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Research Paper

Effect of budget control on annual procurement plan implementation from local government authorities, Tanzania

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ABSTRACT

Planning for procurement is crucial within the organization as it brings together requirements, prevents hasty purchases whenever feasible, and verifies that anticipated costs align with the budget. This study aims to investigate how budget control impacts the implementation of annual procurement plans by Local Government Authorities (LGAs) in Tanzania. 52 out of 100 individuals were chosen for the study through the combination of simple random sampling and judgmental sampling, with one method used for probability and the other for non-probability. Primary and secondary data were gathered through qualitative methods like observation and interviews with open-ended questions, as well as quantitative methods like questionnaires using the correlation technique. The study utilized descriptive statistics and multiple regression analysis to investigate the relationship between variables through numerical data analysis, while qualitative data was analyzed using narrative analysis. Analysis findings revealed that fiscal oversight affects annual procurement implementation in Local Government Authorities (LGAs). The local government authorities must establish a strong internal control system in order to efficiently handle finances and maintain budget control. Budget control involves establishing guidelines, procedures, and standards.

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1. INTRODUCTION

Procurement planning is essential in any organization because it merges its requirements, avoids last-minute purchases, and matches projected spending with the budget. Public procurement entities must be able to predict their needs in order to understand the importance of procurement planning. Procurement planning is essential for obtaining value for money by focusing on effectiveness, efficiency, and economic factors in procurement operations. A purchasing plan gives a company a guide to achieve its goals [1]. It enables a company to establish its priorities and enhance its capacity to effectively address customer requirements [2].

[3] Defines a procurement plan as a valuable instrument that aids in improving the procurement process and informs businesses ahead of time about a procuring entity's upcoming financial year purchases [4] stated that public procurement reforms have been implemented in many African countries for a variety of reasons, as noted by [5]. In Kenya, efforts were initiated to tackle the increasing dishonesty and disorganization in the use of public resources. In recent decades, the need to tackle partial and prejudiced observes in offering procedures has been the driving force behind public procurement reforms in South Africa. In Uganda, measures have been implemented to improve public procurement processes and minimize corruption in order to ensure that funds are well spent.

In Tanzania, like many other African nations, public procurement reforms were started due to increased inefficiencies in government projects, rising misappropriation of public funds, and pressure from international organizations like the World Bank and International Monetary Fund [6]. As a result, the government assessed the public procurement system in 1992. This evaluation revealed flaws in the procurement procedures of the government. According to [7], the Tanzanian public procurement system was described as insufficient, inefficient, and obsolete.

The 2011 Public Procurement Act caused a significant change in how public entities carried out their procurement plans. In more detail, the 2011 PPA required purchasing entities to forecast their requirements for goods, services, and projects more accurately, considering their organization's operating schedules and the prevailing market rates for upcoming procurements. Furthermore, the procuring entities were required to create their annual procurement plans while budgeting and submit them to the approving authority within two weeks of completing the budgeting process. Furthermore, the Public Procurement (Amendment) Act, 2016 brought in important regulations pertaining to the purchase process for frequently utilized goods and services. When executing their yearly procurement schedules, procuring organizations needed to collect pricing data for standard shared items and services from appropriate public entities. The aim was to ensure that public procurement is in line with market rates. Every governmental organization must follow the rules specified earlier.

Despite the importance of procurement planning for public organizations, government institutions in different countries are still encountering major obstacles with public procurement expenditure [8]. The problem is also seen in Tanzania, with many procurement contracts not meeting the necessary criteria. Just 34.80 percent of public procurement management units in the nation adhered to the guidelines and procedures while carrying out contracts [9].

2. RELATED WORK

The idea of human capital theory was initially introduced by Adam Smith in the 18th century to improve the capabilities of individuals for productivity. The term "human capital" was later introduced by Theodore Schultz in 1961 in an article in the American Economic Review, which emphasized the concept of investing in human potential. In 1964, Gary Becker declared that human capital is a physical type of output. Companies invest resources in improving employees' skills and health by providing education, training, and healthcare. In their 2014 study, Ackah and his team examined "budget control techniques and financial expenses in public technical and vocational education training institutions in Nairobi, Kenya." The research was grounded in the principles of Agency theory and public sector budgeting theory. A cross-

sectional survey was employed in the study to collect data and information on the population or phenomenon being examined. The study concentrated on involving principals, 21 TVET institutions, HODS, Procurement Officers, BOM, Accountant/Bursars and Finance Officers. The study results indicated that budgetary plans, procurement plans, cash management, and audit control all had a positive and significant impact on financial expenditure. The research recommends that leaders in TVET institutions should evaluate their performance goals each year, manage financial risks and opportunities, and analyze the results of previous budget plans to improve budgeting. Cheruiyot's last name is Cheruiyot. A study in 2018 explored how procurement planning affects budget performance at the National Social Security Fund (NSSF) in Uganda. The study utilized a cross-sectional survey design involving 76 employees out of the total 190 employees at NSSF.

