

# Antecedents of Public Procurement Regulation Compliance in Parastatals in Kenya

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**Abstract:** In Kenya, the inefficiency and ineptness in the application of public procurement regulations has resulted to increased cases of procurement regulation non-compliances. Overall, the implementation of procurement practices in many public entities contributes to loss of over Kenya Shillings twenty million annually. In addition, in over thirty five percent of parastatals, continuous violation of procurement regulation is imminent as a result of partial compliance. Parastatals in Kenya spends two hundred billion annually with a twenty five percent loss attributed to poor procurement legislation compliance. The existence of procurement related scandals, despite the presence of clear procurement reforms, have pointed to inadequate compliances with public procurement regulations. The general objective of the study is to determine the antecedents of public procurement regulation compliance in parastatals in Kenya. The specific objectives of the study are; to establish the influence of procurement professional competence on the public procurement regulation compliance Parastatals, to assess the effect of top-level management support on public procurement regulation compliance in Parastatals, to determine the effect of organization culture on public procurement regulation compliance in Kenyan Parastatals, and to explore the influence of organizational systems on public procurement compliance in Parastatals in Kenya. A descriptive census survey research design was used targeting 110 parastatal. Questionnaires were used as the main data collection instruments through drop and pick method. During the study, 97 parastatals responded by turning in their filled questions which translated to about 85.7% response rate. The study revealed that the greatest majorities believe procurement professional competence was the strongest variable in enhancing the level of compliance with public procurement regulations. The study resulted to an adjusted R-Square of 0.993. All variable in the study indicated a strong positive relations with dependent variable.

**Keywords:** Antecedent, Organizational culture, Organizational system, Procurement policies, Procurement professional competence, Procurement, Public procurement regulation compliance, Public Procurement, and Top level management support.

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## 1. INTRODUCTION

### Background of the study:

Procurement, as defined by Snider and Rendon (2012) is the procedure of acquiring goods, services, and works through acquisition methods such as buying, hire purchase, leasing among other commonly used acquisition methods. Norman-Major (2012) defined public procurement as the process of goods, services, and worked by the government for the utilization by the public. Therefore, according to Bos (2013), procurement becomes a core government economic activity.

Lines and Makau (2017) defined public procurement regulation compliance as adherence to stated procurement policies and regulation as embedded in the regulatory framework. For example, the procurement practices in Kenya are guided by the Public Procurement and Asset disposal Act 2015 (The Public Procurement and Asset Disposal Act, 2015). The regulations require that all procurement practices in the public sector be conducted on a fair manner that promotes competition for the suppliers, promote transparent, enhance integrity, instil openness, in an accountable manner, and more so, in an economic way that can guarantee the value for money for the citizens (The Public Procurement and Asset Disposal Act, 2015).

A report published by the Transparency International Report (2017) proves that failure of any public sector to follow the public procurement regulation and procurement framework will lead to failed service levels, poor quality of goods and works provided to the citizens. Consequently, the consumers, citizens, will not be satisfied which increases the number of public cry-out on the procurement processes in Kenya (Dimitrakopoulos, 2014).

#### **Global Perspective of Public Procurement Regulation Compliance:**

In the global scope, different companies in various nations have successfully implement some of recommendations of this study to improve their level of compliance with public procurement regulations. It is, therefore, essential, according to Snider and Rendon (2012), for public sectors to understand and map areas of procurement operation that require improvement regarding compliance with public procurement regulations. According to Mosioma and Awuor (2014), a number of the nations at the global scope have successfully implemented the parameters such as improving professional knowledge and skills, compelling top level in the procurement sectors to support adherence of public procurement regulation, promoting a conducive organizational culture, and putting in place organizational systems in a bid to improve the level of compliance with public procurement regulations (Bos, 2013).

For example, in the European nations, Nestle Company based in Switzerland, has effectively utilized procurement professional competence to improve the level of compliance with the procurement regulations (Mosioma and Awuor, 2014). On the same note, a study on "Public Procurement and Public Administration and Public Service Perspectives," by Snider and Rendon (2012) proves that limited procurement regulation compliance in the global perspective has been blamed on lack of adequate innovation since of the procurement functions calls for complex systems such as Enterprise resources planning in the application of public procurement directives. As a result, the application of improves organizational systems have also enabled companies such as Nestle Company to improve their level of procurement regulation compliance.

According to Snider and Rendon (2012), in the case of the United States, a company such as Wal-Mart Stores improves compliance through top level management support. Accordingly, top level support is vital in improving the level of compliance with the public procurement regulations due to the provision of required guidance and support to make employees feel motivated in complying with the procurement regulations (Aye, 2012). Besides, Mosoti (2015) argue that in the United States, and the United Kingdom, the statues governing procurement function include; the Public Procurement Regulations of 2007, the Contractual Act (Amended) 2007, the Utility and Contacts (Postal Service Amendments) Regulation 2008, the Public Contract Utility (Code Amendment) regulations (2008), among others which are envisioned at making the procurement function between the nations with the European Union and the United States successful (Norman-Major, 2012).

