to be filled. The review covers the underlying theory, conceptual review and the empirical review in relation to the study objectives. The last section presents the summary of the literature.

#### **2.2. Theoretical background to the study**

The study was guided by the Jensen and Meckling (1976) agency theory that identifies two types of parties to a transaction. The principal who is the party that wishes to secure some good or service but does not have the necessary specialized knowledge, skills or assets. The principal employs/delegates an agent to undertake this task and in the process delegates some control to that party (Jensen &Meckling, 1976).

Because of contractual arrangement, the principal-agent theory asserts that often there will be a divergence between the actual decisions made by agents and the decisions that would maximize the principal's benefits and expected outcomes including quality. This divergence arises because, when making a decision, agents also seek to maximize their own self-interest. The principal needs to put in place plans, controls and regulations that motivate the agent to act appropriately (Jensen &Meckling, 1976; Coleman, 1990). In the context of the public sector, it can be construed by the P-A theory that accounting officers need to regularly and fairly declare on how they have utilized the allocated funds on their vote and realized outputs based on their procurement work plan and how they complied with the procurement law which safeguards the public interests.

Public officials, acting as the principal's agent must periodically account to the principal for their use and stewardship of resources and the extent to which the public's objectives have been accomplished. An effective audit activity reduces the risks inherent in a principal-agent relationship. The principal relies upon the auditor to provide an independent, objective evaluation of the accuracy of the agent's accounting and to report on whether the agent uses the resources in accordance with the principal's wishes (The Institute of Internal Auditors- IIA 2006).

Procurements process compliance audits therefore act as an assurance to the oversight bodies and citizens that the vote controllers and managers have effectively utilized the allocated funds within the statutory confines and purpose (IIA, 2006). To this effect Leruth and Paul (2007) avers that the auditor as professional advisor is relied on to provide an independent and objective position on the financial report of the entity there by maximizing the principal's objective.

The agency theory has its share of criticism and Perrow (1986) criticized the agency theory for its behavior origination where it construes human behavior as based on negative intents aimed at maximizing personal benefit yet agents have been found act in the positively/affirmative interests of the principal. The agency theory has therefore been criticized for its narrow mindedness by focusing on only opportunistic behaviors at the compromise of the broader range of agent's behavior such as altruism, respect and intrinsic motivation (Donaldson, 1990b). Arthurs and Busenitz (2003) urges that the agency theory ceases to be relevant in the in the event of goal congruency since it is silent in such situations where the agent's and principal's goals are in harmony.

Despite its criticisms, P-A theory is relevant to this study its notes that procurement process compliance audits by the internal audits function, PPDA Authority and other statutory audit agencies play a verification role to guarantee to the Principal (government) that resources



were spent for the specific function of service delivery by the Agent (public officials). Procurement process compliance audits therefore serves to control the agent's opportunistic behaviors therefore guaranteeing the attainment of efficacy, competition, efficiency, effectiveness, and economy indicators of value for money in public procurements.

## **2.3. Conceptual Review**

### **2.3.1. Public procurement process**

Odhiambo and Kamau (2003) define Public procurement as the purchasing, hiring and obtaining by any other contractual means of goods, constructions, works and services by the public sector. The PPDA Act and Regulations 2003 defines procurement process as the successive stages in the procurement cycle including planning, choice of procedure, measures to solicit offers from bidders, examination and evaluation of those offers, award of contract, and contract management.

However the Sri Lanka procurement process framework provides for three major stages in the procurement process to include procurement planning and preparations stage, bidding and contracting stage and post contract performance (contract administration) process. According to Prier and McCue (2007) the procurement planning process involves requirement determination that involves the procurement professionals engaging the user departments in determining the qualities and quantities of their requirement that will be required in a specific period and allocation of budget to be consolidation in the PDEs acquisition portfolio. The PPDA Act and Reg 2003 does not provide for clear cut boundaries on procurement planning but it does mention key procurement planning process considerations of requirements identification, specification, scheduling, budgeting and initiation procurement. The Sri Lanka model seems to provide a clear-cut boundary for procurement planning and conceptualizes the procurement planning and preparatory Stage to include aspects of requirements

identification, procurement planning, budgeting, bidding document, appoint evaluation and procurement committee, obtain necessary approval and approval of bidding document.

On the basis of the afore going definitions, this study borrows with modifications from the PPDA Act and Reg 2003 and Sri Lanka procurement planning frameworks to conceptualized procurement planning process to include harmonized indicators of requirements identification, specifications, budgeting, method and bidding document preparation.

Garret and Rendon (2005) defines bidding process as activities related to development of solicitation document, solicitation of offers by considering competitive approval levels and along with public notice, electronic solicitation or other methods of publicizing; evaluation aims and intended to select best value contractor culminating into contract award. The PPDA Act and Reg 2003 although not definite on the boundaries between procurement bidding, bid evaluation and contract award process, it emphasized consideration of procurement method, bidding, evaluation, and award/contracting.

The Sri Lanka model seems to provide a clear-cut boundary of the stage that follows procurement planning which is conceptualized as bidding and contracting whose key activities starts with bid notice/RFQ, pre Bid meeting, issue of addenda, close and open bids, bid evaluation, post qualification, final recommendations, evaluation report, obtain approval, issue letter of acceptance /Purchase order and contract award, signing of contract. Guided by the scholarly and regulatory framework conceptualizations, this study borrows with modifications from the PPDA Act and Reg 2003 and Sri Lanka procurement frameworks to conceptualized next stage after procurement planning as bidding and Contracting process with harmonized indicators of bidding, bid evaluation and contract award consideration.

Contract management is defined by Thai (2004) as the process of ensuring that promises in the contract are fulfilled and involves pre-implementation planning, establishment of contract

governance structure, contract monitoring, management of contract variations, contract accounting/payment and contract termination or closeout and appraisal.

The PPDA Act and Reg, 2003 in its nomenclature classifies last procurement process as ‘contract management’ with activities related to contract monitoring, payment, reporting, documentation and vendor audits for fulfillment of objective of procurement. The Sri Lanka procurement framework however names the last procurement stage as ‘post contract (Contract Administration) stage’ with successive activities of kick off meeting; Progressing of orders/Handing over site; advance payment, receipt of goods/inspection; monitoring of works; Part payment; EOT, Different claims; Resolution of disputes; closing up, issue COC, release retention.

Informed by the scholarly and regulatory definitions this study borrows with modifications from the PPDA Act and Reg 2003 and Sri Lanka procurement frameworks to conceptualized last stage in the procurement process to contract management with harmonized indicators of contract roles and responsibilities, payment considerations, monitoring & reporting, and contract close out.

### **2.3.2. Procurement Audit**

To appreciate the concept of procurement audit, there is need to first explore the concept of auditing. The guidance taskforce of the Institute of Internal Auditors-IIA (2001:1) defines auditing as:

*An independent objective assurance and consulting activity designed to add value and improve organizations operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.*

Arah (2000) also defines auditing as a systematic and official examination and check of business accounts as a systematic and independent examination of data, statement, record, operations performance (financial or otherwise) of enterprises for a stated purpose.

In line with the above definition of auditing, there have been different definitions of procurement audits albeit with close similarity. For example, the International Organisation of Supreme Audit Institutions (INTOSAI) Task Force on Public Procurement Audit identifies three forms of public procurement to include ex-ante audit, current audit and ex-post audit.

**Ex-ante audit** are audits carried out before the beginning of any formal procedures which makes it possible to prevent illegal actions and eliminate negligence and mistakes at execution (INTOSAI, 2010). Ex-ante audit aim at the assessment of input parameters of the process, conditions and supposed context of its execution, anticipated and projected values of the results of the process performance (INTOSAI, 2010). The PPDA authority in its mandate and capacity is not well placed to carry out ex-ante audit in over 180 PDEs in the country.

**Co-current audit** concerns control over the process of execution and assessment of preliminary results. Its principal goal is to monitor the main process, track the administrators' actions and supervise the progress of the fulfillment of the terms of the public procurement contract (INTOSAI, 2010). The PPDA Authority may coincidental be said to perform concurrent audits if part of what is sampled is still a running contract. However, concurrent audits is not part of their mandate.

**Ex-posto audit** is aimed mainly at the assessment of the output and outcome parameters of the process (INTOSAI, 2010). Again, as earlier indicated the PPDA Authority has no capacity and is not well placed to carry out ex-ante audit in over 180 PDEs in the country. Ex-posto audits are instituted by OAG with the help of specialized auditors given the scientific mandate of NARO.

What then are the other forms of procurement audits that apply in the PPDA context to inform this study INTOSAI notes that there are other types of procurement audits notably Financial, Compliance and performance audits.

Financial audit focuses on determining whether an entity's financial information is presented in accordance with the applicable financial reporting and regulatory framework. Performance audit according to INTOSAI focuses on whether interventions, programs and institutions are performing in accordance with the principles of economy, efficiency and effectiveness (3Es) according to INTOSAI (2010).

Compliance audit focuses on whether a particular subject matter complies with authorities identified as criteria. Compliance auditing assesses whether activities, transactions and information are, in all material respects, in compliance with the authorities that govern the audited entity (INTOSAI). These authorities may include rules, laws and regulations, budgetary resolutions, policy, established codes, agreed terms or the general principles governing sound public-sector financial management and the conduct of public officials. Compliance control confirms the legality and correctness of operations performed, and sometimes confirms that main goals have been achieved, and services, works or goods have been provided, performed or delivered at a high-quality level (INTOSAI, 2011). This is what exactly PPDA Authority does and guides my study as stated in my topic and conceptual framework and objectives. The tenets of compliance audits are supported by the audit mandate and objectives of the PPDA. The specific objectives of PPDA Authority Audits as derived from the audit function include:

To establish the level of compliance of the internal procurement systems with provisions of the PPDA Act, Regulations and Guidelines and the adequacy for effective procurements and disposals.

To assess procurement planning, contracting, and implementation processes based on a representative sample of contracts to confirm the level of compliance with the PPDA Act, Regulations and Guidelines.

To assess the level of compliance of the asset disposal contracts with the PPDA Act, Regulations and Guidelines.

To establish the level of procurement performance of the Entity and the achievement of value for money for each of the sampled contracts in terms of time, competition and cost.

Based on the key findings on the procurement systems, processes, and performance, to offer an opinion on attainment of value for money and recommend measures to improve procurement function performance.

