# DETERMINANTS OF PROCUREMENT REGULATORY COMPLIANCE BY KENYA'S PUBLIC UNIVERSITIES

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## ABSTRACT

The main purpose of the study was to investigate the determinants of procurement regulatory compliance by Kenya's public universities. The study used Ex-post facto survey research design. A sample of 168 procurement staff and 42 senior staffs in 21 Kenyan public universities was used. Simple random sampling technique was used to select the respondents. In addition, purposive sampling was used to select accounting officers from among the university administrators. Questionnaires and in depth interview guides were used in data collection. Descriptive statistics and inferential statistics were used to analyze data. The study findings indicate that political factors influenced most the regulatory compliance in the public university procurement in Kenya. The most influential politician was the member of the women representative whose influence accounted for 95.5%. The study recommended that politicians should be well educated on the need to comply with the government's procurement rules and regulations.

*Key Words: Determinants, Procurement Regulatory Compliance, Public Universities, Kenya*

## Introduction

Procurement plays an important role in the working functions of any state. Procurement refers to the purchasing of goods and services in the right quality, from the right source and the right price all to meet a specific need. In this study, procurement compliance is defined as the extent to which procurement stakeholders comply with the existing public procurement and Disposal Act 2007 and Public Procurement and Disposal Regulations 2006 (Lonsdale and Watson, 2005; Angeles and Nath, 2007) and is desirable for a number of reasons.

Several researchers (Arrowsmith and Trybus, 2003; Burt et al. 2003; Davis, 2005; Leenders et al., 1997; McIlroy, 1998; Murray, 1999; Telgen and Lenselink, 1998; Thai et al., 2004) argue that the difference between public and private procurement sectors can be associated with following; External demands: This is categorized to include transparency which refers to the ability of all interested participants to know and understand the actual means and processes by which contracts are awarded and managed. It implies equal opportunities for all bidders and a clear process. Further the public sector is expected to act with integrity which requires stakeholders to do what they promised to do, to avoid improper, wasteful or corrupt and fraudulent practices.

Accountability is yet another calling for a good procurement which demands that procuring public entities and their officers must be accountable for the effectiveness, efficiency, legal and ethical manner in which they conduct procurements. They can be asked and should be able to explain at all times their way of operating.

Internal demands: Public organizations have to serve many goals at the same time (Murray, 1999). Not only may the organization itself have various internal goals (economic, e.g. cost efficiency, and managerial, e.g. delivery of services) at the same time, but on the same issue the general public which the organization is supposed to serve may have different goals (good sewage system, no road-works) as well and all of them may very well be conflicting on top of that (Callender and Matthews, 2002; Schapper et al., 2006). Political goals have to be taken into account. Officials may be elected on those goals and so they should be incorporated. However, political goals tend to be very Public procurement in perspective broad and not well defined. For example reducing disturbances by youth may be done by building playgrounds, but the playgrounds may become meeting places for youth gangs. So a political goal may have many possible explanations and it is not clear which to use, and subsequently what to measure against (Premchand, 1993).

According to Murray (1999) in public procurement there are many stakeholders such as citizens, taxpayers, electorate, elected officials,  management and procurement officers. To large extent these stakeholders may have different objectives. Even if they share an objective their interests with that objective may conflict. Locating an obnoxious facility is an obvious example: everybody wants sewage water being treated, but not in my living area-'not in my backyard'. In addition, because of this issue it is not quite clear how commonly used terms can be translated to the public domain. Total cost of ownership (TCO) requires the knowledge of 'who is the owner'. Depending on ownership, costs may or may not be involved in operationalizing TCO: in public safety costs for potential victims will be different from costs to the general public.

There also demands originating from the context. According to Covington (2006), Public procurement is budget driven; it is the budget that (at least partly) determines what is procured. A procuring entity can only spend what is in the budget; it is not easy to spend more than the budget; changing the budget requires a major PE upheaval. Further in many PEs the budget for

the following year is determined by the total spend in the current year; thus under-spending in one year may lead to a reduced budget the following year. The scholar asserts that budgets are open; the general public and the suppliers usually have access to departmental budgets; this fact changes the relations between buyers and suppliers considerably.