Additionally, in China, the China Petroleum & Chemical Corporation (Sinopec) utilizes organizational culture to improve the level of compliance. Therefore, partner relationship, sharing of information, and supply chain integrating have played the crucial role in incorporating the procurement function in daily operation of public entities (Aye, 2012). Other most important organizational culture attributes dominant in the Chinese economy are proper remuneration of employees and encouraging ethical practices that help in improving the level of compliance with the procurement regulations. Additionally, in Japan, Honda Motor leverages organizational systems such as Enterprise Resources Planning to improve the level of compliance with the procurement regulations.

#### **Regional Perspectives on public Procurement Regulation Compliance:**

Sasol and Shoprite Holdings are the largest companies in South Africa and they enhance the level of procurement regulation compliance through investment on procurement professional competence and encouraging an organization culture that is inclined towards training employees on procurement regulation compliances (Lopez-Casero and Scheyvens, 2007).

In Tanzania, the Tanzania Breweries Limited enhances procurement regulation compliance through the organizational systems (Ntayi et al., 2013). A study by Bos (2013) on "Bureaucrats and Public Procurement," proves that nations such as Nigeria and Tanzania have effectively utilized organizational systems and organizational culture within the public procurement sectors to enhance the level of compliance with the procurement regulations. A study by Lopez-Casero & Scheyvens (2007) presents facts that procurement amounts to about 21.5% of the total Gross and Domestic Produce in the world. Therefore, a number of African nations have focused on procurement professional competence in a bid to improve the level of compliance with public procurement regulations (Bos, 2013).

In the Republic of Uganda, companies such as MTN Uganda Limited and Nile Breweries Lt have leveraged the procurement professional expertise and top level management in the procurement sector to improve the level of adherence with the public procurement regulation (Cohn et al., 2013). In the year 2010, the Public Procurement and Disposal of Public Asset Act commission carried out a procurement compliance audit in Ethiopia involving about 95 public sectors and revealed that the level of compliance with public procurement regulations was increasing steadily at a rate of 11.5% per year as result of using organisational systems in Ethiopians public sector (Rendon, 2012).

#### **Public Procurement Regulation Compliances in Kenya:**

The level of public procurement regulation compliance in Kenya Parastatals is low to an extent that warranty speedy intervention (World Bank Report, 2017). A report published by the World Bank Reports (2017) indicates that, in Kenya only about 13% of all procurement practices fully comply with procurement regulations. Additionally, in year 2015-2017, over 50 major cases of procurement non-compliance were reported and resulted to the increased loss of public funds (Yukins, Wallace and Marburg-Goodman, 2009). Besides, a report published by Transparency International Report reveals that Kenyan corruption index is increasing considerably with a margin of 7.5% every year, and most of these cases are associated with public procurement regulation non-compliance (PPOA, 2007).

Public sectors in Kenya have continually failed to comply with procurement regulations effectively despite the efforts by the economic development partners such as International Trade Organization, Trade Unions, and the World Bank in instilling the essence of transparency and compliance of procurement governing rules (Snider and Rendon, 2012). Procurement law implementers and procurement professionals have continually ignored the fact that the procurement function forms the foundation of the economy and the attainment of the Kenya's Vision 2030 (Lines and Makau, 2017).

#### **Parastatals in Kenya:**

In Kenya, parastatals are formed to accomplish various objectives such as; accelerate economic development; redress regional economic imbalances; increase Kenyan citizen's participation in the economy; promote indigenous entrepreneurship, and promote foreign investment (Mosioma and Awuor, 2014). Parastatals are government owned companies, boards, or organizations which help the government to run essentials functions of providing goods and services to the citizens. Parastatals are usually managed by board of directors who are appointed by the president of the republic of Kenya. Parastatals in Kenya are usually managed and funded through the respective ministries of the government (Rendon, 2012).

Parastatals in Kenya are established under the state corporation act (cap446), which gives them autonomy; their objectives are usually wider concerning both the organization and the country. Each parastatal organization is responsible to a parent ministry within the government, with the executive head of that parastatal being answerable to the Permanent Secretary of the Parent Ministry. The government, however, may issue guidelines from time to time defining further the role of a given parastatal organization. The state entities' policy mandates given as by law should be viewed as pointers of what could be done to make a contribution to the service of the nation, in the context of national Concepts and aspirations.

Parastatals in Kenya are expected to comply with public procurement regulations to reduce critical result of non-compliance such as negative implication on the procurement function such as poor alignment between the procurement practice and the expenditure, lack of transparency in the procurement, and poor management of procurement records (Snider and Rendon, 2012). Lack of compliance in procurement practices has increased the cost of delivering services to the users, (Mosioma and Awuor, 2014). Accordingly, World Bank Report (2017) indicate that service delivery cost has increased to over 70% as a result of failure to comply with public procurement policies. Different pieces of research conducted by Mosioma and Awuor (2014) and Ayee (2012), after the enforcement of PPADA 2015 proves that there is laxity of total compliances with public regulation that has continually increased the Kenyan operation budget (Cohn et al., 2013 and Moseti 2015).