Borrowing from the definition of procurement processes in section 2.3.1 and compliance audits above, procurement process compliance audits therefore refers to the efforts to establish the level of conformance to public procurement rules, laws and regulations with respect to planning, bidding and contract management processes.

### **2.3.3. Procurement performance**

A unified definition of procurement performance is hard to come by. However, common key performance indicators of the procurement function of user satisfaction and value for money have been widely used in measuring the performance of the procurement unit in public procurement (Cameron, 2004; Commonwealth Procurement Guidelines, 2005; Poate & Barnett, 2003; Waring & Morgan, 2007). In line with the afore going description, the PPDA Authority of Uganda has set procurement performance indicators/metric to include efficacy, competition, efficiency, effectiveness, and economy which form the basis for ascertaining if value for money was achieved in public procurement process (PPDA Audit Report on NARO, 2015).

**Efficacy** also referred to as procure ratio relates to the ability to provide goods or services in accordance with the planned timelines.

**Competition** is assessing at two levels of the number of bids received and number of bids that passed technical evaluation or simply the Bid Responsive Rate.

**Efficiency** that also relates to procurement completion assesses the time taken to execute contracts from start date to contract closure.

**Effectiveness** also known as the Payment Ratio relates to the Entity's commitment to pay contractors within the contractual 30 days after contract completion.

**Economy** measures include the plan ratio that is the variance between the total value of the awarded contract and the cost estimate in the procurement plan.

There is also the *procurement plan implementation* measures that is the actual value of the procurement spend as a percentage of the procurement budget. It is an indicator that some of the planned items were initiated and procured. The *cost ratio* measures the final contract cost on completion as opposed to the total contract award price inclusive VAT.

In this study procurement performance is conceptualized on the same basis of PPDA authority KPI to include indicators of efficiency, effectiveness and economy.

#### **2.4. Procurement Audits Challenges**

Public procurement audits just like other audits have experience a number of challenges. To begin with it has been not noted by Ambe and Badenhorst-Weiss (2012) that risk management is a key area that has a bearing on non-compliance with regard to procurement process. The findings by Ambe and Badenhorst-Weiss (2012) reveal that there is a lack of internal control environment and the implementation of risk mitigation procedures in procurement process including regular internal procurement audits.

Obanda (2010) indicates that low levels of institutional support to overall procurement process and audits have a detrimental effect on compliance with procurement processes. Strong support institutional support is needed by procurement personnel in order to promote integrity, monitor the public procurement process and apply law appropriately towards the compliance of public procurement. In a related local observation, Tumutegereize (2013)

reports of conflict between the Authority and other oversight agencies, such as the Auditor General on who has supremacy on public procurement audits. This has created a culture of disrespect of public procurement audits in Uganda.

Existence of corrupt culture has equally stifled the effectiveness of public procurement audits. Modugu, Ohonba and Izedonmi (2012) for example note that an environment that is riddled with corruption poses a lot of challenges to the auditing profession. Corrupt government officials in most ministries, departments and agencies indulge in series of malfeasances to appropriate public wealth to them for self-preservation. These corrupt practices precipitously militate against the work of an auditor thereby whittling down the reliability and relevance of audit report and by implication a loss of confidence in the auditing profession. The auditors, whose profession makes them concentrate on documentary or physical evidence, often find it hard to gather such evidence. They feel that they cannot do much about corruption.

Lukman (2016) observes that public procurement audits may not be effected for its perceived time demand to complete the process. If auditors give audit objections to an office, the office will need to provide necessary explanations or documentary evidence. If explanations and evidence are not acceptable or further clarifications are required, the auditors may seek further clarifications. Getting response from the public offices is also lengthy. As a result, an audit cannot be completed within 90 days deadline. On the other hand, audit reports are always riddled with numerous errors for lack of efficient audit managers and proper supervision.



## **2.5. Empirical Review**

### **2.5.1 Procurement planning process audits and procurement performance in the public sector**

A review of empirical studies scanty studies focusing on planning process audits and procurement performance related outcomes. Dorn et al. (2008) noted that auditors' involvement will decisively shape the scope and terms of the eventual contract and key decisions made at this stage. Such decisions may include the choice of procedure, and reduce some of the contracting risks at pre-contracting stage that may be summarized broadly and crudely as procurement staff corruption; fixing the specification or criteria so to unduly narrow the field; setting an unrealistically low price so as to discourage tenders and then entering into negotiated procedure with just one favored contractor; surfing the work in an effort to boost service delivery. This could be averted by procurement planning audits performed by internal and external audit institutions only if done professionally. Dorn, et al., (2008) further noted that at the solicitation stage, audit checks should be made to see that tenderers are independent and the selection criteria applied is even in order to choose a successful tenderer in the procurement process.

According to Zubcic and Sims (2011) frequent audits and increased penalties lead to greater levels of service delivery and compliance with procurement laws. Corruption among government procurement officials in developing countries such as Bangladesh, India, Sri Lanka, Nigeria and Venezuela has been linked to a weak enforcement of the audit recommendations rule of law. In counties with complaint and review mechanism, bidders are allowed to verify whether the procurement processes conform to the prescribed procedures.

In complement, Hui et al. (2011) noted that the possibility of audit review is also a strong incentive for procurement officials to abide by the rules. Firms might choose to implement ineffective compliance systems if legal violations may be profitable in cases where the legal

system under-enforces, either because penalties are set too low or because detection is imperfect or ineffective.

Mamiro (2009) in his study on procurement audits in Tanzania singled out absence of annual procurement plans in most procuring entities as one of the major factors fueling procurement costs and thus rendering achievement of value for money and service delivery a distant dream. This study found poor planning and management of the procurement process which include needs that were not well identified and estimated, unrealistic budgets and inadequacy of the skills of staff responsible for procurement is featuring as one of the major setbacks in public procurement. The findings of the procurement audit recommended that PDEs must view procurement as a strategic activity that must be fully integrated into their short- and long-term plans and provide support to delivery of their strategic objectives and realization of value to the citizens.

Mishra & Mishra (2016) equally notes that by the virtue of earlier risk identification during the bidding stage of the construction project will lead to precise estimation of the escalation on cost and time overrun. This will help in rescheduling the construction projects by incorporating the things in the budget for the successful completion.

Some studies point to failure to effect procurement planning audits to identify and provide for risk mitigation mechanisms. Kululanga (2012) for example examines the level of adoption of risk management at contract planning and noted that most small construction forms had no comprehensive risk management framework detailing the steps for risk identification, assessment and response. Contingence planning within the series of steps of project risk management process featured highly among the surveyed construction contractors.

Nguyen &Chileshe (2015) equally notes that despite the lack of systematic approach to managing projects risks, there is a high level of acknowledgement regarding the importance of risk management practices. The highly ranked planning critical factors still causing

construction project failure in Vietnam included disregard of the significance of project planning process and project planning; lack of experience in executing complicated project; poor design capacity and frequent design changes.

In related construction project performance study, Rostami&Oduoza (2017) notes that risks play an important role in the success of construction projects. Failure in identification and assessment of risks can lead to inadequacy in the process of managing risks, which in turn can critically affect the projects' resources. Formal risk management is rarely practiced in construction projects due to the lack of contractors' awareness of keyrisks.

A south African study by Zitha (2016) concluded by observing that unless management undertakes to implement compliance audit recommendations on procurement planning and bidding process management, service delivery will be constrained.

### **2.5.2. Bidding and contracting process compliance audits and procurement performance in the public sector**

Empirical studies on the relationship between bidding and contracting process audit and procurement performance is still scanty. However few studies such as Olaniran (2015) attribute construction project delays to high reliance on cost based contractor selection. In the same line Reohrich& Lewis (2014) attributed strained contracting relationship leading to high cost overruns to poor contractor selection and management in the early phases like the delays to the opening of Hong Kong airport resulted in a loss of more than \$600 million to the economy. Furthermore, Noor et al (2013) in their study attribute public sector project delays to unforeseen issues notably delays in bidding, low bid responses and flouting of bid evaluation procedures. Mishra & Mishra (2016) equally notes that by the virtue of earlier risk identification during the bidding stage of the construction project will lead to precise estimation of the escalation on cost and time overrun.

### **2.5.3. Contract management compliance audits and procurement performance in the public sector**

A number of studies have been carried out on contract execution audits and procurement outcomes. Hui, Othman, Omar, Rahman, and Haron, (2011), noted that rules are not enough, especially when the law enforcement mechanisms are also weak. Audit checks can help make existing norms effective. Transparency International has developed and implemented a number of monitoring tools to increase transparency and access to information that involve cooperation between governments, companies, donors and civil society. The auditors recommend monitoring to include an annual external audit by auditing management of the government agencies on its compliance with all procedures, rules and regulations in relation to procurement. As such, the procedures had to be made transparent and any queries raised would require the procurement officer to refer back to Circulars, Treasury Instructions for confirmation. A checklist must be prepared to regularly monitor the contractors' performance and the timeline target for each project must be spelt out so as to enhance efficiency, effectiveness and availability of goods, works and services to entities and the general public. A study by Hui, et al., (2011), found cases of incomplete and abandoned projects which keep on being repeated in the procurement plans due to poor monitoring and auditing services from the relevant authority. Hui, et al., (2011) further notes that on awarding the tender to the selected contractors, there is a crucial need for the relevant authority to continuously monitor and audit the progress and performance of the projects tendered. The monitoring and auditing role could help ensure the projects proceed without having severe problems and run smoothly in accordance with the plan within the acceptable tolerance level. But the performance will depend on the specifying the roles of both the contractors, and the buying agent.

Usman and Sani (2015) in their Nigerian construction sector found that the level of engagement of contract auditing practice during the contracts active life is paramount important than on the other stages. Moreover, site visitation for self-assessment identified as the most effective approach to be use, and the most important reasons of carrying out contract auditing is to check and prevent corruption (Usman & Sani, 2015).

Munzhedzi (2016) noted that efforts to audit and unearth non-adherence to financial management regulations during contract performance will go long way to solving the service delivery challenges in South African public sector especially by punishing offenders who do not comply with the said legislative framework. A South African study by Zitha (2016) concluded by observing that unless management undertakes to implement compliance audit recommendations on contract performance, service delivery will be constrained.