Murray (1999) observes that there are various demands on the procurement process; public procurement is bound to be executed within strict limits imposed by legal rules and organizational procedures at various levels, local political choices have to be made. He adds that sometimes even the rules and regulations are cumulative; international, national and local or mutually contradictory or elusive. He further notes that some of these rules and regulations are quite extensive. For example the US Federal Acquisition Regulations contain some 1900 pages.

In African context, Ntayi et al., (2010) sought to explain the unethical behavior of public procurement officers in Uganda using social cohesion, group think and ethical attitudes and established that these variables considerably contribute to explain the unethical procurement behavior of procurement officers in Uganda. However Kenya and Uganda as much as they are neighbours and members of East African Community, each of them are endowed differently with different, environmental, economical and even political dynamics. Ntayi et al., (2010b) explained unethical procurement behavior using psychological climate, catharsis, organizational anomie, procurement planning behavior and psychological wellness while Basheka and Mugabira (2008) measured professionalism variables and their implication to procurement outcomes in public sector in Uganda. Others who have advanced their theories in this respect include; Ackerman (2002); Basheka, (2010); Nagitta and Ssennoga, (2010); Palmier, (2000); Thai, (2008); TI-Uganda Chapter, (2007); Gratto Preston and Snilsberg, (2002); Soreide, (2004) and Onapa, (2005). With all the efforts fronted by these scholars regrettable none of them explicitly explains the factors responsible for non-compliance in public procurement. However Gelderman et al., (2006) attempts to establish factors in charge of non compliance in the European Union as; lack of professionalism and familiarity. According to Sewanyana (1997) though, they argue that the type of goods, works and services procured to some extent influence the degree of compliance with the procurement regulations. This degree of compliance is the bone of contention.

The enactment of the Public Procurement and Disposal Act (2005) in Kenya was meant to bring some sanity in the performance of the procurement function in the public sector. Since these laws came into force in 2007, there seems to be little or no effect in compliance of the procurement function. This is evidenced by damning reports by the Transparency International, Auditor General, PPOA (Public procurement Oversight Authority) and other reports that still query the transparency in the handling of procurement issues in government. The perceptions of the general public on the same have also not improved. This search aims at establishes the motivation behind decisions made by various stakeholders in the procurement processes which in turn affect the procurement regulatory compliance.

## General Objective of the Study

The general objective of the study is to establish factors influencing procurement regulatory compliance by Kenya's public Universities.

## Specific Objectives of the Study

1. To determine Individual factors influencing procurement regulatory compliance by Kenya's public universities
2. To establish environmental factors influencing procurement regulatory compliance by Kenya's public universities
3. To determine economic factors influencing procurement regulatory compliance by Kenya's public universities
4. To investigate institutional factors influencing procurement regulatory compliance by Kenya's public universities
5. To assess political Factors influencing procurement regulatory compliance by Kenya's public universities

## Hypotheses

$H_{01:}$ There is no significant relationship between Individual factors and procurement regulatory compliance by Kenya's public universities

$H_{02:}$ There is no significant relationship between Environmental factors and procurement regulatory compliance by Kenya's public universities

$H_{03:}$ There is no significant relationship between Economical factors and procurement regulatory compliance by Kenya's public universities

$H_{04:}$ There is no significant relationship between Institutional factors and procurement regulatory compliance by Kenya's public universities

$H_{05:}$ There is no significant relationship between Political factors and procurement regulatory compliance by Kenya's public universities

## Methodology

The study applied descriptive survey research design. The target population was a total of 22 full-fledged public universities in Kenya. According to Commission for University Education (CUE), Kenya has 22 public Universities. However through simple random sampling 21 public universities were used to form the study population.

According to the Commission of Higher Education (2013), there is an average of 8 procurement staff in tertiary institutions. The study population thus comprised of a total of 176 procurement staff in procurement departments of all the 22 public universities in Kenya. This amounted to 64 procurement staff as the study population. The procurement staff was targeted since they are involved in the execution of key procurement management decisions and hence have technical

knowledge and skills on challenges affecting the implementation of effective procurement practices in public universities in Kenya. The study also sought information from senior university management.  This study utilized questionnaires to collect primary data. The study considered questionnaires for they have advantages over other types of research instruments in that they are cheap, do not require as much effort from the questioner as verbal or telephone surveys, and often have standardized answers that make it simple to compile data.