A study by the World Bank Report indicates that the corruption index in parastatals in Kenya has increased steadily since the year 2005 (Mosioma and Awuor, 2014). As such, by 2017, Kenyan procurement function was losing about \$1.2 million per year based on non-compliance alone. The major impact of non-compliance with public procurement regulation is corruption, which could be costing the Kenyans a great deal of money annually hence necessitating a discussion of antecedents of public procurement regulation compliance to aid parastatals in improving the level of compliance (World Bank Report, 2017).

**Statement of the Problem:**

In the last few decades, procurement practices in Kenyan Public Corporations have been viewed as a field rife with non-compliance and as an avenue for quick enrichment of individuals (Mosioma and Awuor, 2014). Consequently, these inefficiencies have raised scrutiny from stakeholder and taxpayers in a bid to improve the level of compliance (Mosioma and Awuor, 2014).

The level of public procurement regulation compliance in Kenya Parastatals is low to an extent that warrants speedy intervention (World Bank Report, 2017). A report published by the World Bank Reports (2017) indicates that, in Kenya only about 13% of all procurement practices fully comply with procurement regulations. Additionally, in year 2015-2017, over 50 major cases of procurement non-compliance were reported and resulted to an increased loss of public funds (Yukins, Wallace and Marburg-Goodman, 2009). Besides, a report published by Transparency International Report reveals that Kenyan corruption index is increasing considerably with a margin of 7.5% every year, and most of these cases are associated with public procurement regulation non-compliance (PPOA, 2007). In other countries such as the United Kingdom, corruption index is 1.07% annually denoting a higher level of compliance with public procurement regulation compared to Kenya (World Bank Economic Survey, 2015).

A World Bank Economic Survey (2015) provides information that Parastatals in Kenya spends 200 billion annually with a 25% loss attributed to poor procurement regulation compliance (Ayee, 2012). The existence of procurement related scandals, despite the presence of clear procurement reforms, have pointed to inadequate compliances with public procurement regulations (Lines and Makau, 2017). Preceding pieces of research that have focused on procurement regulation compliances have not offered a specific deliberation on parastatals in Kenya. Therefore, it is necessary to investigate the antecedents of public procurement compliance of parastatals in Kenya.

**General Objective:**

To establish the antecedents of public procurement regulation compliances in parastatals in Kenya.

**Specific Objectives:**

1. To establish the influence of procurement professional competence on the public procurement regulation compliance in parastatals.
2. To assess the influence of top-level management support on public procurement regulation compliance in parastatals.
3. To determine the influence of organization culture on public procurement regulation compliance in parastatals.
4. To explore the influence of organizational systems on public procurement compliance in parastatals.

**Research Questions:**

1. What is the influence of procurement professional competence on the public procurement regulation compliance in parastatals?
2. What is the influence of top-level management support on public procurement regulation compliance in parastatals?
3. What is the influence of organization culture on public procurement regulation compliance in parastatals?
4. To what extent does organization systems influence public

**2. LITERATURE REVIEW****Theoretical Review:**

The theoretical review is defined as the rationale that incorporates the review of literature in a study where facts are substantiated through a comparison with the findings and principles of pre-existing literature. According to Swanson (2013), theoretical review paves ways for the researcher to support a theory of research study. In addition, a theory explains the organization of aspects of different phenomena in a range of perspectives. For example, a theory creates a platform through which researchers can predict the behavior or performance of humans. Swanson (2013) opines that a theory comprises of principles and well-defined concepts where these elements explain facts and predict future events. Therefore, the study is grounded on the following theories.

**Theory of Knowledge Management (KM):**

This theory focuses on “a series of steps that include identifying, collecting, storing, and sharing of explicit, implicit, and tacit information among individuals throughout an organization” (Buckley, 2014, p.102). The principles of this theory can be adopted by an organization so that to bring about significant changes in enhancing the level on knowledge.

The theory of knowledge management is subdivided into techno-centric, ecological, and organizational theories (Alhawari & Al-Jarrah, 2011). Techno-centric theory highlights how the development and advancement in technology facilitate the flow and storage of knowledge in an organization. Ecological KM theory concentrates on the interactions in an organization as well as the factors that enable people to share knowledge. Finally, organizational KM theory emphasizes the management of knowledge and knowledge processes by focusing on the cultural and hierarchical design of organizational structures. Irrespective of the practice principles applied, knowledge organization involves the influence of technology, procedure, and people in the process of sharing knowledge.