## **2.6. Summary of Literature Review**

Although the literature is suggesting a likely impact of audits that include procurement planning process audits few studies have been carried out on procurement bid preparatory audits and procurement performance. Similarly, there are scanty studies focusing on bidding process audits and its impact on procurement performance in the public sector of developing countries. Furthermore, studies focusing on contract management process compliance audits although numerous, few of them are specific to procurement audits. To alleviate the knowledge and practice gaps, this study examines the extent to which procurement process compliance audits focusing have influenced procurement performance in NARO a public sector entity in Uganda.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1. Introduction**

This chapter presents the methodology that was used in the study. It covers the research design, study population, sample population, size, sampling procedures, data collection methods, data collection instruments, reliability and validity, data management and analysis procedures, limitations of the study and ethical considerations.

#### **3.2. Research Design**

The study used a case study design where both quantitative and qualitative approaches were adopted to determine the relationship between procurement process compliance audits and procurement performance. Yin (2009) argues that case study research strategies are appropriate for in-depth investigation and when the concern is to study contemporary issues over which the researcher has no control. The case study design also enables in-depth analysis, extraction of data and information specific to an organization to help answer the research questions and test the study hypotheses (Yin, 2009). The quantitative approach was used to quantify findings on the study variables using majorly the measures of central tendency correlation and regression techniques while the qualitative approach was used to draw explanation (Amin, 2005) on internal control and education service delivery.

#### **3.3. Study Population**

According to the NARO organizational structure, there are 6 National Regional Research Institute directors, 9 Zonal Research Institute distributed through the country and Secretariat located in Entebbe. In relation to the procurement function, 140 staff who interact with the procurement function as Accounting Officer, Contract Committee, PDU, and user Department (see table 3.1 below) were targeted and considered as the study population. This population was considered because they interact with the procurement function as

procurement Accounting Officer, adjudicators/supervisors, managers and users and therefore deemed knowledgeable about procurement process audits and procurement performance in NARO.

### 3.4. Sample Size and Technique

The study selected up to 123 respondents based on Krejcie and Morgan (1970) sampling guidelines (see appendix III). The summary of the sample size selected from the study population is presented in table 3.1 below.

**Table 3.1: Population category, population, sample size and sampling guidelines**

<b>Population category</b>	<b>Total population</b>	<b>Sample</b>	<b>Sampling method</b>
Accounting Officer	1	1	Purposive
Contracts committee- NARO Secretariat	5	5	Purposive
Sub-contracts Committee-institutes	42	37	Simple random
PDU-Secretariat	3	3	Purposive
PDU-institutes	14	14	Purposive
User departments/Sections heads	75	63	Simple random
<b>Total</b>	<b>140</b>	<b>123</b>	

### 3.5. Sampling technique

In this study, Purposive sampling was used to select accounting officer, Contract committee members and PDU staff who are central who have managerial roles in procurement management therefore possess abundant information on procurement audit and procurement performance as supervisors or managers of procurement operations. In using purposive sampling the researcher relied on Sekaran and Bougie (2009) guidance that the researcher exercises personal judgment on the respondent possessing unique information that could be missed if considered in the probability sampling technique.

To complement the non-probability sampling technique of purposive sampling, simple random sampling was used to for the user department heads or representatives and Sub-contracts Committee from the 14 Institutes to minimize bias by giving all the subjects in the

sub-category equal opportunities to be considered in the study (Sekaran & Bougie, 2009). In using simple random sampling, the researcher used the lottery approach where each names is written on a tag and put in box and mixed thoroughly as suggested by Amin (2005). One name was picked without returning into the box until the required number in that specific category was obtained.

### **3.6. Data Collection Methods**

This study used primary sources mainly the questionnaire, interview administered on the selected respondents which was triangulate with secondary data of using a document review.

#### **3.6.1. Questionnaire survey**

The study used a self-administered questionnaires was issued to the respective respondents in their categories and picked after one week of issue. The choice of the questionnaire was on the basis that the respondents could read and write to a reasonable extent and understand the language to be used. The questionnaire is also easier and economical to administer on a large sample and collect a reasonable amount of data in short time than any other method could provide (Cresswell& Clark, 2011). A total of 120 questionnaires were issued to all categories excluding the Accounting Officer, Contracts Committee Secretary and Head of PDU who were considered for interviewing method.

#### **3.6.1. Interviewing**

The study used key informant interviews where the researcher met face to face with the selected interviewees and ask them a set of questions on the interview schedule from which responses were recorded on a notebook. Interviews were carried out with the accounting officer, Head PDU and Contract Committee secretary.

#### **3.6.3. Document review**



This involved reviewing existing procurement audits reports on NARO by PPDA Authority to obtain secondary data on procurement process compliance audits findings and recommendations.

### **3.7. Data collection Instruments**

#### **3.7.1. Questionnaire**

In this study, a self-administered close ended questionnaire scored on Likert scale ranging from 1 for strongly disagree, 2= disagree, 3 = not sure, 4 = agree to 5 for strongly agree was used. The question sections included background information, procurement planning, bidding and contract management process compliance audits and procurement performance (see appendix I). The 5-point Likert scale as supported by Sekaran and Bougie (2009) is appropriate to formulate different questions for measuring different items from different variables.

#### **3.7.2. Interview Guide**

The study used a semi-structured interview questions focusing on procurement planning, bidding and contract management process compliance audits (see appendix II) from which the research drew qualitative data to complement the secondary data.

#### **3.7.3. Documentary checklist**

The study used a documentary checklist developed for this study focusing on procurement audits reports on NARO by PPDA Authority to obtain secondary data on procurement process compliance audits recommendation and number of audit recommendations implemented (see appendix III).

### **3.8. Validity and Reliability**

#### **3.8.1. Validity**

Validity measures the extent to which the instrument is relevant in measuring what it is supposed to measure (Cohen et al, 2007). The validity of the instrument was tested using the

Content Validity Index (CVI). This involved expert scoring the relevance of the questions in the instrument in relation to procurement planning audits and procurement performance and a consensus judgment given on each variable taking only variables scoring above 0.70 as suggested by Nunnally and Bernstein (1994) and findings are presented on table 3.2 below.

The CVI was arrived at using the following formula.

$$CVI = \frac{\text{Number of items declared valid}}{\text{Total number of items}}$$

### 3.8.2. Reliability

The questionnaires was first pre-tested on the same population adjustments made before rolling it out. Reliability of the instrument was established using Cronbach's Alpha coefficient obtained from SPSS to measure how consistently the instrument measures what it is supposed to measure using only items scoring higher than 0.70 recommended for social sciences (Nunnally & Bernstein, 1994) and the findings are presented in table 3.2 below.

**Table 3.2: Validity and Reliability Results**

Variable	CVI	Cronbach's Alpha	Items
Procurement process compliance audit	.775	.726	40
Procurement performance	.750	.746	12

**Source: Primary data**

Table 3.2 above shows that all variables yielded CVI and Cronbach's Alpha which is greater than 0.70 suggesting the instrument was relevant and consistent in measuring procurement process compliance audits and procurement performance

### 3.9. Measurement of Variables

Procurement process audits was measured based on the procurement cycles considerations of planning, bidding, contract management audits from which items were tailored if the procurement audits have ensured compliance to key process considerations at each stage as provided for in the PPDA Act and attendant Regulation (2003). Procurement performance was measured based on efficiency, effectiveness and economy measures developed by the

PPDA Authority for PDE audits. These were then channeled into observable and measurable elements to enable the development of an index of the concept. A five point Likert scale ranging from (5) for strongly agree, (4) for agree, (3) for not sure (2) disagree, (1) strongly disagree.

### **3.10. Data Analysis**

#### **3.10.1. Quantitative Data Analysis**

Quantitative data was presented in form of descriptive statistics using percentages, mean and standard deviations for each of the variables used in the study. Pearson's correlation statistics was used to test the relationships at 99 and 95 confidence limits. A positive correlation indicates a direct positive relationship between the variables while a negative correlation indicates an inverse, negative relationship between the two variables. A multiple regression analysis using ANOVA statistics of adjusted  $R^2$  values, beta, t values and significance values as suggested by Amin (2005) was used to determine the extent to which independent variable predict the variance in the dependent variable.

#### **3.10.2. Qualitative Analysis**

The study used the content analysis technique to analyse qualitative data where themes identified in the respondent's narratives on procurement planning, bidding and contract management process compliance audits was analyzed for their implications, inferences and conclusions. Further qualitative analysis involved comparing the qualitative data with the quantitative and observation findings.

### **3.11. Ethical Considerations**

The researcher sought an introductory letter from Kyambogo University Graduate School for presentation to NARO management, to authorize the study. As a key ethical observation, the respondent's identity was protected by omitting names on the questionnaire and interview

guide as a key ethical observation. The researcher assured the respondents that the information obtained would be kept confidential and strictly for the research purpose and participation was voluntary. For the purpose of review and adoption of recommendations, the final report will be shared with management of NARO.

## **CHAPTER FOUR**

### **PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS**

#### **4.1. Introduction**

This chapter presents analyses and interprets the study findings of procurement process compliance audits and procurement performance in NARO based on the information obtained from the study questionnaire, interviews and document review. It specifically presents the response rate, background information about the respondents and a presentation of the empirical findings in relation to procurement planning, bidding and contracting, contract management process compliance audits and procurement performance. A multiple regression is also presented to guide making decisions on the study research questions.

#### **4.2. Response Rate**

A total of 123 respondents were targeted for both questionnaire and interview guide. However 86 questionnaire responses and two interviews were obtained giving it a response rate of 70%. Amin (2005) avers that a response rate of 50% and above is a good representation of the study population from which the sample was selected.

#### **4.3. Background Information about the Respondents**

This subsection presents the characteristics of the respondents accessed and used in the study in relation to position in NARO, education level, and time worked with NARO as these determine their experiences with procurement audit and procurement performance in NARO.

**Table 4.1: Position the respondents in relation to procurement function**

<b>Position in PDE</b>	<b>Frequency</b>	<b>Percent</b>
Contracts Committee	27	31.4%
User Department	47	54.7%
PDU	12	14%
<b>Total</b>	<b>86</b>	<b>100.0</b>

Source: Primary data

The finding in table 4.1 shows that although the majority of 54.7% of the respondents were users, the responses were solicited from Contracts committees and PDU representatives at NARO secretariat and the research institutes. The views are therefore of users who are audited and procurement function coordinators at the level of PDU and contracts committee.

**Table 4.2: Level of education of the respondent**

<b>Level of education</b>	<b>Frequency</b>	<b>Percent</b>
Diploma	3	3.5
Degree	16	18.6
Post Graduate	58	67.4
Others	9	10.5
<b>Total</b>	<b>86</b>	<b>100.0</b>

Source: Primary data

Table 4.2 shows that other than the 3(3.5%) of the respondents who had a diploma as their highest level of education, the respondents had adequate education to understand the questionnaire items on procurement audits and procurement performance since 96% had attained a degree and above.