The study included Managers, User Departments, Heads of Departments, Procurement Champions, Officers, and other staff based at Headquarters. The study revealed a high correlation between cost estimation in purchasing and effectiveness in budgeting. The researcher recommends implementing thorough monitoring at NSSF to ensure budgets are used properly, followed by a needs assessment before making procurements to avoid wastage and corruption at NSSF. In his study from 2018, Cheruiyot examined how the budget affects the efficiency of procurement operations in the public sector, with a specific focus on Tanzania Port Authority, Tanzania. The study employed a case study format involving 50 participants, with 30 individuals chosen as a representative sample from this pool. Results from this research indicated that the efficiency of the procurement department in government agencies is influenced by inadequate and prompt budget distribution, effective use of ICT assets, and the expertise of procurement staff in using ICT systems and following procurement rules and procedures. These findings indicate that there is a software/program in the ICT department at TPA that is connected to procurement duties. This research indicates that the TPA needs to improve and prioritize the Budget in terms of timing and sufficiency, guaranteeing it aligns with the organization's needs for staff training, ICT infrastructure upgrades, and procurement procedures.

3. METHODOLOGY

Basic random methods were used for selecting participants based on probability, while judgmental methods were used for selecting participants without probability to choose 52 out of 100 respondents for the research. The researcher utilized a qualitative approach to gather primary and secondary data by conducting observations, interviews with open-ended questions. In addition, a quantitative method was employed through questionnaires utilizing the correlation method. The analysis of quantitative data involved using descriptive statistics and multiple regression analysis to explore the connection between variables, while qualitative data was assessed through narrative analysis in the study.

3.1 Econometric Model

This study chose to use a binary logistic regression model because the response variable is usually continuous, and the questions asked in the survey are binary in nature. Equation (i) above displays how the natural logarithm of the odds ratio is influenced by the explanatory variables that are observed.
The equation (i) above can also be expressed as follows:

$$\ln\left(\frac{P(Yi=1)}{P(Yi=0)}\right) = \ln\left(\frac{P(Yi=1)}{1-P(Yi=1)}\right) = \beta' + Xi\beta \dots\dots\dots\dots\dots\dots (ii)$$

Where, P (Yi = 1) – is the probability of plan implemented
1 – P (Yi = 1) – is the probability of plan not implemented

4. RESULTS AND DISCUSSION

4.1 Cronbach's Alpha

The Cronbach's Alpha test plays a crucial role in data analysis by assessing the validity and reliability of the data, allowing for further analysis. Proposed that a Cronbach's Alpha value above 0.7 indicates good data reliability, while a value below 0.7 is considered insufficient for data analysis. The results showed that the Cronbach's Alpha values for budget control were 0.744. The outcomes of the Cronbach's Alpha Testing for the specified variables can be seen in Table 1.

Table 1. Cronbach's Alpha for All Variables

S/N	Variable	Cronbach's Alpha (α	Number of Item (N)
1.	Budget Control	0.744	8

4.2 Demographic Characteristics

The study revealed that 29 participants were men, accounting for 55.76%, whereas 23 were women, accounting for 44.23%. This shows that there are more males than females in the particular area of interest. Naluyima noted in 2016 that many scholars have discovered proof indicating that males are more common in public sectors than females. The gender data of the study is shown in Table 2. The research revealed that 16 respondents were between 20 and 40 years old, 10 were between 41 and 50 years old, and 26 were between 51 and 60 years' old this shows that there are more young people than older individuals, with the middle-aged group falling in the middle. Researcher [10] confirmed that there is a larger percentage of younger individuals in the public sector than older ones. Table 1 displays the results of age. The research showed that the majority of respondents had a Doctorate Degree, with Undergraduate, Master's, and Post-doctorate degrees following closely at 34.6%, 23.1%, 23.1%, and 18.1%, respectively. This indicates a greater prevalence of Doctorate Degrees than Undergraduate degrees in certain public sectors, as evidenced by Danso's research in 2015 [11]. Table 2 displays the outcomes of the Level of Education. Research indicates that the distribution of experience levels is as follows: less than 5 years, 23.08%; 6-10 years, 25.00%; 11-15 years, 25.00%; and more than 16 years, 9.5%. Academics have noted that individuals between the ages of 6 and 10 in certain public sectors achieve a significantly higher level of education than those who are older than 16 [12]. Table 2 displays the outcomes of the skill level.