The theory relates to procurement professional competence by providing guidelines on how to acquire knowledge required in advancement of organizational agenda. The professionalism of an organization acts as a significant antecedent towards the process of compliance with procurement regulations. Scholars such as Knight et al. (2008) and Swanson et al. (2017) have revealed that a high level of knowledge among employees increases the level of regulatory compliance (Elnkov, 2012).

Principles of knowledge management determine the regulatory compliance of an organization by equipping staffs with the ability to understand and apply the regulatory framework within the procurement operations. Through the identification and hiring of employees with the skills and knowledge required for doing a specific job, organization increase the chances of compliance (Swanson et al., 2017). Knight et al. (2008) argue that having a competent staff reduces the probabilities of malpractices.

The failure of an organization to hire employees with the required levels of skills and knowledge hinders the implementation of the essential procurement practices in various institutions (Elnkov, 2012). Employees with procurement professional certification and awareness of regulations enhance the adherence procurement requirements (Swanson et al., 2017)

**Management Theory:**

According to Swanson et al. (2017), the management theory involves a collection of ideas that determine the general rules concerning the management of a business or organization. This theory focuses on the relationship between managers and subordinates in an organization. These levels of interaction addresses the motivation of employees and the process of accomplishing organizational goals. The management theory is implemented to help elevate the productivity as well as the quality of service of an organization (Alhawari & Al-Jarrah, 2011). Managers tend to use a variety of management theories during the application of the strategies within an organization depending on the workforce, purpose, and the workplace. The management theory is categorized in chaos theory, contingency theory, systems theory as well as the theory X and theory Y. Managers delegate duties to subordinates whose behavior cannot be determined, but the outcomes can be related with the management support in aiding the subordinates to accomplish their duties (Buckley, 2014).

This theory addresses the top management support in this study. The management theory provides an overview of the different ways that can be used in running an organization (Silva-Domingo, 2015). Top management support ensures that organization remains compliant to regulations as it demands accountability and transparency from all stakeholders. Managers tend to foster professional procurement competence by taking appropriate actions based on the significant aspects relevant to the set rules and guidelines such as reprimanding subordinates for non-compliance with policies and practices (Silva-Domingo, 2015). Buckley (2014) asserts that top management support makes sure that workers in an organization remain compliant by acting as role model. Thus, to enhance procurement regulation compliance, managers come up with programs that ensure employees work as a single unit so that to achieve organizational goals and objectives.

**Organizational Culture Theory:**

This theory concerns the culture of an organization. Organizational culture is defined as “A pattern of shared basic assumptions learned by a group as it solved its problems through external adaption and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive,

think, and feel in relation to those problems” (Schein, 2010). It is divided into the following levels: assumptions adopted beliefs and values, and artefacts. Organizations are defined by these distinct levels of culture that are complemented by a pool of subcultures and micro-cultures that are established on geographic location or organizational chain of command. Besides, the tasks and the functions performed by a group of individuals helps in the determination of organizational culture (Elnkov, 2012; Swanson et al., 2017). Within a given organization the subcultures and micro-cultures possess specific assumptions, adopted beliefs and artefacts.

This theory is relevant to the organizational culture as one of the antecedents of public procurement regulation compliance. The culture of an organization impacts the employee remuneration, transparency in operations and the ethical values hence influencing public procurement regulation compliance (Silva-Domingo, 2015). Research reveals that adherence to compliance regulations is directly associated with the organizational culture (Schein, 2010). An organizational culture that is healthy and robust acts as the foundation of compliance with procurement regulations. Therefore, there is a functional relationship between organizational compliance and culture (Swanson et al., 2017). The culture of an organization is an essential cog in the success or failure of an institution for example; it either enhances regulation adherence or proves detrimental. An organization with an active culture abides by the procurement regulations.

#### **Resource-based Theory:**

According to the resource-based theory, competitive advantage is determined by the amount of “strategic resources” owned by an organization (Ferreira et al., 2016). Strategic resources are means that are valuable, uncommon, difficult to replicate and not easily substituted. Strategic resources ensure that an organization gains a sustained competitive advantage (Kagendo, 2012). The utilization of strategic resources provides an organization with the capacity to stay relevant despite the competitions levels and remain successful over an extended period delivering both goods and services at an efficient and effective manner. Organizations also benefit from the ownership of resources that are not strategic even though the benefits from the use of these resources are short-term in most cases.

The resource-based theory addresses the organizational systems. Competence-based procurement and strategic resources offer a good understanding concerning the strengths and weaknesses of an organization (Silva-Domingo, 2015). The strategies highlighted by the resource-based theory create a platform where organizations can focus on the IT infrastructure, communication systems and standing operating procedures (SOPs). Ensuring up-to-date and sufficient organizational systems will result to increased compliance with procurement regulation laws. The procurement competence-based approaches and strategic resources are essential in acquiring, the formation of a joint venture, or establishment of business partnerships (Kagendo, 2012). According to Ferreira et al. (2016), these strategies are significant to the process of procurement regulation compliance as they determine the acquisition of new technologies, the establishment of sustainable competitive advantage for systems such as Enterprise resource planning, Integrated Financial Management Information Systems that are used to improve compliance with procurement regulations.