## Research Results

Data was analyzed using descriptive and inferential statistics using Statistical Package for Social Sciences Version 20. Analysis of the quantitative data was presented in tables and graphs. Qualitative data was collected by use of open ended items in the questionnaire and in-depth interviews and then analyzed through content analysis. This involved the analysis, description and synthesis of information from open ended items in the questionnaires and in depth interviews.

## Individual Factors and Procurement Regulatory Compliance

The first objective of the study aimed to determine the individual factors influencing procurement regulatory compliance by Kenya's public universities. To achieve this the respondents were required to give their opinion on whether individual factors affect compliance or not. In addition, respondents were required to give their level of agreement on several statements describing an individual on a five point Lickert scale where Strongly agree(SA)=5, Agree(A)=4, Undecided(U)=3, Disagree(D)=2, and Strongly Disagree(SD)=1. Measures of central tendancy and dispersion mean and standard deviations  were used to summarize the study findings.

## Rating on Individual Factors Affecting Procurement Act

Having established that individual factors affected compliance with procurement act the study sought to find out the level of agreement on their effect. Research results depict that majority of the respondents agreed overall (mean 4.2) that individual factors affect compliance with procurement Act. Majority of the respondents strongly agreed (mean 4.6) and (mean 4.5) that professional qualifications and adherence to procurement code of ethics respectively affects compliance with procurement Act. In addition, most of the senior irrespectively affects compliance with procurement Act. An overwhelming number of respondents (mean 4.3) reported that attitude to work and job satisfaction affects compliance too. Further, most of the respondents mean 3.8 and 3.9 agreed that relationship with suppliers and colleagues respectively affect compliance. Majority (mean 4.2) agreed that employee work load affects compliance as compared to (mean 3.5) who agreed that past litigation affects compliance. Senior university administrators said this in an interview;

*"some officers have relationship with suppliers, dubious suppliers which end up affecting or influencing are the  procurement of various items.   The other factor is adherence to the code of ethics, most of our officer does not follow the code of ethics that are put in place, and this affects the procurement of various items".*

Although this has to do more with the individual character/ethics of the responsible officers, it is clearly an individual factor that is responsible for compliance to public procurement in this sector.

## Hypothesis Testing for the Relationship between Individual Factors and Compliance

The study hypothesized that there is no significant relationship between individual factors and compliance with procurement Act. To achieve this, a compliance score was calculated and an individual factor score was also calculated and Pearson's correlation coefficient was used to test the relationship since both scores were in interval measurement scale. Results were tabulated as shown in table 1.

**Table 1: Hypothesis testing for the Relationship between Individual factors and Compliance**

|  |  | Compliance | Individual factors |
|---|---|---|---|
| Compliance | Rho | 1 | -0.108 |
|  | P-Value |  | 0.139 |
|  | N | 189 | 189 |
| Individual factors | Rho | -0.108 | 1 |
|  | P-Value | 0.139 |  |
|  | N | 189 | 190 |

The study findings shows a weak negative relationship (rho = -.108) between compliance and individual factors. α  = 5 % level of significance was used to test whether the relationship was significant or not and since the P-value (=.139) was greater than 5%, there was no enough evidence to warrant rejection of the null hypothesis and  therefore we conclude that there is no significant relationship between individual factors and compliance with the procurement Act.