**Table 4.3: Time worked with NARO**

<b>Time worked with NARO</b>	<b>Frequency</b>	<b>Percent</b>
1-4 Years	2	2.3
5-9Years	22	25.6
10-14 Years	22	25.6
15+	40	46.5
<b>Total</b>	<b>86</b>	<b>100.0</b>

Source: Primary data

The findings in table 4.3 shows that other than the 2 (2.3%) who had worked for 1-4 years, the respondents had adequate experiences with procurement audit and procurement performance in the entity since about 98% had worked for more than 5 years with NARO.

#### **4.4. Procurement planning process compliance audits influences procurement performance in NARO**

The first objective of the study was to establish the relationship between procurement planning process compliance audits and procurement performance in NARO. Procurement planning process compliance audits was conceptualized to include four indicators of identification of requirements, specification, budgeting and bidding document compliance audit considerations measured using 16 items scored on 5-point Likert scale ranging from 5= strongly agree to 1 = strongly disagree. This subsection presents the study findings on procurement planning process compliance audits from the questionnaire, interview and document review. Table 4.4 below tabulates the percentages, mean and standard deviation results with respect to procurement planning process compliance audits.

**Table 4.4: Descriptive results for procurement planning process compliance audits**

<i>Requirements</i>	<b>SDA</b>	<b>DA</b>	<b>NS</b>	<b>A</b>	<b>SA</b>	<b>MEAN</b>	<b>S.D</b>
1. Procurement Audits by PPDA Authority have ensured that required works for the financial year in NARO are satisfactorily identified	2.3	4.7	5.8	54.7	32.6	4.10	.882
2. Procurement Audits have facilitated effective identification of required supplies for the financial year	5.8	5.8	8.1	50	30.2	3.93	1.071
3. Procurement Audits by PPDA Authority have ensured no omission of required services	1.2	3.5	4.7	58.1	32.6	4.17	.770
4. Procurement Audits have ensured that NARO adequately conducts market research on available supplies	4.7	7	7	62.8	18.6	3.84	.968
<i>Specification development</i>							

5. NARO develops adequate functional specifications as a result of the procurement audits	2.3	11.6	4.7	55.8	25.6	3.91	.990
6. NARO develops adequate technical specifications as a result of the procurement audits	4.7	7	7	53.5	27.9	3.93	1.027
7. NARO develops adequate performance specifications for supplies as a result of the procurement audits	7	9.3	9.3	55.8	18.6	3.70	1.096
8. NARO develops clear Terms Of Reference-TORs for required services as a result of the procurement audits	4.7	7	2.3	62.8	23.3	3.93	.980
<i>Budgeting</i>							
9. Procurement Audits have ensured establishment of accurate/representative market prices from a market survey	20.9	65.1	7	4.7	2.3	2.02	.826
10. Procurement Audits have ensured development of a satisfactory procurement budget	39.5	27.9	9.3	20.9	2.3	2.19	1.232
11. Procurement Audits have ensured that only budgeted requirements are procured in the financial year	4.7	7	2.3	60.5	25.6	3.95	.993
<i>Procurement methods</i>							
12. PPDA audit have fostered compliance with open competitive bidding in NARO's procurement	2.3	11.6	9.3	55.8	20.9	3.81	.976
13. PPDA audit have fostered compliance with restricted bidding in NARO's procurement	2.3	11.6	19.8	47.7	18.6	3.69	.985
14. PPDA audit have fostered compliance with Quotation method bidding in NARO's procurement	2.3	2.3	4.7	74.4	16.3	3.97	1.089
<i>Bidding document</i>							
15. Procurement audits have ensured that issued standard bidding documents have no omissions.	20.9	32.6	14	30.2	2.3	2.60	1.191
16. Procurement audits have ensured that rules for drafting individual solicitation documents, using standard solicitation	2.3	7	10.5	59.3	20.9	3.88	1.022

document are complied with							
----------------------------	--	--	--	--	--	--	--

Source: Primary data

Table 4.4 findings reveal the respondents agreed that Procurement Audits by PPDA Authority ensured compliance with identification of required; - works (mean = 4.10), supplies (mean = 3.93), and services (mean = 4.17) and conducting of market research for supplies (mean= 3.84). The findings suggest that NARO staff credit procurement audits with fostering compliance with identification of requirements.

However, a document review of the latest audit reports reveal that the audit reports did not address matters of requirements identification in the entity (PPDA compliance audit report on NARO, 2016) an omission which affects the comprehensiveness of the procurement audit report.

Table 4.4 shows that respondents also agreed that there was adequate development of functional specifications (mean = 3.91); technical specifications (mean = 3.93); performance specifications (mean = 3.70) and TOR for services (mean = 3.93) as a result of the procurement audits. Thus, procurement audits are credited for promoting the development of specifications in NARO a practice which fosters procurement performance for it guides the procurement of appropriate requirements.

However, a document review of the latest audit reports reveal that the audit reports did not address matters of specifications in the entity (PPDA compliance audit report on NARO, 2015; 2016) an omission which affects the quality of the procurement audit report.

In an interview when asked to comment on the contributions of procurement audits by PPDA Authority on compliance with procurement requirements identification, interviewee I noted:

*“Needs identification is not taken seriously by user departments resulting into omissions of critical items on the procurement plan despite the PPDA audits. Secondly users generally continue to find it difficult to accurately specify requirement and instead resort to using commonly used brand names”.*



Interviewee II had this to say:

*“The audits have helped management understand that if items are not put in the plans then it becomes a query to implement them. Furthermore, management has now appreciated the role of better specifications and now enforces that users develop specifications”.*

From the quantitative, interview and document review findings it can be deduced that there are still some constraints with identification and specification of requirements leading to omissions of key requirements in the procurement plan.

Table 4.4 further shows that whereas the respondents agreed that procurement Audits ensured that only budgeted requirements are procured in the financial year (mean = 3.95), they disagreed that audits ensured establishment of accurate/representative market prices from a market survey (mean = 2.02) and satisfactory development of procurement budget (mean = 2.19). These findings suggest that there were still material gaps in the development of procurement budgets in the entity even with periodic procurement audits.

In an interview when asked whether asked whether the audits have improved NAROs development of procurement budget, Interviewee II noted:

*“Most procurements now comply with the appropriate development of procurement budgets as a condition of government funding and in view of impending audits but not limited to that. Under budgeting has greatly reduced as a result of the audits”.*

Interviewee I however opines to the contrary and notes that:

*“Despite the audits major gaps remain in the preparation of procurement budgets as users don’t rely on any formal market research to ascertain average prices”.*

The interview and quantitative findings point to an inconclusive position on the influence of procurement audits on compliance with budgeting requirements as one interviewee credits the audits for fostering compliance with procurement budgeting while the other disassociates procurement audits from improvements in budgeting.

A document review on procurement “budgeting found that five (5) procurements valued at UGX 189,338,416 had been planned for, however, they were under budgeted as the estimated prices and contract values varied (PPDA compliance audit report on NARO, 2016). The

report recommends that User Departments should undertake a thorough assessment of cost at the planning stage in accordance with Section 26 (4) of the PPDA Act 2003. The Accounting Officer should undertake market price assessment prior to signing contracts to ensure that the Entity does not contract outside market” prices (PPDA compliance audit report on NARO, 2016).

Going by the quantitative and document review findings, it can be deduced that despite the audits, there were still gaps in development of an appropriate procurement budget in NARO. Table 4.4 findings reveal that the respondents agreed that PPDA audits foster compliance with; - use of open competitive bidding (mean = 3.81), restricted bidding (mean = 3.69), use of Quotation method (mean = 3.97) in NARO’s procurement. Thus procurement audits are credited for promoting compliance with procurement methods which promote competition necessary for attainment of value for money procurements.

However, a document review reveals that the 2015 audits faults NARO on “inappropriate use of some procurement method and recommends that the PDU should ensure that all procurements are subjected to competition in accordance with Section 46 of the PPDA Act, 2003. In the following year, 2016 the issues of inappropriate use of procurement methods was still prevalent and the audit recommended that the Contracts Committee should ensure the right procurement method is used for framework contracts. It was also recommended that the Contracts Committee should avoid approving the direct procurement method without sufficient justification”

In an interview, when asked to comment on procurement audits and use of procurement methods, interviewee I rejoined:

*“Most procurements now comply with the appropriate procurement methods in view of impending audits”.*

The quantitative and qualitative findings suggest agreement that procurement method considerations are complied with as a result of the PPDA procurement process compliance

audits. Meaning that the entity was appropriately using the prescribed procurement methods while sourcing vendors as established in the procurement law.

On bidding the respondents agreed that procurement audits have ensured that rules for drafting individual solicitation documents, using standard solicitation documents are complied with (mean = 3.88) but disagreed that procurement audits ensured that issued standard bidding documents had no omissions (mean = 2.60). In an interview, when asked to comment on procurement audits and use of procurement methods, interviewee I observed:

*“The rules of drafting bidding documents are most of the time adhered to because they will be examined during the audits. However, in rare circumstances when procurements are done in a hurry gaps in the bidding documents are evident”.*

A document review however reveals that compliance on bidding documents was assessed to be 81%, a rating which was satisfactory except for failure to state bid validity periods/ stating bid validity period in days in the solicitation documents in the thirteen (13) procurements worth UGX 5,723,476,671. The audit also faults NARO management for failure to require bid securing declaration forms from bidders a case in point being the procurement of calendars and diaries worth UGX 32,453,540 (PPDA compliance audit report on NARO, 2016).

The authority therefore made recommendations to the effect of stating bid validity period, securing bid declaration forms and the contracts committee ensuring quality assurance of solicitation documents is carried out before approval (PPDA compliance audit report on NARO, 2016).

The inferences from the quantitative, interview and document review findings suggest significant and positive progress on compliance to bidding document as a result of the audits. However, there are some critical omissions which still constrain compliance with bid document considerations especially on bid validity period and requiring bid securing declaration forms from bidders.

#### 4.4.1. Correlation between procurement planning process compliance audits

The relationship between procurement planning process compliance audits was tested using Pearson’s coefficient statistics and are tabulated below.