Table 2. Demographic Characteristics of the Study

Category	Frequency	Percent (%)
Male	29	55.76
Female	23	44.23
Total	52	100
Age	**Frequency**	**Percent (%)**
20-40 years	16	30.76
41-50 years	10	19.24
51-60 years	26	50.00
Total	52	100
Education Level	**Frequency**	**Percent (%)**
Undergraduate degree	12	23.1
Master degree	11	21.2
Doctorate Degree	18	34.6
Post doctorate	11	18.1

Total	52	100
Experience level	**Frequency**	**Percent (%)**
Less than 5 Years	12	23.08
6 – 10 Years	13	25.00
11 – 15 Years	13	25.00
Above 16 Years	14	9.5
Total	52	100

The diagrams and figures are illustrated Figure 1, Figure 2, Figure 3 and Figure 4 that explained the more details about the demographic respondents of the study.

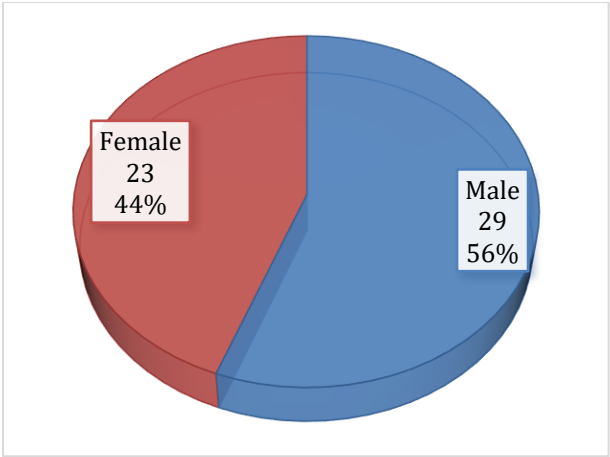


Figure 1. Shows the Gender of the Study

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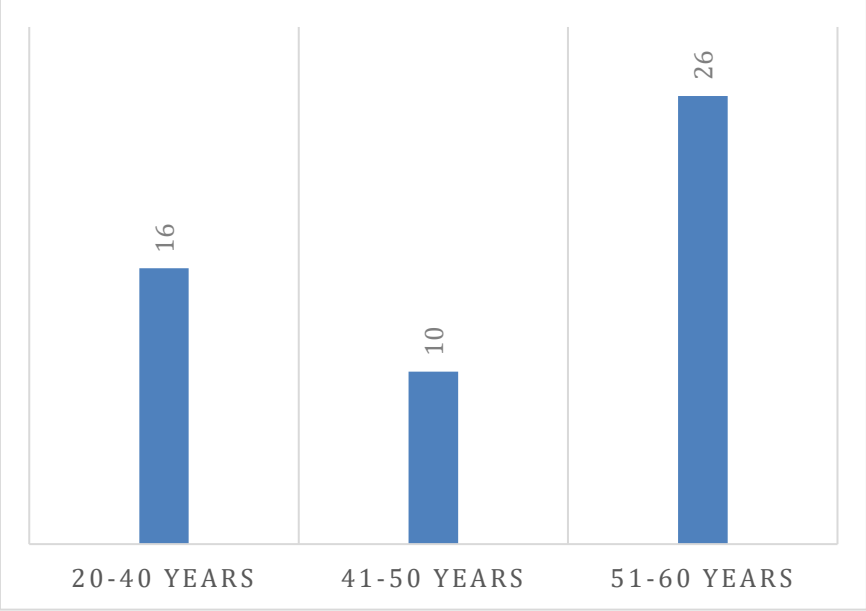