## Environmental Factors and Procurement Regulatory Compliance

The second objective of the study aimed to determine the environmental factors influencing procurement regulatory compliance by Kenya's public universities. To achieve this the respondents were required to give their opinion on whether environmental factors affect compliance or not. In addition, respondents were required to give their level of agreement on several statements describing procurement environment on a five point Lickert scale where Strongly  agree(SA)=5,  Agree(A)=4,  Undecided(U)=3,  Disagree(D)=2,  and  Strongly Disagree(SD)=1. Measures of central tendancy and dispersion mean and standard deviations

were used to summarize the study findings. Results indicated that on overall the respondents agreed (mean =3.9) that environmental factors affects compliance with procurement. An overwhelming number of respondents agreed that community interests (mean 4.3), universities physical accessibility (mean 4.3), location of the university (mean 4.1), competition with other institutions (mean = 4.0) and environmental audit requirements (mean 4.0) affect compliance with procurement Act. Further, on average agreed that environmental compliance requirements (mean 3.9), university corporate social responsibility (mean 3.6) affect compliance with procurement act while (mean 3.4) were not sure whether universities past litigation affects compliance with procurement.

## Hypothesis testing for the Relationship between Environmental factors and Compliance

The study hypothesized that there is no significant relationship between environmental factors and compliance with procurement Act. To achieve this, a compliance score was calculated and environmental factor score was also calculated and Pearson's correlation coefficient was used to test the relationship since both scores were in interval measurement scale. Results were tabulated as shown in table 2.

**Table 2: Hypothesis testing for the Relationship between Environmental factors and Compliance**

|  |  | Compliance | Environmental factors |
|---|---|---|---|
| Compliance | Rho | 1 | 0.077 |
|  | P-Value |  | 0.02 |
|  | N | 189 | 189 |
| Environmental factors | Rho | 0.077 | 1 |
|  | P-Value | 0.02 |  |
|  | N | 189 | 190 |

The study findings show a weak positive relationship (rho = .077) between compliance and environmental factors. α = 5 % level of significance was used to test whether the relationship was significant or not and since the P-value (=.02) was less than 5%, there was enough evidence to warrant rejection of the null hypothesis and therefore we conclude that there is a significant relationship between environmental factors and compliance with the procurement Act. Therefore, the universities environmental factors affect compliance with procurement Act and Regulations in a positive way.

## Economic Factors and Compliance with Procurement Act

The third objective of the study aimed at determining economic factors influencing procurement Act compliance in Kenya's public universities. To achieve this objective the respondents were required to rate economic factors in their respective public universities. Mean and standard

deviation was used to summarize the study findings. Results indicated that on average (mean 4.2) staffs in public universities agreed that economic factors affect procurement Act compliance in public universities. Most of the respondents strongly agreed (mean 4.6) that university budgets affect compliance with procurement Act in public universities. In addition, most of the respondents agreed that annual expenditure (mean 4.4), method of procurement used (mean 4.2), unit prices (4.0), total cost of acquisition (mean 4.2), cost saving policy (mean 4.3), procurement lead time (4.2) and price variation (mean 3.7) all affect procurement Act compliance in public universities in Kenya.

## Hypothesis testing on the Relationship between Economic factors and Compliance

The study hypothesized that there is no significant relationship between economic factors and compliance with procurement Act. To achieve this, a compliance score was calculated and economic factor score was also calculated and Pearson's correlation coefficient was used to test the relationship since both scores were in interval measurement scale. Results were tabulated as shown in table 3.

**Table 3: Hypothesis testing on the Relationship between Economic factors and Compliance**

|  |  | Compliance | Economic factors |
| --- | --- | --- | --- |
| Compliance | Rho | 1 | 0.085 |
|  | P-Value |  | 0.247 |
|  | N | 189 | 189 |
| Economic factors | Rho | 0.085 | 1 |
|  | P-Value | 0.247 |  |
|  | N | 189 | 189 |

Findings show a weak positive relationship (rho = .085) between compliance and economic factors. $\alpha = 5 \%$ level of significance was used to test whether the relationship was significant or not and since the P-value (=.247) was greater than 5%, there was no enough evidence to warrant rejection of the null hypothesis and therefore we conclude that there is no significant relationship between economic factors and compliance with the procurement Act.