#### **Empirical Review:**

Various pieces of study have been conducted regarding procurement regulations compliances at the global, regional, and local contexts. This section focuses on research related to this study.

#### **Procurement professional competence and Public Procurement Regulation Compliance:**

Research conducted by Silva-Domingo, (2015) on “Internal factors affecting procurement process of suppliers in the government ministries,” involving a sample size of 8 public corporation of Japan revealed that today leaders in the procurement industry are increasingly facing elevated risk levels and an overall shortage of skills. The delegation of procurement functions requires increased proficiency across competency areas. Organizations have developed the habit of hiring procurement professionals who possess confidence and an awareness of the available procurement regulations.

A second study conducted by Seminega (2012) entailing 35 public entities in Rwanda aimed to determine how professional procurement competence influences the adherence to stipulated public procurement regulations. The findings of the study revealed that education levels, awareness of regulation and professional certification indirectly and directly determine the compliance levels to procurement practices. The findings of the study are complemented by an investigation conducted by Alhawai and Al-Jarrah (2011) to identify the factors that hinder the compliance to procurement regulations which found out that hiring of procurement officials without the right skill set and awareness of regulations maximizes the level of compliance with public procurement regulations.

**Top level management support and Public Procurement Regulation Compliance:**

A study by Xingxing (2012) focused on government ministries in the United States provide results that top-level management support ensures that organization remains compliant to regulations as it demands accountability and transparency. This study was conducted in the year 2012 and aimed to investigate the “The impact of performance compliance in public entities”. The researcher used a sample of 50 parastatals and established that lack of accountability and transparency in public procurement processes results in instances of corruption, an increase in the level of public complaints concerning procurement practices, and other cases of malpractices. According to Kakwezi and Nyeko (2010), it is through the creation of oversight platforms managers make procurement regulation compliance decisions based on the compliance demands. Besides, to drive procurement regulation compliance managers come up with programs that ensure employees remain accountable and transparent in their dispensation of procurement duties.

**Organizational culture and Public Procurement Regulation Compliance:**

A recent analysis concerning the compliance with public procurement regulations conducted by Ngugi and Mugo (2010) in a study of “Internal factors affecting procurement process of suppliers in the government ministries” acknowledge that there is an essential connection between organizational culture and adherence to procurement regulations. Government agencies have now realized that without transparency and ethical values organizations face increased chances of misappropriation of funds and other cases of malpractices. Lessons learned from unprofessional procurement conduct among government agencies in Kenya highlights that without ethical values, transparency and employee remuneration parastatals are at risk (PPOA, 2009). This argument is supported by Kagendo (2012) who argues that a healthy organizational culture characterizes government agencies with high compliance rate.

Another study on introduction to public procurement regulation compliance Seminenga (2012) points out that strong organizational cultures lead to increased compliance levels among procurement officials. Robust organizational culture is defined as acceptable values complemented by intensity that reflects on the highlighted values. The establishment of a healthy organizational culture creates a real principle of integrity which acts as a foundation for effective regulatory compliance. Buckley (2014) argues that a strong organizational culture establishes a framework through which senior managers encourage employees to behave ethically and adhere to compliance requirements.

**Organizational systems and Public Procurement Regulation Compliance:**

A study titled ‘Assessment of Procurement Systems in Kenya’ conducted PPOA (2009) revealed that an excellent organizational structure enhances the procurement compliance levels. Active organizational systems result in the incorporation of IT infrastructure, communication systems and standing operation procedures (SOPs) in the operations of an organization. For that reason, it is significant that government agencies parastatals implement organizational systems so that to enhance the chances of public procurement compliance. This assertion is supported by Silva-Domingo (2015) who argues that various benefits are associated with well-defined organizational systems that include minimization of malpractices and disbarment of officials.

Xingxing (2012) studied the role of organizational systems in the regulation compliance among government agencies. The study involved 100 multinational companies and how they use organizational system to enhance compliance. The study found out that the strengths and weakness of an organization can be determined through competence-based procurement and the utilization of strategic resources. According to Schein (2010), having well-defined organizational systems reduces the room for confusion and incompetence, therefore, maximizing the chance of adherence to regulations. A stable organizational system ensures that an institution establishes specific strategies that eliminate many operational problems that can potentially affect the levels of compliance. The adoption of the various organizational systems guarantees the proper functioning of the aspects relevant to the public procurement practices (Tan, Chong & Uchenna, 2009).