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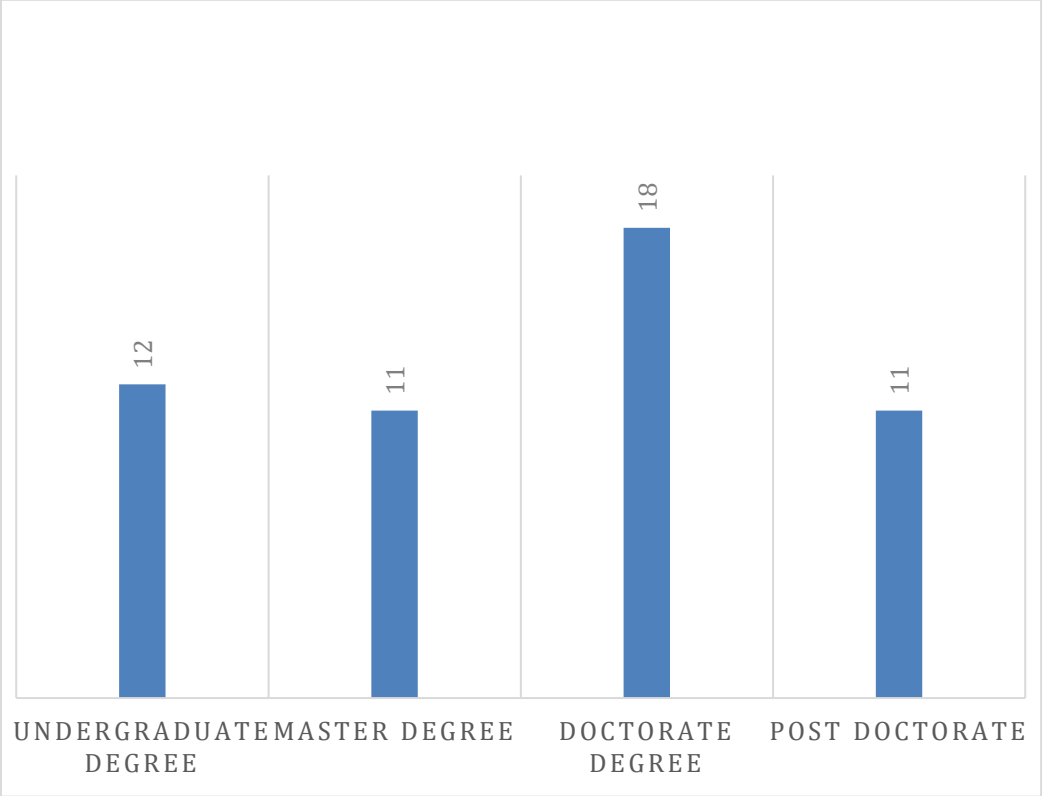


Figure 3. Shows the Education Level of Respondents

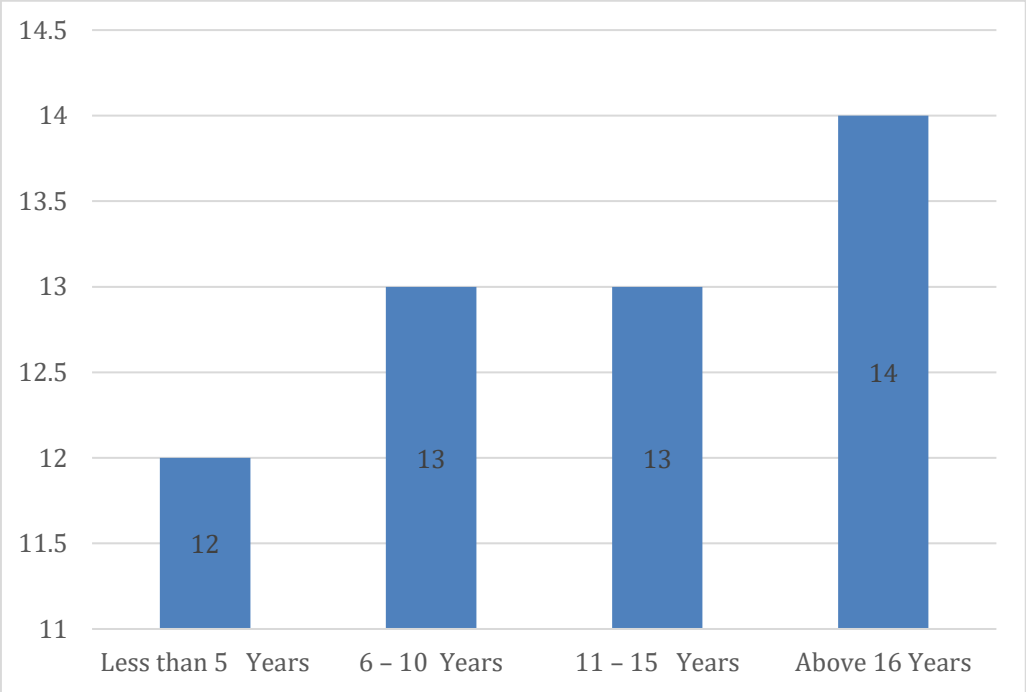


Figure 4. Shows the Experience Level of Respondents

The research showed that the majority of respondents had a Doctorate degree, with Undergraduate, Master's, and Post-doctorate degrees following closely at 34.6%, 23.1%, 23.1%, and 18.1%, respectively. This indicates a greater prevalence of Doctorate Degrees than Undergraduate degrees in certain public sectors, as evidenced by Danso's research in 2015 [12], [15]. Figure 3 displays the outcomes of the level of education.