**Table 4.5: Correlation matrix between procurement planning process compliance audits**

		Procurement planning process compliance audits	Procurement performance
Procurement planning process compliance audits	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	86	
Procurement performance	Pearson Correlation	.339**	1
	Sig. (2-tailed)	.000	
	N	86	86
**. Correlation is significant at the 0.01 level (2-tailed).			

$P \leq 0.05$

Source: Primary data

According to table 4.5 Procurement planning process compliance audits has a statistically weak positive relationship ( $r = 0.339^{**}$ ,  $p = 0.000$ ) with procurement performance. The finding infers that Procurement planning process compliance audits affects procurement performance especially when the audits recommendations cover areas of identification and specification of requirements, budgeting and bid document.

#### 4.5. Bidding and contracting process compliance audits influences procurement performance in NARO

The second objective of the study was to establish the relationship between bidding and contracting process compliance audits and procurement performance in NARO. Bidding and contracting process compliance audits was conceptualized to include three indicators of bidding, bid evaluation and contracting audits measured using 11 items scored on 5-point Likert scale ranging from 5= strongly agree to 1 = strongly disagree. This subsection presents the study findings on bidding and contracting process compliance audits findings from the

questionnaire, interview and document review. Table 4.6 below tabulates the percentages, mean and standard deviation results with respect to bidding and contracting process compliance audits.

**Table 4.6: Descriptive results for bidding & contracting process compliance audits**

<i>Bidding opening and closing</i>	<b>SDA</b>	<b>DA</b>	<b>NS</b>	<b>A</b>	<b>SA</b>	<b>MEAN</b>	<b>S.D</b>
1. Procurement audits have ensured compliance on issue of bid notice in NARO	39.5	20.9	16.3	19.8	3.5	2.37	1.269
2. Procurement audits have ensured compliance with the rules of amending bidding document	2.3	2.3	11.6	67.4	16.3	3.93	.764
3. Procurement audits have ensured compliance with bid receipt considerations	39.5	20.9	15.1	22.1	2.3	2.27	1.260
4. Procurement audits have ensured compliance with bid closing & opening considerations	27.9	39.5	16.3	14	2.3	2.23	1.081
<i>Bid evaluation</i>							
5. Procurement audits have ensured that evaluation teams are appropriately constituted	2.3	4.7	4.7	53.5	34.9	4.14	.883
6. Procurement audits have ensured that appropriate evaluation methodologies are used	4.7	5.8	7	50	32.6	4.00	1.029
7. Procurement audits have ensured development of satisfactory evaluation reports	2.3	7	7	57	26.7	3.99	.914
<i>Bid evaluation</i>							
8. Procurement audits have ensured that the NARO's contracts committee adjudicates on all contract decisions	2.3	9.3	7	53.5	27.9	3.95	.969
9. Procedures for contract award are adhered to by NARO as a result of the PPDA Audits	2.3	7	7	58.1	25.6	3.98	.907
<i>Contracting</i>							
10. PPDA Audits have ensured that contract clauses are satisfactory	4.7	5.8	7	53.5	29.1	3.97	1.011
11. Audits have fostered compliance with performance security considerations.	2.3	5.8	9.3	54.7	27.9	4.00	.907

Source: Primary data

Table 4.6 shows that whereas the respondents agreed that audits ensured compliance with the rules of amending bidding document (mean = 3.93), they disagreed with audits enhancing compliance with issue of bid notice in NARO (mean = 2.27) and bid receipt considerations (mean = 2.27). The respondents also disagreed that procurement audits have ensured compliance with bid closing & opening considerations (mean = 2.23). The findings suggest that despite the audits on NARO, compliance on amendment of bidding document has not been realized given the gaps in the bidding process.

Asked to comment the role of audits in fostering bidding process compliance, Interviewee I had this to say:

*“The bidding process is largely complied with as a result of follow up audits by the authority and other external and internal audits. From my observations, the recommendations have helped comply with bidding process as these are usually required during the audits”.*

Interviewee II responded:

*“The audit recommendations have greatly improved on the bidding process in terms of issue of bid notices, receipt of bids and bid closing and opening”.*

A documents review reveals that an “overall compliance of 77%, a rating which is satisfactory. However, non-compliance was reported in failure to adhere to the minimum bidding periods. The audit revealed that bidders in the following two (2) sampled procurements valued at UGX 23,284,560 procured using request for quotations were allowed less than the bidding period, contrary to Regulation 46 (1) (e) of the PPDA (PPDA Audit report in NARO, 2016). There was also lack of record of issue, receipt and opening of bids a case in point being procurement of fabrication metals (NaFORRI) worth UGX 9,420,000 an omission which compromises transparency. The audit recommends that the Entity should accord to bidders sufficient bidding periods with the minimum periods as stipulated in Regulation 46 of the PPDA Rules and methods for procurement of services, works and non-consultancy services Regulations 2014 (PPDA compliance audit report on NARO, 2016).

The quantitative and qualitative findings suggest satisfactory improvement with compliance to bidding conditions amidst some challenges as raised from the audits which if addressed will enhance procurement performance arising from bidding process compliance.

Table 4.6 findings suggest agreement among respondents on procurement audits fostering; - appropriate constitution of evaluation team (mean = 4.14), use of appropriate evaluation methodologies (mean = 4.00), and development of satisfactory evaluation reports (mean = 3.99). Thus, procurement audits are credited for compliance with bid evaluation considerations as provided for in the procurement law.

The respondents agreed that Procurement audits have ensured that the NARO's contracts committee adjudicates on all contract decisions (mean = 3.95) and procedures for contract award are adhered to by NARO (mean = 3.98). The implication was that procurement audits contribute to compliance with contracting process considerations as provided for in the public procurement regulations for fostering attainment of value for money.

In an interview, interviewee I had this to say about procurement audits and compliance with contracting:

*Bid evaluation process has greatly improved as a result of the PPDA audits as these evaluation reports are mandatorily checked by the authority during the audits.*

Interviewee II put it:

*"The audit recommendations have helped comply with bidding process as these are usually required during the audits. Even evaluation process in terms of both the quality of the reports and constitution of the evaluation teams have greatly improved because they are areas of concern during the audits so the PDU usually ensures compliance to established evaluation criteria and awarding of contract to best bidder".*

A documents review revealed that the compliance level for bid evaluation and contracting were assessed to be 100%, a rating which is highly satisfactory.

#### **4.4.1. Correlation between procurement bidding and contracting process compliance audits**

The relationship between procurement bidding and contracting process compliance audits was tested using Pearson's coefficient statistics and are tabulated below.

**Table 4.7: Correlation matrix between procurement bidding and contracting process compliance audits**

		Bidding & contracting process compliance audits	Procurement performance
Bidding & contracting process compliance audits	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	86	
Procurement performance	Pearson Correlation	.563**	1
	Sig. (2-tailed)	.000	
	N	86	86
**. Correlation is significant at the 0.01 level (2-tailed).			

$P \leq 0.05$

Source: Primary data

According to table 4.7 bidding & contracting process compliance audits process compliance audits has a statistically moderately strong positive relationship ( $r = 0.563^{**}$ ,  $p = 0.000$ ) with procurement performance. The finding infers that bidding & contracting process compliance audits significantly affects procurement performance especially when the audits recommendations cover areas of bidding methods, evaluation and contracting.

#### **4.6. Contract management process compliance audits influences procurement performance in NARO**

The third objective of the study was to establish the relationship between contract management process compliance audits and procurement performance in NARO. Contract management process compliance audits was conceptualized to include four indicators of contracting responsibilities, payment, monitoring and closeout audit consideration measured using 13 items scored on 5-point Likert scale ranging from 5= strongly agree to 1 = strongly



disagree. Table 4.8 below tabulates the percentages, mean and standard deviation results with respect to contract management process compliance audits.

**Table 4.8: Descriptive results for contract management process compliance audits**

<i>Responsibilities</i>	<b>SDA</b>	<b>DA</b>	<b>NS</b>	<b>A</b>	<b>SA</b>	<b>MEAN</b>	<b>S.D</b>
1. Procurement Audits have facilitated transfer of contract management responsibilities to the user department	3.5	14	9.3	43	30.2	3.83	1.119
2. Procurement Audits have facilitated effective allocation/definition of centralized (secretariat) contract management responsibilities.	4.7	14	8.1	43	30.2	3.80	1.156
3. On account of the PPDA audits NARO adequately enforces responsibilities of a contract manager.	4.7	5.8	8.1	46.5	34.9	4.01	1.046
<i>Payment</i>							
4. Advance payment considerations are complied with due to procurement audits.	3.5	2.3	8.1	64	22.1	3.99	.847
5. Because of the procurement audits NARO complies with interim payment considerations	3.5	4.7	10.5	65.1	16.3	3.86	.870
6. The PPDA audits have ensured adequate compliance with final payment considerations	3.5	2.3	11.6	60.5	22.1	3.95	.866
<i>Monitoring</i>							
7. Procurement audits have fostered identification of contract indicators	4.7	2.3	11.6	58.1	23.3	3.93	.930
8. Audit recommendations have ensured that NARO effectively maintains a central repository of procurement records	32.6	32.6	12.8	17.4	4.7	2.29	1.226
9. Procurement audit have fostered effective contract variation management in NARO.	29.1	33.7	9.3	23.3	4.7	2.41	1.259
10. As a result of the PPDA audits NARO now considers contract termination	4.7	2.3	14	58.1	20.9	3.88	.926
<i>Closure</i>							
11. Procurement audits have ensured contractor appraisal before closure	4.7	7	9.3	45.3	33.7	3.97	1.068
12. Procurement audits have ensured that final performance bonds are released only at contract closure	4.7	8.1	4.7	48.8	33.7	3.99	1.068
13. Procurement audits have ensured contract final report is developed for future decision making.	4.7	11.6	7	50	26.7	3.82	1.098

Source: Primary data

Table 4.8 findings show that the respondents agreed that procurement audits facilitated transfer of contract management responsibilities to the user department (mean = 3.83); effective allocation/definition of centralized (secretariat) contract management responsibilities (mean = 3.80) and enforces responsibilities of a contract manager (mean = 4.01). The implication is that procurement audits have had a multiplier effect of fostering compliance with contract management roles and responsibilities necessary to effective contract supervision by the PDE to mitigate for contracting failures.

Asked to comment on procurement audits and their impact on contract management, interviewee II had this to say:

*“As a result of the audits users have become aware of their roles as contract managers. The audits have led to more vigilance in the monitoring of the various contracts and progress reports can now be found on file thus smooth implementation of the procurements”.*

A document review however “found lack of contract implementation plans in five (5) procurements worth UGX 4,536,420,653, there were no contract management plans on file. Which limits the effective monitoring of the contractual” deliverables (PPDA Audit on NARO, 2016).