**Critique of existing literature relevant to the study and:**

Alhawari and Al-Jarrah (2011) and (Tan, Chong & Uchenna, 2009) present the link between knowledge management and strategic competence in procurement functions. Nonetheless, the studies fail to provide the connection between the strategic competence and the level of adherence with procurement regulation in an organization. The previous studies by Kakwezi and Njeko (2010) and Rots (2010) point out that purchasing efficiency and effectiveness represent the most measurable form of regulation compliance. Even so, it fails to demonstrate the relationship that exists between purchasing efficiency with adherence to the public procurement regulations.

KPMG (2012) conducted a research on top-level management support as a measures to reduce the chances of procurement regulations non-compliance. However, the study was limited to fast moving manufacturing firms in China creating room for exploitation under the public sectors. Kakwezi and Njeko (2010) study on “Procurement Process Performance” deliberated on the role of public procurement regulation compliances on effective performance in private universes in Uganda. However, the study failed to address factors that can be used to improve the level of compliance in public sector. All these instances depict a gap in literature to address the emerging issues resulting from non-compliance with public procurement regulations in state corporations.

### 3. METHODS

#### Research Design:

According to Clayton-Gouthro (2016), research design is a specification of the procedure and methods utilized by the researcher in acquiring the information needed for the study. Gordon et al., (2012) look research design as an operational framework that guides the type of information necessary for the study, the sources, and specific procedures for acquiring such information. The study adopted a census survey research design. According to Darian-Smith and McCarty (2017), a descriptive census survey research design obtains data regarding an existing situation or a phenomenon in relation to the variables under study that provides data from a population for the whole population. Census survey design was used in this study since both qualitative and quantitative data was collected that describes the antecedents of public procurement regulation compliance in parastatals in Kenya.

#### Target Population:

A population is an entire scope which the study aimed to make utilize (Qaisrani et al., 2016). Besides, a target population determines the area covered by the research and in which the research finding was generalized (Darian-Smith and McCarty, 2017). The target population for this study was comprise 14 categories of public corporations in Kenya. According to the Inspectorate of Public Corporations (2017), state corporations in Kenya are grouped into 14 categories which contain 110 parastatals in total. The study used parastatals as the unit of analysis and procurement managers as the unit of observation. Since the research researcher adopted a census research design, all 110 parastatals were used for the study.

#### Sample and sampling techniques:

The researcher used a census sampling technique with respect to the unit of analysis; which is the state's Corporations in Kenya. The research in this study reached out to all the procurement managers in the 110 parastatals of Kenya. Davies and Mosdell (2014), assert that a census technique is justified for this type of research since the data gathered presents the unbiased information for all research participants and facilitates towards solving the research problem. In addition, the census sampling approach is further justified since the results of the study presented were accurate and reliable than results obtained from a sample; hence enhancing generalization of the research findings (Darian-Smith and McCarty, 2017).

For the purpose of data analysis, the target population was stratified based on the service they offer to the public.

The following 14 strata were

1. Ministry of Tourism
2. Ministry of Industry, Investment, and Trade
3. Ministry of Health
4. The Treasury
5. Ministry of Sports, Culture and the Arts
6. Ministry of Transport & Infrastructure
7. Ministry of Education, Science & Technology
8. Ministry of Information



9. Ministry of Labour, Social Security, and Services
10. Ministry of Environment, Natural Resources, and Regional Development Authorities
11. Ministry of Interior and Coordination of National Government
12. Ministry of Lands, Housing, and Urban Development
13. Ministry of Energy and Petroleum
14. Ministry of Defence

#### **Data Collection Instrument:**

The study utilized primary data. A structured questionnaire was used to collect the data from the respondents. Kulzy and Fricker (2015) postulate that the questionnaire offers a fast, cheaper avenue for data collection, and an effective way of data analysis. The questionnaire entailed open and closed-ended questions and arranged based on the study objectives.

#### **Data Collection Procedure:**

Davies and Mosdell (2014), argue that the data collection procedure is a systematized way of gathering raw data and information from the respondent of the study for the purpose of analysis and interpretation. Primary data was collected from the parastatal in Kenya. Data collection process started by obtaining an introductory letter from the University for Presentation to the targeted firms. The questionnaire was self-administered through drop and pick method. The study used drop and pick method to administer the instrument because it is convenient to the respondents and cheaper for the researcher.

#### **Pilot Test:**

A pilot study was conducted involving 10 parastatals to evaluate the validity and the reliability of the questionnaire. Testing the validity of data collection instruments, according to Darian-Smith and McCarty (2017), enhances the chances of identifying errors and mitigating the inefficiencies before the main study commences. Besides, conducting a pilot test enable the researcher to identify questions that have not been covered in the data collection instrument following the feedback of the sample size used for this test (Kulzy and Fricker, 2015). According to Peat et al., (2002) pilot study entailing a sample of 8% and above is sufficient to test the reliability and validity of the data collection tools.

#### **Validity:**

Validity is concerned with the extent to which the data collection instrument measure what is expected to measure (Darian-Smith and McCarty, 2017). To enhance the validity of the data collection instruments, content was discussed with subject supervisor to enhance the instrument measurement accuracy.