## Institutional Factors and Compliance with Procurement Act

The fourth objective of the study aimed at determining institutional factors influencing procurement Act compliance in Kenya's public universities. To achieve this objective the respondents were required to rate institutional factors in their respective public universities. Mean and standard deviation was used to summarize the study findings. Results indicated that on average (mean 4.1) of the respondents agreed that institutional factors influence compliance with procurement Act. On average the respondents agreed (mean 4.4) that adherence to procurement code of ethics, university operational system (mean 4.3), university organization structure, level

of technology, empowerment of procurement staff with (mean 4.2) respectively affect compliance with procurement Act. An overwhelming number of respondents mean of 3.9 agreed that selection and requirement policy and university size affect compliance with procurement Act.

### Hypothesis testing on the Relationship between Institutional factors and Compliance

The study hypothesized that there is no significant relationship between institutional factors and compliance with procurement Act. To achieve this a compliance score was calculated and institutional factor score was also calculated and Pearson's correlation coefficient was used to test the relationship since both scores were in interval measurement scale. Results were tabulated as shown in table 4.

**Table 4: Hypothesis testing on the Relationship between Institutional factors and Compliance**

|  |  | Compliance | Institutional factors |
|---|---|---|---|
| Compliance | Rho | 1 | -0.057 |
|  | P-Value |  | 0.04 |
|  | N | 189 | 184 |
| Institutional factors | Rho | -0.057 | 1 |
|  | P-Value | 0.04 |  |
|  | N | 184 | 184 |

Results show a weak negative relationship (rho = -.057) between compliance and institutional factors. α = 5 % level of significance was used to test whether the relationship was significant or not and since the P-value (=.04) was less 5%, there was enough evidence to warrant rejection of the null hypothesis and therefore we conclude that there is a significant relationship between institutional factors and compliance with the procurement Act.

### Political Factors and Compliance with Procurement Act

The fifth objective of the study aimed to assess political factors influencing procurement regulatory compliance at Kenya's public universities. To achieve this objective the respondents were required to rate economic factors in their respective public universities. Mean and standard deviation was used to summarize the study findings. Results indicated that on average (mean 3.0) the respondents were not sure whether political factors influence compliance with procurement Act. An overwhelming number of respondents agreed that (mean 4.0) heads of procurement (HoP) department influence compliance in procurement Act. Also (mean 3.7) agreed that Vice-Chancellors (VC) influence compliance and majority (mean 3.6) agreed that colleagues' influence compliance with procurement Act. An overwhelming number of respondents were not sure whether member of county assembly, Member of Parliament, women representative,

senator, governor, PPOA, KeNAO and internal auditors with means of 2.5, 2.7, 2.5, 2.5, 2.6, 2.8, 2.6 and 2.8 respectively.

## Hypothesis testing on the Relationship between Political factors and Compliance

The study hypothesized that there is no significant relationship between political factors and compliance with procurement Act. To achieve this, a compliance score was calculated and political factor score was also calculated and Pearson's correlation coefficient was used to test the relationship since both scores were in interval measurement scale. Results were tabulated as shown in table 5.

**Table 5: Hypothesis testing on the Relationship between Political factors and Compliance**

|  |  | Compliance | Political factors |
|---|---|---|---|
| Compliance | Rho | 1 | -.331** |
|  | P-Value |  | .000 |
|  | N | 189 | 182 |
| Political factors | Rho | -.331** | 1 |
|  | P-Value | .000 |  |
|  | N | 182 | 182 |

Results show a negative relationship (rho = -.331) between compliance and political factors. $\alpha = 5\%$ level of significance was used to test whether the relationship was significant or not and since the P-value (=.000) was less 5%, there was enough evidence to warrant rejection of the null hypothesis and therefore we conclude that there is a significant relationship between political factors and compliance with the procurement Act.