Whereas the questionnaire and interview findings attribute compliance to delegated contract responsibilities to procurement audits, the documents review reveals significant gaps in contract role performance notably development of contract management plan. Thus there were gaps in observing contract management roles and responsibilities despite the procurement audits.

The respondents also indicated that procurement audits have fostered compliance with;- advance (mean = 3.99), interim (mean = 3.86) and final (mean = 3.95) payment

considerations. Thus procurement audits have modelled compliance with different payment consideration in compliance with the PPDA regulations on supplier payment.

However, a document review of the 2015 and 2016 audit reports reveal that the audits reports did not address matters of contractor payments in the entity (PPDA compliance audit report on NARO, 2015; 2016) an omission which affects the quality of procurement audit report.

Furthermore, the respondents agreed with identification of contract performance indicators (mean = 3.93) and consideration of contract termination whenever necessary (mean = 3.88) as a results of PPDA Audits. They however disagreed with proper maintenance of a central repository of procurement records (mean = 2.29) and effective contract variation management in NARO (mean = 2.41) as a result of PPDA audits. These findings reveal contract monitoring gaps despite the procurement audits.

Interviewee II had this say on audits and contracts management in NARO

*“Because of the procurement audits procurement records are now well kept and in an orderly manner. Contract variations are being properly managed now compared to before the audits thus a reduction disputes and administrative reviews”.*

A document review reveal “lack of contract management records in seven (7) procurements below worth UGX 179,985,792, with no contract management records on file. Lack of contract management records affects accountability (PPDA Audit on NARO, 2016). The report therefore recommends a number of actions on procurement records key being that the Procurement and Disposal Unit should maintain and keep a complete action file for each procurement/disposal” made (PPDA Audit on NARO, 2016).

The respondents agree with conducting of contractor appraisal before closure (mean = 3.97), release of final performance bonds only at contract closure (mean = 3.99) and development of final contract report (mean = 3.82) due procurement audits on the entity. The implication was

that procurement audits are credited for fostering compliance with contract closeout considerations as provided for in the PPDA Regulations 2003.

Interviewee II had this to say on contract management:

*“Audits have helped contracting processes improve. Contract managers monitor contracts and report but some contracts are not adequately supervised and reported on a practice which constrains the attainment of value for money”.*

However, a document review of the latest audit reports reveal that the audits reports did not cover areas of contract closeout in the entity (PPDA compliance audit report on NARO, 2016) an omission which puts to question the quality of the procurement audit report.

The findings from the qualitative and quantitative results suggest that although some contracts were not adequately supervised, on the overall, efforts to audit is credited to enhance compliance with contract close out considerations.

#### 4.5.1. Correlation between contract management process compliance audits

The relationship between contract management process compliance audits was tested using Pearson’s coefficient statistics and are tabulated below.

**Table 4.9: Correlation matrix between contract management process compliance audits**

		Contract management process compliance audits	Procurement performance
Contract management process compliance audits	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	86	
Procurement performance	Pearson Correlation	.424**	1
	Sig. (2-tailed)	.000	
	N	86	86
**. Correlation is significant at the 0.01 level (2-tailed).			

$P \leq 0.05$

Source: Primary data

According to table 4.9 contract management process compliance audit has a statistically moderately strong positive relationship ( $r = 0.424^{**}$ ,  $p = 0.000$ ) with procurement performance. The finding infers that contract management process compliance audits significantly affects procurement performance

especially when the audits recommendations cover areas of contract responsibilities, payment, and monitoring and closeout considerations.

#### 4.7. Procurement performance in NARO

The study dependent variable was procurement performance in which was conceptualized to include three indicators of effectiveness efficiency and economy measured using 11 items scored on 5-point Likert scale ranging from 5= strongly agree to 1 = strongly disagree. This subsection presents the study findings on procurement performance findings from the questionnaire and document review. Table 4.9 below tabulates the percentages, mean and standard deviation results with respect to contract management process compliance audits.

**Table 4.10: Descriptive results for procurement performance**

<i>Efficiency</i>	<b>SDA</b>	<b>DA</b>	<b>NS</b>	<b>A</b>	<b>SA</b>	<b>MEAN</b>	<b>S. D</b>
1. Most contracts in NARO always commence on the planed date of initiation in the contract agreements	4.7	7	7	51.2	30.2	3.95	1.039
2. Running contracts in NARO rarely come to a standstill during contract performance	3.5	4.7	7	55.8	29.1	4.02	.933
3. Requirements are always procured in the expected timelines	25.6	44.2	16.3	11.7	2.3	2.21	1.030
4. Contracts are always completed on the planned schedule/time	20.9	40.7	16.3	18.6	3.5	2.43	1.122
<i>Effectiveness</i>							
5. Advance payments are only effected for high value contracts	2.3	4.7	4.7	48.8	39.5	4.19	.901
6. Payment claims in NARO are always vetted in time to guide payment decisions	2.3	7	2.3	58.1	30.2	4.07	.905
7. Management demonstrates commitment to pay contractors/suppliers	4.7	2.3	7	54.7	31.4	4.06	.950
8. Contractors are paid within 30 days of submission of claims	32.6	41.9	14	9.3	2.3	2.05	.969
Cost							

9. Most contract prices are within NARO's budgeted prices in the contract plan	25.6	40.7	16.3	14	3.5	2.29	1.105
10. Most contracts were completed within stipulated contract award price	5.8	7	4.7	50	32.6	3.97	1.089
11. Most contracts are finished in the estimated cost limits	4.7	7	9.3	53.5	25.6	3.88	1.022

Source: Primary data

Table 4.10 reveals the entity posted mixed results on procurement efficiency as most procurements were initiated on the planned dates and pursued to the end. However, the entity was constrained to meet time expectations in reasonable number of required supplies contracts.

The entity posted mixed results on procurement effectiveness as the staff felt that although Payment claims in NARO are always vetted in time to guide payment decisions and Management demonstrated commitment to pay contractors/suppliers, a reasonable number of contractors were not paid within the stipulated 30days.

On costs, other than the contract prices being more than the budgeted prices (which is normal) the entity cost performance was satisfactory as most contracts were completed within stipulated contract award price and cost estimates.

#### 4.8. Multiple regression model

To establish if the relationship between procurement audit and procurement performance in NARO and which among the dimensions of procurement process audits was a more significant predictor, a multiple regression was conducted and the results are tabulated below.

**Table 4.11: Regression model**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.644 <sup>a</sup>	.415	.393	.31600

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.799	3	1.933	19.359	.000 <sup>b</sup>
	Residual	8.188	82	.100		
	Total	13.988	85			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.420	.426		.987	.327
	Planning process compliance Audit	.195	.098	.176	1.987	.050
	Bidding& Contracting process audit	.438	.095	.427	4.613	.000
	Contract Management process audit	.209	.069	.270	3.041	.003
a. Dependent Variable: Procurement Performance						
b. Predictors: (Constant), Contract Management process audit, Planning process compliance Audit, Bidding& Contracting process audit						

P ≤ 0.05

Table 4.11 shows adjusted  $R^2 = 0.393$  which suggests that procurement process compliance audit accounted for 39.3% of that variance in procurement performance while the remaining variables explain the remaining 60.7%. The ANOVA results of  $F = 19.359$  and sig 0.000<sup>a</sup> suggests that procurement process compliance audit was a significant predictor of procurement performance.

Bidding and contracting process audit was the most significant predictor of the variance in procurement performance as per the ( $\beta = 0.427$ ,  $t = 4.613$ , Sig = 0.000) which is less than the lowest significance level of 0.05. This implies that a significant change in bidding and contracting process compliance audits focusing on bidding, bid evaluations and contracting would result into a greatest significant change of 0.427 units in procurement performance in NARO than other aspects of process audit which is significant going by the sig value of 0.000. The study therefore affirms that bidding and contracting process compliance audits significantly influence procurement performance in NARO.

The standardized coefficient statistics further show that contract management process compliance audits was the second most significant predictor of the variance in procurement performance as per the ( $\beta = 0.270$ ,  $t = 3.041$ ,  $\text{Sig} = 0.003$ ) which is less than the common significance level of 0.05. This implies that a significant change in contract management process compliance audits would result into a significant 0.270 unit change in procurement performance NARO which is significant ( $\text{sig} = 0.003$ ). The study therefore affirms that contract management process compliance audits significantly influence procurement performance in NARO.

Procurement planning process compliance audits although least in predictive impact, it was a significant predictor of the variance in procurement performance as per the ( $\beta = 0.176$ ,  $t = 1.978$ ,  $\text{Sig} = 0.050$ ) which is equal to the common significance level of 0.05. This implies that a significant change in procurement planning process compliance audits would result into a significant 0.176 unit change in procurement performance in NARO which is significant ( $\text{sig} = 0.05$ ). The study therefore affirms that procurement planning process compliance audits significantly influence procurement performance in NARO.



## CHAPTER FIVE

### SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1. Introduction

The general objective of the study was to establish the extent to which procurement process compliance audit has influenced procurement performance in NARO. Specifically, the study examined the extent to which procurement planning, bidding and contracting, and contract management process compliance audits influences procurement performance in NARO. This chapter presents the study findings summary, discussion, conclusions, recommendations, limitations, contribution and areas for further study.

#### 5.2. Summary of the study findings

##### 5.2.1. Procurement planning process compliance audits and procurement performance in NARO

The study found that although there were still some gaps in procurement planning, the PPDA Authority procurement audits were credited for enhancing compliance with procurement planning process demanding the adequate identification of annual requirements, their specifications, development of procurement budgeting, appropriate use of procurement methods and development of bid document.

The correlation results reveal a statistically weak but positive relationship between procurement planning process compliance audit and procurement performance ( $r = 0.339^{**}$ ,  $p = 0.000$ ). The regression results reveal that planning process audits has a significant influence on procurement performance ( $\beta = 0.176$ ,  $t = 1.978$ ,  $\text{Sig} = 0.050$ ).

### **5.2.2. Bidding and contracting process compliance audits and procurement performance in NARO**

The study found that although there were still some gaps at bidding process compliance, the PPDA Authority procurement audits contributed to enhanced compliance with procurement bidding process of bid opening and closing evaluation and contracting.