#### **Reliability:**

Darian-Smith and McCarty (2017) defined reliability as the stability, dependability, or the consistency of the data. A reliable data measurement instrument provided the same result if the process is conducted more than once (Kulzy and Fricker, 2015). To measure the reliability of the data collection instrument, Cronbach's alpha technique was used to offer the coefficient of reliability and give the unbiased estimate of data generalizability (Clayton-Gouthro, 2016). In this case, an Alpha coefficient of 0.75 and above indicated that data is reliable and has higher internal consistency and can be generalized to reflect the opinion of all participants (Darian-Smith and McCarty, 2017).

#### **Data Analysis and Presentation:**

The usage of the open and closed-ended questionnaire led to the collection of qualitative and quantitative data. Descriptive statistics formed the basis for analyzing quantitative data using percentages, Standard Deviation (STD), and variance. Multiple regression analysis was used to determine the level of statistical significance, the effect or level of influence of the independent variables on the dependent variable. These analyses was done using Statistical Package for Social Science (SPSS) Version 20. SPSS. V, 20 since it enabled the research to produce frequency tables, inferential statistics, and regression analysis.

The following multiple regression model was used for the study:

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + e$$

Where;

$\beta_0$  = Constant

Y= Antecedents of Public Procurement Regulation Compliance in Parastatals in Kenya

#### 4. RESULTS

##### Response Rate:

The study population consisted of 110 government Corporations. Questionnaires were self-administered to heads of procurement in 110 parastatals in Kenya. Out of the 100 questionnaires, 97 were filled and returned translating to a response rate of 87.5%. The high response rate of 87.5% facilitated gathering sufficient data that could be generalized to determine the antecedents of public procurement regulation compliance in parastatals in Kenya. This was in line with Orodho (2009) that a response rate above 50% contributes towards gathering of sufficient data that could be generalized to represent the opinions of respondents about the study problem in the target population. These response rate is presented on table 4.1 below.

Ministry	Number Parastatals Targeted	of Responded	Response rate
Ministry of Tourism	9	8	88.8%
Ministry of Industry, Investment, and Trade	14	12	85.7%
Ministry of Health	3	2	66.7%
The Treasury	17	15	88.2%
Ministry of Sports, Culture and the Arts	8	7	87.5%
Ministry of Transport & Infrastructure	14	10	71.4%
Ministry of Education, Science & Technology	7	6	85.7%
Ministry of Information	10	9	90.0%
Ministry of Labor, Social Security, and Services	6	5	83.3%
Ministry of Environment, Natural Resources, and Regional Development Authorities	5	4	80.0%
Ministry of Interior and Coordination of National Government	1	1	100%
Ministry of Lands, Housing, and Urban Development	4	4	100%
Ministry of Energy and Petroleum	11	10	90.9%
Ministry of Defense	1	1	100%
<b>Total Number</b>	<b>110</b>	<b>97</b>	<b>87.5%</b>

##### Reliability Analysis:

The study adopted factor analysis in order to reduce the number of indicators or factors under each research variable and retain the indicators capable of explaining the factors affecting the level of compliance with public procurement in Kenyan parastatals. The retained factors had factor loading values of above 0.7 and were used for further analysis. Hair, Tathan, Anderson and Black (1998) recommend use of factors with factor loadings of above 0.4. Stevens (1992) suggests using a cut-off of factors with factor loading above 0.4, irrespective of sample size, for interpretative purposes; Using more stringent cut-offs going from 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good) or 0.71 (excellent).

To measure the reliability of the gathered data Cronbach's alpha was applied. Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalizability (Zinbarg 2005). An alpha coefficient of 0.80 or higher indicates that the gathered data are reliable and are relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population.

**Descriptive results of the study variables:**

The objectives of the study were: To establish the influence of procurement professional competence on the public procurement regulation compliance in parastatals; to assess the effect of top-level management support on public procurement regulation compliance in parastatals; to determine the effect of organization culture on public procurement regulation compliance in parastatals, and to explore the influence of organizational systems on public procurement compliance in parastatals. This section presents the descriptive results of the study.

**Inferential Analysis:**

The study used inferential statistics in trying to reach conclusions that extend beyond the immediate data. Correlation analysis was used to find the relationship between two or more sets of variables. It also tells the direction as well as how much relationship exist between these variables. In this study the researcher used Pearson's coefficient of correlation. The value of the correlation lies between "-1" to "+1".

**Correlational Analysis:**

The Pearson's product-moment correlation coefficient (or Pearson's correlation coefficient for short) is a measure of the strength of a linear association between two variables and is denoted by  $r$ . Pearson's correlation was used to measure the degree of association between variables under consideration i.e. independent variables and the dependent variables. Pearson's correlation coefficients range from -1 to +1. Negative values indicates negative correlation and positive values indicates positive correlation where Pearson's coefficient  $<0.3$  indicates weak correlation, Pearson's coefficient  $>0.3 < 0.5$  indicates moderate correlation and Pearson's coefficient  $>0.5$  indicates strong correlation.