## Public Procurement Act Compliance

The dependent variable for the study was regulatory compliance with procurement Act. To measure this, the respondents were required to rate their level of agreement on several statements in relation to provisions in the procurement Act. The rating was done on a five point Likert scale where strongly agree (SA) was rated as 5 and strongly disagree (SD) was rated as 1. Mean and standard deviation were used to summarize the study findings. Results indicated that on overall (mean 4.3); the respondents agreed that Kenya's public universities comply with most provisions of the procurement Act. A closer scrutiny indicated that most of the respondents strongly agreed Kenya's public universities procurement department maintains all procurement records as a standard PPOA bidding procedure (mean 4.6), they use PPOA approved bidding documents always as a standard PPOA bidding procedure (mean 4.6), also majority (mean 4.7) strongly agreed that the universities undertake prequalification exercise as a PPOA bidding procedure and the bidding documents include technical evaluation criteria as a standard PPOA bidding procedure (mean 4.5). An overwhelming number of respondents agreed that (mean 4.4) the

universities implement the contacts as per the predetermined terms as a PPOA bidding standard procedure, and (mean 4.3) procurement department prepares annual procurement plans as a PPOA procedure. It was important to note that majority agreed (mean 4.1) that their universities bidding documents indicate financial evaluation and they remit payment to suppliers as per contract and agreement terms as per PPOA respectively. Majority (mean 4.2) agreed that universities award contract to the lowest bidder as per the provisions in PPOA bidding procedure.

## Inferential Statistics

In order to draw inferences from the study the researcher carried out inferential statistics which included Pearson's correlation analysis for testing hypothesis, KMO and Bartlett's test for testing the adequacy of the correlation matrix (the correlation matrix has significant correlation among at least some variables), and factor analysis in order to have an orderly simplification of a large number of intercorrelated measures to a few representative or factors. Multiple regression analysis to show the nature of the relationship between independent variables and the dependent variable was also undertaken.

## Factor Analysis

According to Hair (1995), factors analysis is a statistical approach that involves finding a way of condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information. Factor analysis is a collection of methods used to examine how underlying constructs influence the responses on a number of measured variables DeCoster (1998). For this study, data coded was extracted using factor analysis method to identify the factors that influence the compliance with procurement act in Kenya's public universities.

Factor analysis was carried out with the following assumptions; normality, linearity and sufficient significant correlations in the data matrix. The researcher carried out the Bartlett's test of sphericity with the assumption that the correlation matrix is identity.

**Table 6: KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.806 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 5389.58 |
| | d.f | 406 |
| | P value | .000 |

Results in table 6 indicate that the test statistics were (chi-square =5389.58) and P value =0.000, since the P value was less than 0.05 we reject the null hypothesis and accept the alternative hypothesis that the correlation matrix is not an identity matrix and at least some variables are significant.

**Communalities:** It is the proportion of each variable's variance that can be explained by the factors. It can be defined as the sum of squared factor loadings for the variables.

**Factor:** The initial number of factors is the same as the number of variables used in the factor analysis. However, not all 64 factors were retained. In this study, only the first sixteen factors were retained.

**Initial Eigenvalues:** Eigenvalues are the variances of the factors which mean that the each variable has a variance of 1, and the total variance is equal to the number of variables used in the analysis.

**Percentage (%) of Variance:** This column contains the percent of total variance accounted for by each factor.

**Cumulative %:** This column contains the cumulative percentage of variance accounted for by the current and all preceding factors. This means that the first 16 factors together account for 73.766 % of the total variance.

**Political factors:** The most influential factors was political factors as explained by influence from women representative at 95.5%, 93% from member of parliament, 93.9% from senator, 89.7% from the member of county assembly, 88% from the governor, 83.1% from PPOA and 73.1% from KENAO.

**Individual Factors:** The second most influencing factor on regulatory compliance with procurement act by Kenyan public universities as explained 82.8% from training influences, 75.8% from individual experiences, 77.3% from personal qualifications, 78.1% from employees' workload and 58.5% by adherence to code of professional ethics.

**Institutional factors:** The third most influential factor influencing compliance with regulatory act by Kenyan public universities is institutional factors as explained by 74% from selection and recruitment policy, 84.9% from university organization structure, 68.5% from university operating system, 75.5% of university size, 68.9% of employee remuneration and 65.7% of staff discipline.

**Economic factors:** The economic factors were accounted for by 72.2% of the total acquisition cost, 78.2% of specification and 60.3% of the cost overrun.