The correlation results reveal a statistically strong positive relationship between bidding & contracting process compliance audit and procurement performance ( $r = 0.563^{**}$ ,  $p = 0.000$ ).

The regression results reveal that bidding and contracting process audit has the strongest influence on procurement performance ( $\beta = 0.427$ ,  $t = 4.613$ ,  $\text{Sig} = 0.000$ ).

### **5.2.3. Contract management process compliance audits and procurement performance in NARO**

The study found that although there were still some gaps in contract management, the PPDA Authority procurement audits contributed to enhanced compliance with contract management process of enforcement of contract responsibilities, payment, monitoring and closeouts.

The correlation results reveal a strong positive relationship between contract management process compliance audit and procurement performance ( $r = 0.424^{**}$ ,  $p = 0.000$ ). The

regression results reveal that contract management process audit had the second most significant influence on procurement performance ( $\beta = 0.270$ ,  $t = 3.041$ ,  $\text{Sig} = 0.003$ ).

## **5.3. Discussion of the study findings**

### **5.3.1. Procurement planning process compliance audits and procurement performance**

The study found that the PPDA Authority procurement audits were credited for enhancing compliance to procurement planning process demanding the adequate identification of annual requirements, their specifications, development of procurement budgeting, appropriate use of procurement methods and development of bid document. The findings lend support for the

Jensen &Meckling (1976) Agency theory which avers that the efforts to put in place mechanisms such audits foster the attainment of the principal's objectives by controlling opportunistic behaviours of the technocrats in NARO entrusted with public resources (IIA, 2006). Procurement planning process compliance audits therefore serves to control NARO's opportunistic behaviors and compelling them to comply with identification of requirements, development of specification, and budgets, use of appropriate methods and bidding document which guarantees the attainment of 3Es in public procurement.

The correlation results reveal that Procurement planning process compliance audits significantly affects procurement performance especially when the audits recommendations cover areas of identification and specification of requirements, budgeting and bid document. The relationship between procurement planning process compliance and procurement performance echo Ambe and Badenhorst-Weiss (2012) view that efforts to assess procurement risk and provide for remedies from professional consulting process of audits nature significantly contribute to attainment of value for money. In complement, Zubcic and Sims (2011) notes that frequent audits and increased penalties lead to greater levels of service delivery and compliance with procurement law while Hui et al. (2011) noted that the possibility of audit review is also a strong incentive for procurement officials to abide by the procurement rules. Guided by the study findings and support from the literature, this study affirms that the PPDA audits on the procurement planning process compliance significantly influence procurement performance in public entities of Uganda.

### **5.2.2. Bidding and contracting process compliance audits and procurement performance in NARO**

The study found that the PPDA Authority procurement audits contributed to enhanced compliance with procurement bidding process of bid opening and closing, evaluation and

contracting. This finding supports Jensen & Meckling (1976) Agency theory which avers that the efforts to put in place mechanisms such as audits foster the attainment of the principal's objectives by controlling on opportunistic behaviours of the technocrats in NARO entrusted with public resources. Hui et al. (2011) holds the same view on the role of audit and compliance and noted that the possibility of audit review is also a strong incentive for procurement officials to abide by the rules. Bidding and contracting process compliance audits therefore serve to comply with bid opening and closing regulations, bid evaluation and contract award PPDA regulations which guarantee procurement performance.

Bidding & contracting process compliance audit significantly contributed to procurement performance especially when audit recommendations on bid handling, bid evaluations and contracting are implemented by the public entity's management. This study's observations are supported by a South African study by Zitha (2016) which concluded by observing that unless management undertakes to implement compliance audit recommendations on bidding process management, service delivery will be constrained. Furthermore, Noor et al (2013) in their study attribute public sector project delays to unforeseen issues notably delays in bidding, low bid responses and flouting of bid evaluation procedures. This study infers that efforts to audit PDEs bidding and contracting process significantly contribute to procurement efficiency, effectiveness and economy in Uganda.

### **5.3.3. Contract management process compliance audits and procurement performance in NARO**

The study found that the PPDA Authority procurement audits contributed to enhanced compliance to contract management process of enforcement of contract responsibilities, payment, monitoring and closeouts.

The study found that the PPDA Authority procurement audits contributed to enhanced compliance with contract management responsibilities, payment, monitoring and contract close out considerations. This finding supports Jensen & Meckling (1976) Agency theory which avers that the efforts to put in place mechanisms such compliance audits on contract supervision, payment and closeout appraisals foster the attainment of the principal's objectives by controlling on opportunistic behaviours of the technocrats in NARO entrusted with public resources. Hui et al. (2011) holds the same view on the role of audit and compliance and noted that the possibility of audit review is also a strong incentive for procurement officials to abide by the rules.

Contract management process compliance audit significantly contributed to procurement performance especially when audit recommendations on contract supervision, payment and close out considerations are implemented by the public entity's management. This study findings and observation is supported by Usman and Sani (2015) Nigerian attributed enhanced construction project performance to site visitation in contract auditing which also helps curtail procurement corruption. In complement, Munzhedzi (2016) it a South African study noted that efforts to audit and un earth non adherence to financial management regulations during contract performance helped solve the service delivery challenges in South African public sector especially by punishing offenders who do not comply with the said legislative framework. With the study findings on the relationship between the variable and support form literature, this study infers that efforts to audit PDEs contract management compliance significantly contributes to procurement efficiency, effectiveness and economy in Uganda.

#### **5.4. Conclusions of the study**

##### **5.4.1. Procurement planning process compliance audits and procurement performance in public sector of Uganda**

The study concludes that procurement planning process compliance audits significantly affects procurement performance especially when the audits recommendations cover areas of identification and specification of requirements, budgeting and bid document and are implemented by management.

#### **5.4.2. Bidding and contracting process compliance audits and procurement performance in public sector of Uganda**

The study concludes that bidding and contracting process compliance audits significantly affects procurement performance especially when the audits recommendations cover areas of bidding methods, evaluation and contracting and are implemented by management.

#### **5.4.3. Contract management process compliance audits and procurement performance in public sector of Uganda**

The study concluded that contract management process compliance audits significantly affects procurement performance especially when the audits recommendations cover areas of contract responsibilities, payment, monitoring and closeout considerations and are implemented by management of the PDE.

### **5.5. Recommendations of the Study**

#### **5.5.1. Procurement planning process compliance audits and procurement performance in public sector of Uganda**

To enhance procurement performance:

1. The accounting officer should conduct a market price survey to guide the development of the procurement budget.
2. The PDU should state the bid validity period in the solicitation documents and in the required format to avoid administrative reviews.

3. The PPDA in its audit questions and criteria should review, rate and recommend on identification of works, supplies and services as deemed appropriate.

### **5.5.2. Bidding and contracting process compliance audits and procurement performance in public sector of Uganda**

To enhance procurement performance:

1. The PDU should require bid securing declaration forms from bidders at bid receipt to avoid the risk of awarding contracts to non-compliant bidders.
2. The PDU should create a record of bid issue opening and receipt for enhanced transparency.

### **5.5.3. Contract management process compliance audits and procurement performance in public sector of Uganda**

To enhance procurement performance:

1. The PDU should maintain a central repository of records of all action files to ensure accountability.
2. The user departments should ensure that order delivery should reconcile receipts with the order forms to enhance service delivery.

## **5.6. Contributions of the Study**

The study has helped evaluate the effectiveness of procurement process compliance audit and developed managerial recommendations demanding the widening the audit scope questions and criteria to cover areas of identification of requirements and their specifications; contract management roles and responsibility, payment consideration and closeout in the planning and contract management process compliance. The study has also helped to fill knowledge and literature gaps on the influence of procurement process compliance audits and procurement performance in the public.

### **5.7. Limitations of the Study**

A key limitation of the study was its content scope where it only focused on only process compliance audits without consideration of system and disposal audits and their effect on procurement performance in a public sector entity which still reforming its procurement systems.

### **5.8. Areas for further research**

The study found that procurement planning process compliance audit predicated 39.3% of the variance in procurement performance. Other studies need to examine the influence of procurement system and disposal compliance audit influence procurement performance on public sector entities in Uganda.



## REFERENCES

- Agaba, R., & Shipman N. (2007). Public Procurement Reform in Developing Countries: The Ugandan Experience. In G. Piga & K. V. Thai (Eds.), *Advancing Public procurement. Practices, Innovation and Knowledge-Sharing*, 373-391.
- Alwardat, Y.A., & Benamraoui, A. (2014). Value for Money and Audit Practice: Lessons and Facts from the Literature, *Life Science Journal*, 11(2), 84-98
- Amin, M. (2005). *Social Science Research Concepts, Methodology & Analysis*; Makerere University Kampala
- Boisclair, M. (2008). *Value for Money Auditing*, CA Magazine.
- Bou-Raad, G. (2000). Internal auditors and a value added approach: the new Business regime. *Managerial Auditing Journal*, 15(4), 182-186.
- Cohen, L, Manion, L., and Morrison, K. (2007). *Research Methods in Education*, London, Routledge
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage
- Desmedt, E., Morin, D., Pattyn, V., & Brans, M. (2017). Impact of performance audit on the Administration: a Belgian study (2005-2010), *Managerial Auditing Journal*, 32(2), 251 – 275.
- Dorn, N., Levi, M., & White, T. (2008). Do European procurement rules generate or prevent crime? *Journal of Financial Crime*, Vol. 15 Iss: 3 pp. 243 - 260
- Hui, W. S., Othman, R. O., Normah, O., Rahman, R. A. & Haron, N. H. (2011). Procurement issues in Malaysia. *International Journal of Public Sector Management*, 24(6), 567-593.
- Hunja, R. (2003). Obstacles to Public Procurement Reform in Developing Countries," in Sue Arrow smith and Martin Trybus (editors) *Public Procurement: The Continuing Revolution*, Kluwer Law International 2003.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3/4, 305-360.
- Krejcie, R.V. & Morgan, D.W. (1970). *Determining sample size for research activities Educational and psychological measurement*, 30pp. 607-610.
- Kululanga, G. (2012). Capacity building of construction industries in Sub-Saharan developing countries. *Engineering, Construction and Architectural Management*, 19(1), 86-100.
- Mishra, S., & Mishra, B. (2016). A Study on Risk Factors Involved in the Construction Projects, *International Journal of Innovative Research in Science, Engineering and Technology*, 2(5), 1190-1196.
- Munzhedzi P.H. (2016). South African public sector procurement and corruption: Inseparable twins? *Journal of Transport and Supply Chain Management*, 10(1), 1-8.
- Mzenzi, S.I., & Gaspar, A.F. (2015). External auditing and accountability in the