**Regression Analysis:**

The findings Regression Coefficients are shown below

	B Coefficients	Std. Error	t	Sig.
(Constant)	-0.4255	0.24433	-1.7414	0.09221
Procurement Professional Expertise	0.37788	0.10666		0.00000 0.00193
Top Management	0.37263	0.11082		0.00283 0.03002
Organizational Culture	0.10069	0.11422		
Organizational Systems	0.234069	0.0444		

Above evaluates and interprets the coefficients of regression (beta). In estimating the contribution of each independent variable in the study, it was established that the independent variables notably; Procurement Professional Expertise, Top Management support, Organizational Culture, and Organizational Systems significantly affect the level of compliance with public procurement regulations (0.05). This is because the p values of the t statistics of their coefficients are all less than 0.05.

The resulting Optimal regression equation was;  $Y = 0.377788X_1 + 0.37263X_2 + 0.10069X_3 + 0.234069X_4 + e$ .

**Regression Analysis Summary Model:**

R	R Square	Adjusted R Square	Std. Error of Estimate
.996 <sup>a</sup>	0.993	0.991793	0.124438

Table 4.3 shows the model of compliance with public procurement regulations with the coefficient of determination  $R^2 = .996$  and  $R = 0.993$ . The coefficient of determination indicates that 99.3 % of the variation on Compliance with public procurement regulations can be explained by the optimal model. This shows that the model has a good fit since the value is above 75%. The adjusted R square is also equal to the R square. The adjusted R-square being equal to the R square implies a perfect fit. Adding another independent variable to the model will not improve the goodness of fit of the model as it optimally explains the variation in the dependent variable.

**Analysis of Variance (ANOVA)****ANOVA, Multiple Regression**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	106.543	3	76.197	1.184	.000 <sup>c</sup>
Residual	3.457	32	0.01576		
Total	110 <sup>d</sup>	35			

Summary ANOVA and F statistic which reveals the value of F (1.184) is significant at 0.05 confidence level. The value of F is large enough to conclude that the set coefficients of the independent variables are not jointly equal to zero. This implies that at least one of the independent variables have an effect on the dependent variable.

**5. SUMMARY****Summary of the Findings**

In regard to the demographic information about the respondents, the findings indicated that there was 87.5% response rate which translated to 97 state corporations out of 110. Procurement managers were the unit of observation and all the established 14 strata responded considerable during data collection.

The general objective of the study was to determine antecedents of public procurement regulation compliance in Parastatals in Kenya. Specifically, the study aimed To establish the influence of procurement professional competence on the public procurement regulation compliance in parastatals; to assess the effect of top-level management support on public procurement regulation compliance in parastatals; to determine the effect of organization culture on public procurement regulation compliance in parastatals, and to explore the influence of organizational systems on public procurement compliance in parastatals.

Four factors that influence public procurement regulation compliance were identified through factor analysis. These include: procurement professional competence, top level management support, organization culture, and organizational systems. All the four variables were found to have a strong relationship public procurement regulation compliance. The most predominant variable was procurement professional competence followed by the top level management support.

**6. CONCLUSIONS**

Based on the study findings, the study concludes that public procurement regulation compliance is affected by supplier procurement professional competence, followed by top level management support, followed by organizational culture and finally, the organizational systems.

Low compliance raises issues on the transparency of the process indicating that in most cases there is external influence and failure to adhere to the regulations of procurement. This may be attributed to the nature of the procurement process which makes it vulnerable to compromise and corruption.

The research also concludes that the procurement process fails in compliance perhaps because of lack of goodwill due to poor organizational culture within government corporations or because more often than not, procurement organizational systems are not effectively utilized. This has led to frequent situations where those involved in the process take shortcuts to overcome the problem leading to increased cases of non-compliance.

**7. RECOMMENDATIONS**

From the findings, the researcher recommends that stakeholders in procurement organize regular training to input skills in those involved in procurement as well as keep updated on emerging issues market trends affecting the procurement regulation compliance

The government through the PPOA parastatals should be encouraged to invest adopting standard operational procedures which can enhance compliance

Top level management supervision of the process of compliance should be intensified to ensure top level managers are prompt in encouraging junior staff to comply with procurement regulations.

Parastatals top management should involve all the key stakeholders in the regulation implementation process. The involvement can enhance adoptability and overcome resistance to change of internal procurement policies and prevent conflicts from emerging during the implementation process.

#### Area of Further research:

The study is a milestone for further research in the field of procurement practices in Africa and particularly in Kenya. The findings demonstrated the important Antecedents of public procurement regulation which are procurement professional competence, top level management support, organizational culture, and organizational systems. The current study should therefore be expanded further in future in order to determine the effect of public procurement legal framework on effective implementation of procurement practices. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in county governments.

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