## Scree Plot

According to Hair 1995, the scree plot is a useful visual aid for determining an appropriate number of principal components. The plot graphs the eigenvalue against the component number. In order to determine the appropriate number of components, we look for an "elbow" in the scree plot. The component number is taken to be the point at which the remaining eigenvalues are
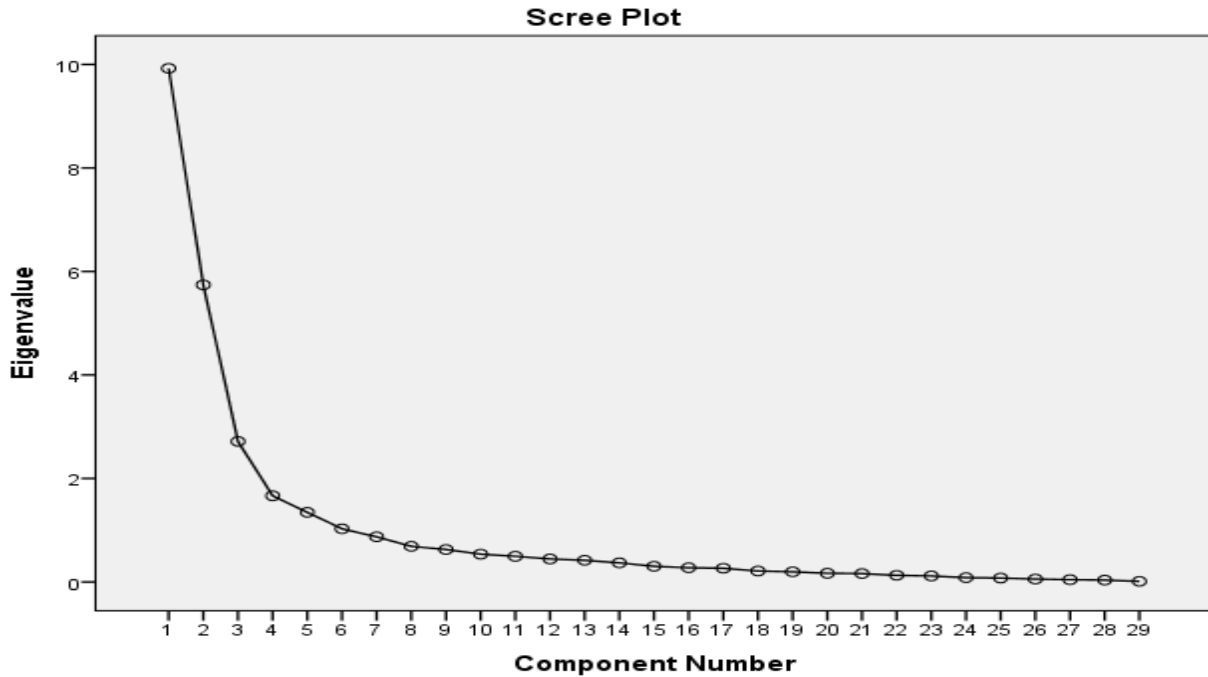
relatively small and all about the same size.



**Figure 1: Scree Plot**

The plot shows twenty nine factors explained more of the five influencing factors that determine the compliance with procurement Act in Kenya's public universities since they had an Eigen value greater than one. The scree plot clearly shows the break in the flow of the graph after the fourth factor indicating that their loading towards the main components was minimal.

## Regression Analysis

The study conceptualized that there is a relationship between individual factors, environmental factors, economic factors, institutional factors and political factors and when combined they influence compliance with procurement Act. To test this, a multiple linear regression model was carried out and after testing for the regression assumption none was violated.

**Table 7: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.38 | 0.14 | 0.12 | 5.52 |

a. Predictors: (Constant), Political factors, Economic factors, Individual factors , Environmental factors, Institutional factors

Results in table 7 show that individual factors, environmental factors, political factors, institutional factors and economic factors when combined they explain 14% of Public Procurement Act Regulatory Compliance since coefficient of determination (R Square = 0.14).