- Tanzanian local government authorities, *Managerial Auditing Journal*, 30 (6/7), 681 – 702.
- Nguyen, T.P., & Chileshe, N. (2015). Revisiting the construction project failure factors in Vietnam, *Built Environment Project and Asset Management*, 5(4), 398-416.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory (3rd ed.)*. New York, NY: McGraw-Hill, Inc.
- Odhiambo, W., & Kamau, P. (2003). Public Procurement: Lessons from Kenya, Tanzania and Uganda. *OECD Working Paper NO.208*. OECD Development Centre
- O'Donnell, O., Boyle, R., & Timonen, V. (2003). Transformation Aspects of e-Government in Ireland: Issues to be Addressed, *Third European Conference on e-government*, Dublin, Ireland: MCIL
- OECD (2005). Republic of Macedonia Decentralisation Process, available at: [www.oecd.org/Data/oeed/63/11/36492692.pdf](http://www.oecd.org/Data/oeed/63/11/36492692.pdf)
- PPDA Act 2003.
- PPDA Authority Compliance Report on NARO, 2015 and 2016
- Rostami, G., & Oduoza, F. (2017). *Key Risks in Construction Projects in Italy: Contractors Perspectives*
- Sekaran, U., & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach (5<sup>th</sup> Edition)* Wiley.
- Solomon, A.B. (2013). The impact of external audit in accountability and transparency of NGOs in the Bolgatanga Municipality. Dissertation, Kwame Nkrumah University
- Thai, K. V. (2004). Government Procurement: Past and Current Developments. *Journal of Public Budgeting, Accounting & Financial Management*, 12(2); 231-247
- The Institute of Internal Auditors (2006). The Role of Auditing in Public Sector Governance Available on [www.theiia.org](http://www.theiia.org), accessed on 15<sup>th</sup> Sept., 2012.
- Usman, N., & Sani, A. (2015). An evaluation of contract auditing practice in Nigerian building construction projects, *International Journal of Economics, Commerce and Management*, 3(4), 1-8.
- World Bank, 2003
- Zitha, T. (2016). Compliance to procurement processes, deviant behavior and effects on service delivery in the public sector. *Journal of Public Administration and Development Alternatives*, 1(1), 59-76.
- Zubicic, J. & Sims, R. (2011). Examining the link between enforcement activity and corporate compliance by Australian companies and the implications for regulators. *International Journal of Law and Management*, 53(4), 299-308.

## APPENDICES

### *Appendix 1: Study Questionnaire*

Dear Respondent,

I am a student at Kyambogo University. I am carrying out a study entitled procurement process compliance audit and procurement performance in the public sector. A case study of NARO. You have been selected in NARO to participate in this study by furnishing us your experiences. So feel free and answer diligently as your responses will be used for achieving academic objectives.

#### **Section A: Background Information (Tick as appropriate)**

1. Your position in relation to procurement function: Contracts Committee [  ] User Department [  ] Procurement and Disposal Unit [  ]
2. Level of education: Diploma [  ] Degree [  ] Post Graduate [  ] others (specify).....
3. Time worked in NARO: 1-4 Years [  ] 5-9 Years [  ] 10-14 Years [  ] 15+ years [  ]

#### **Section B: Procurement planning process compliance audit**

Indicate the extent to which you agree with the following observations on Procurement planning process compliance audit. Use a scale of 5-Strongly agree, 4-Agree, 3-Not decided, 2-Disagree, 1-Strongly disagree

	SDA	DA	NS	A	SA
<i>Requirements</i>	1	2	3	4	5
1. Procurement Audits by PPDA Authority have ensured that required works for the financial year in NARO are satisfactorily identified					
2. Procurement Audits have facilitated effective identification of required supplies for the financial year					
3. Procurement Audits by PPDA Authority have ensured no omission of required services					
4. Procurement Audits have ensured that NARO adequately conducts market research on available supplies					
<i>Specification</i>	1	2	3	4	5
5. NARO develops adequate functional specifications as a result of the procurement audits					
6. NARO develops adequate technical specifications as a result of the procurement audits					
7. NARO develops adequate performance specifications for supplies as a result of the procurement audits					

8. NARO develops clear Terms Of Reference-TORs for required services as a result of the procurement audits					
<i>Budget</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
9. Procurement Audits have ensured establishment of accurate/representative market prices from a market survey					
10. Procurement Audits have ensured development of a satisfactory procurement budget					
11. Procurement Audits have ensured that only budgeted requirements are procured in the financial year					
<i>Method</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
12. PPDA audit have fostered compliance with open competitive bidding in NARO's procurement					
13. PPDA audit have fostered compliance with restricted bidding in NARO's procurement					
14. PPDA audit have fostered compliance with Quotation method bidding in NARO's procurement					
<i>Bidding document</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
15. Procurement audits have ensured that issued standard bidding documents have no omissions.					
16. Procurement audits have ensured that rules for drafting individual solicitation documents, using standard solicitation document are complied with					

**Section C: Procurement Bidding and contracting process compliance audit**

Indicate the extent to which you agree or disagree with the following positions on the Bidding and contracting process compliance audit guidance in NARO by PPDA Authority. Use a scale of 5-Strongly agree, 4-Agree, 3-Not decided, 2-Disagree, 1-Strongly disagree.

	<b>SDA</b>	<b>DA</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
<i>Bidding</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Procurement audits have ensured compliance on issue of bid notice in NARO					
2. Procurement audits have ensured compliance with the rules of amending bidding document					
3. Procurement audits have ensured compliance with bid					

receipt considerations					
4. Procurement audits have ensured compliance with bid closing & opening considerations					
<i>Evaluation</i>	1	2	3	4	5
5. Procurement audits have ensured that evaluation teams are appropriately constituted					
6. Procurement audits have ensured that appropriate evaluation methodologies are used					
7. Procurement audits have ensured development of satisfactory evaluation reports					
<i>Contracting</i>	1	2	3	4	5
8. Procurement audits have ensured that the NARO's contracts committee adjudicates on all contract decisions					
9. Procedures for contract award are adhered to by NARO as a result of the PPDA Audits					
10. PPDA Audits have ensured that contract clauses are satisfactory to all parties.					
11. Audits have fostered compliance with performance security considerations.					

**Section D: Contract management process compliance audit**

Indicate the extent to which you agree or disagree with the following positions on contract management process compliance audit in NARO by PPDA Authority. Use a scale of 5-Strongly agree, 4-Agree, 3-Not decided, 2-Disagree, 1-Strongly disagree.

	<b>SDA</b>	<b>DA</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
<i>Contract responsibilities</i>	1	2	3	4	5
1. Procurement Audits have facilitated transfer of contract management responsibilities to the user department					
2. Procurement Audits have facilitated effective allocation/definition of centralized (secretariat) contract management responsibilities.					
3. On account of the PPDA audits NARO adequately					

enforces responsibilities of a contract manager.					
<i>Payment</i>	1	2	3	4	5
4. Advance payment considerations are complied with due to procurement audits.					
5. Because of the procurement audits NARO complies with interim payment considerations					
6. The PPDA audits have ensured adequate compliance with final payment considerations					
<i>Monitoring</i>	1	2	3	4	5
7. Procurement audits have fostered identification of contract performance indicators					
8. Audit recommendations have ensured that NARO effectively maintains a central repository of procurement records					
9. Procurement audit have fostered effective contract variation management in NARO.					
10. As a result of the PPDA audits NARO now considers contract termination whenever necessary.					
<i>Closeout</i>	1	2	3	4	5
11. Procurement audits have ensured contractor appraisal before closure					
12. Procurement audits have ensured that final performance bonds are released only at contract closure					
13. Procurement audits have ensured contract final report is developed for future decision making					

**Section D: Procurement performance**

Indicate the extent to which you agree or disagree with the following observations on procurement performance in NARO on a scale of 5-Strongly agree, 4-Agree, 3-Not decided, 2-Disagree, 1-Strongly disagree.

<i>Efficiency</i>					
1. NARO boasts of a high bid response for on its bids	1	2	3	4	5
2. Most contracts in NARO always commence on the planed date of					

initiation in the contract agreements					
3. Running contracts in NARO rarely come to a standstill during contract performance					
4. Requirements are always procured in the expected timelines					
5. Contracts are always completed on the planned schedule/time					
<i>Effectiveness</i>					
6. Advance payments are only effected for high value contracts					
7. Payment claims in NARO are always vetted in time to guide payment decisions					
8. Management demonstrates commitment to pay contractors/suppliers					
9. Contractors are paid within 30 days of submission of claims					
<i>Economy</i>					
10. Most contract prices are within NARO's budgeted prices in the contract plan					
11. Most contracts were completed within stipulated contract award price					
12. Most contracts are finished in the estimated cost limits					

ENDTHANK YOU

## **Appendix II: Interview Guide**

### Introduction: Self-Introduction

1. Comment on the extent to which PPDA Authority audit recommendations on NARO have ensured:
  - Needs identification
  - Specification
  - Budget
  - Schedule
  - Procurement methods
  - Bidding document
  
2. Comment on the extent to which PPDA Authority audit recommendations on NARO have ensured
  - Bidding
  - Bid evaluation
  - Contracting
  
3. Comment on the extent to which PPDA Authority audit recommendations on NARO have ensured
  - Contract organizational structure & responsibilities
  - Monitoring
  - Closeout
  
4. What are the challenges in implementing PPDA Audit recommendations in this entity?
  
5. Suggest ways for strengthening implementation of PPDA Audit recommendations



### Appendix III: Documentary Checklist

<b>PPDA procurement process compliance audit recommendation area</b>	<b>2015</b>	<b>2016</b>
<b>Procurement planning</b>		
Identification of requirements		
Specification of requirements		
Procurement budget		
Bidding documents		
Procurement methods		
<b>Bidding and contract management process</b>		
Bid management		
Bid evaluation		
Contracting		
Contract management process		
Contract implementation responsibilities		
Contractor payment		
Contract monitoring		
Number of audit recommendation implemented		

**Appendix IV: Table for Determining Sample Size from a given Population**

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	10000	384
								0	

Note: “N” is population size  
 “S” is sample size.

Krejcie, Robert V., Morgan, Daryl W., “Determining Sample Size for Research Activities”,  
Educational and Psychological Measurement, 1970.