Research indicates that the distribution of experience levels is as follows: less than 5 years, 23.08%; 6-10 years, 25.00%; 11-15 years, 25.00%; and more than 16 years, 9.5%. Academics have noted that individuals between the ages of 6 and 10 in certain public sectors achieve a significantly higher level of education than those who are older than 16 [12]. Figure 4 displays the distribution of experience levels.

4.3 The Effect of Budget Control on Annual Procurement Plan Implementation

The results show that policies have a significant effect on the implementation of the annual procurement plan with a P-Value of 0.000, signifying significance when P-Value is 0.05 or less, and policies influence the implementation of the annual procurement plan by a TV of 3.691. Policies also demonstrate a positive correlation with the implementation of the annual procurement plan by 0.281 (Beta). Procedures have a significant statistical impact on the implementation of the annual procurement plan with a P-value of 0.050, whereas procedures have an influence of 1.693 on the implementation of the annual procurement plan. Additionally, processes are correlated with the successful execution of the yearly procurement plan by a factor of 1.523 (Beta). Procedures have a strong positive correlation with successful annual procurement plan implementation at 0.681 (Beta) [16].

The findings indicate that there is a significant statistical association between the standards and the implementation of the annual procurement plan, with a P-Value of 0.011. A P-Value lower than 0.05 signifies significance, and the standards have a 12.645 influence on the annual procurement plan implementation. Additionally, there is a positive correlation of 3.326 (Beta) between standards and the implementation of the annual procurement plan. This indicates that budget control is implemented annually in certain public sectors through the use of policies, procedures, and standards in the execution of procurement plans. This discovery was backed by researchers like [12]. The findings from the communication about the yearly procurement plan execution are shown in Table 4.

Table 3. Binary Logistic Regression Model to Show the Effect of Budget Control on Annual Procurement Plan Implementation

Items	β	S.E.	Wald	DF	Sig.	Exp(β)
i. Policies	0.281	0.541	2.014	1	0.000	3.691
ii. Procedures	0.681	0.594	2.024	1	0.050	1.693
iii. Standards	3.326	0.819	11.333	1	0.011	12.645
Constant	-4.658	9.538	1.142	1	0.002	0.033

Dependent Variable (0=Yes, 1= No).

4.4 Binary Logistic Regression Model Summary

Employee competence and effective communication can potentially boost the successful execution of the annual procurement plan by 51.617%, based on -2 Log Likelihood budget control. According to Cox & Snell R Square, enhancing budget control, employee competency, and effective communication could potentially boost the execution of the annual procurement plan by 53.2%. Additionally, by considering Nagelker R Square budget control, employee competence, and effective communication, there is a potential to boost annual procurement plan implementation by 87.2%. The scholars [17], [18] both backed up this discovery.

Table 4. Binary Logistic Regression Model Summary

Step	-2 Log Likelihood	Cox & Snell R Square	Nagelker R Square
1	51.617	0.532	0.872

5. CONCLUSION

Analysis results showed that budget control can impact the annual procurement execution in LGAs. The local government authorities should implement a robust internal control system to effectively manage finances in order to achieve budget control. Budget control consists of formulating policies, procedures, and standards. The next study will focus on investigating the factors that contribute to the successful execution of annual procurement plans in public sectors of Tanzania established on the research results.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
James Daniel Chindengwike	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	

C: **C**onceptualization
M: **M**ethodology
So: **So**ftware
Va: **Va**lidation
Fo: **Fo**rmal analysis
I: **I**nvestigation
R: Resources
D: Data Curation
O: Writing- **O**riginal Draft
E: Writing- Review& **E**diting
Vi: **Vi**sualization
Su: **Su**pervision
P: **P**roject administration
Fu: Funding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study, and their voluntary consent was obtained prior to data collection.

Ethical Approval

The study was conducted in compliance with the ethical principles outlined in the Declaration of Helsinki and approved by the relevant institutional authorities.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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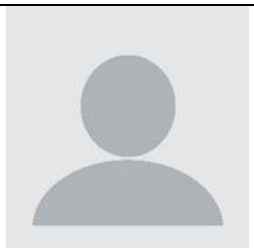
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