**Table 8: ANOVA (Analysis of variance)**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 949.6943 | 5 | 189.9389 | 6.228985 | .000 |
| | Residual | 5610.665 | 184 | 30.49275 | | |
| | Total | 6560.36 | 189 | | | |

a. Dependent Variable: Compliance
b. Predictors: (Constant), Political factors, Economic factors, Individual factors , Environmental factors, Institutional factors

The F value of 6.2290 indicates that the overall regression model is significant hence it has some explanatory value. This indicates that there is a significant relationship between the predictor variables Political factors, Economic factors, Individual factors, Environmental factors, Institutional factors and compliance with procurement Act. At 95 percent confidence interval i.e. P–value (p=0.00<0.05) it implies that all the independent variables combined do influence the decisions to comply with procurement Act.

**Table 9: Model Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | P-Value | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 51.34 | 3.26 | | 15.74 | 0.0 | | |
| Individual factors | -0.10 | 0.08 | -0.11 | -1.29 | 0.2 | 0.62 | 1.6 |
| Environmental factors | 0.29 | 0.12 | 0.26 | 2.44 | 0.02 | 0.41 | 2.4 |
| Economic factors | 0.12 | 0.09 | 0.13 | 1.24 | 0.22 | 0.42 | 2.4 |
| Institutional factors | -0.19 | 0.09 | -0.24 | -2.12 | 0.04 | 0.37 | 2.7 |
| Political factors | -0.15 | 0.04 | -0.29 | -3.95 | 0.00 | 0.88 | 1.1 |

From the table 9, the variable had no multicollinearity since the variance inflation factors (VIF) were less than 10. Political factors have the most statistically significant coefficient as indicated by a t-ratio of -3.995. This implies that a one unit change in political factors will change the

compliance by -0.15 units. Thus, there is a negative significant relationship between compliance and political influence. There is also a negative significant relationship between of compliance and influence from institutional factors. Environmental factors have a significant positive relationship with compliance, (P value .02). Therefore, a unit change in environmental factors influences compliance by 0.29 units. Individual factors have a negative insignificant relationship with compliance and economic factors had positive insignificant relationship with compliance. With an adjusted R2 of 0.12, it implies that the independent variables explain 12 percent of the variations of the dependent variable. The constant value which explains 2% the other values that are not included in the model had a coefficient of 51.34 and it was significant since the P value was 0.00.

## Conclusions and Recommendations

The main objective of the study was to investigate the factors that influence with the compliance with procurement regulatory act by Kenya's public universities. The study specifically sought to investigate whether the regulatory compliance is influenced by individual factors, environmental factors, economic factors, institutional factors and political factors.  From the findings of this study it can be inferred that the combined factors influences regulatory compliance though the combined correlation is 0.38, it implies there is a positive relationship between compliance and individual, institutional, environment, economic and political factors. The findings also indicate that there is a negative non-significant relationship between individual factors and regulatory compliance with procurement act (β= -0.10, P-Value 0.20). These results are in agreement with similar recent studies (Sauber et al., 2008). The management in public universities should work on the negative influencing factors on the individual in the procurement department since they can derail the compliance of the procurement Act.

Results in the study showed a positive and significant relationship between environmental factors and compliance with procurement regulatory act (β=.29, P-Value 0.02). The management should maintain the current positive relationship between environmental factors and compliance with procurement regulatory since a unit change in compliance is influenced positively by environmental factors.

The study findings depicted that there is a positive non-significant relationship between economic factors and compliance with regulatory act (β=.12, P-Value = 0.22). Therefore, it can be inferred that economic conditions prevailing in a public university influences compliance with the procurement act and therefore the universities management should check on their annual expenditure and unit prices of the quantity ordered as they are the key determinant of economic factors. It is important to note that institutional factors has a negative relationship with compliance with procurement regulatory by Kenyan public universities (β=-0.19, P-Value 0.04). The management should had have efficient internal institutional control measures since a unit change in regulatory compliance is influenced by -.19 units of institutional factors.

Political factors was the main determinant influencing compliance with procurement and it a significant and negative relationship with compliance regulatory (β=-0.15, P-Value 0.00). It can be inferred that political culture influences compliance in a negative way. Politicians should be encouraged to adhere with procurement act so as to ensure competitive bidding and acquisition of services in the most reliable cost.

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