

INVESTIGATING THE ROLE OF AUDITORS IN SUSTAINABLE PROCUREMENT: A STUDY OF SELECTED TERTIARY INSTITUTIONS

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Abstract

This study Investigated the role of auditors in sustainable procurement in selected tertiary institutions. Sustainability becomes an increasingly important component of organizational operations. The study applied quantitative research method to collect data from procurement professionals working in public tertiary institutions. The collected data were analyzed using t-test to test the research hypotheses at 0.05 level of significance. p-values of 0.01 and 0.03 were obtained. The findings of the study include: that procurement auditors play a positive role in ensuring compliance with sustainable procurement standards in Nigeria's tertiary Institutions; and that procurement auditing is an effective fraud control mechanism in procurement systems of tertiary Institutions of Nigeria. The study contributes to the general understanding of sustainable procurement by providing a detailed insight for auditors, informing policy creation, and advocating for the incorporation of sustainability into institutional auditing processes. The outcome of this study can improve efficiency in procurement of tertiary Institutions.

Keywords: sustainability; incorporation, quantitative; compliance; hypotheses; p-values; mechanism; auditing; fraud control; and significance.

Introduction

Nigerian governments spend between 10% to 25% of GDP on commodities, services, and construction projects, according to World Bank research. (Adesuyi, & Gbervbie, 2022). An estimated 17.5% of resources are spent on public purchases, which highlights the significance of effective and transparent procurement procedures in the Nigerian public procurement industry. The role of public procurement in Nigeria cannot be overstated as it represents over 80% of government's expenditures at both national and subnational spendings, (Adesua 2022). Equally growing in incremental proportions is corrupt practices in public procurement processes (Gnoffo, 2021). The term "procurement audit" describes the assessment and investigation of procurement procedures and activities from the viewpoint of customers or end users who profit from the products or services obtained via procurement (Gu, Ślusarczyk, Hajizada, Kovalyova, & Sakhbieva, 2021).

The increasing adoption of sustainable business practices worldwide highlights the necessity of closely examining auditing procedures for environmental and social responsibility requirements in procurement. According to, Eltweri, Faccia, and Cavaliere, (2023) auditors are essential in evaluating and enforcing organizations' adherence to sustainable and ethical practices. By being aware of how auditors evaluate and implement these criteria, companies may strengthen their commitment to responsible sourcing and sustainability. Organizations are under growing institutional and market pressure to behave in an environmentally and socially conscious manner in today's corporate climate (Črv, 2021). In order to remain competitive in the global market, today's enterprises must satisfy the needs of a growing number of internal and external stakeholders. Business development and concern for the environment and how operations affect people's quality of life are inextricably linked, (Alemzero, Iqbal, Iqbal, Mohsin, Chukwuma, & Shah, 2021). Globally, businesses are progressively starting to adopt corporate social responsibility (CSR) strategies, which are characterized as the "accountability of corporations for their influence on society", (Ociepa-Kubicka, Deska, & Ociepa, 2021).

In contemporary business landscapes, there is an increasing recognition of the critical role that environmental and social responsibility play in organizational sustainability. Organizational governance relies heavily on procurement audit to maintain accountability, efficiency, and openness in the procurement process. As companies strive to integrate ethical and sustainable practices into their operations, the procurement function becomes a pivotal arena where adherence to environmental and social responsibility standards is crucial. However, the effectiveness of these standards relies heavily on auditing mechanisms to ensure compliance. While the integration of environmental and social responsibility considerations into procurement practices is increasingly recognized as crucial, a significant gap exists in understanding how auditors assess and enforce adherence to these standards. This lack of clarity leads to inconsistencies in auditing approaches, which are potential loopholes for non-compliance, and hinders the full potential of responsible procurement to drive positive environmental and social impacts.

The efficacy of auditing methods in detecting and managing sustainability risks, as well as the lack of clarity surrounding auditors' duties and responsibilities in reviewing sustainability performance within procurement processes, are key challenges. Additionally, auditors may find it difficult to successfully support sustainable procurement due to issues including stakeholder opposition, conflicting standards, and resource limitations. Furthermore, not enough research has been done on how auditors affect corporate decision-making and how much their conclusions affect sustainable procurement practices. For firms looking to improve their sustainability performance and satisfy stakeholders, understanding these relationships are essential.

The goal of this study is to better understand the role of auditors in sustainable procurement practices. While the specific objectives of the study are to: identify the specific responsibilities and impact of auditors in sustainable procurement in selected tertiary institutions in Nigeria; and investigate the impact of procurement auditing on fraud control in public Tertiary Institutions in Nigeria. The outcome of the study will offer significant insights that can guide best practices, inform policy, and aid in the creation of stronger auditing frameworks to improve the integration of social responsibility and environmental standards into procurement procedures worldwide. In order to achieve our objectives, we attempted to ask the following research questions; what is the impact of auditors on sustainability performance in procurement processes in tertiary institutions in Nigeria? What is the impact of procurement auditing on fraud control in public Tertiary Institutions in Nigeria?

The following hypotheses were formulated:

- i. **H₀₁**: there is no significant relationship between specific responsibilities (functions) of auditors and compliance with sustainable procurement standards in Nigeria Institutions of higher Learning.

- ii. **H0₂**: there is no significant relationship between procurement auditing and fraud control within procurement systems of tertiary Institutions of Nigeria.

Methodology

The materials and methods used for the study are presented in this section.

Material

The following Hardware and software were used for the study: computer set; printer and rim of a4 paper; pen; field note; electricity; internet services (internet router and data subscription); and calculator software (Microsoft word, Microsoft excel, SPSS, Mendeley software).

Method

The study employed a quantitative research approach to methodically investigate “the role of auditors in sustainable procurement”.

Population

Procurement officials, and other pertinent stakeholders involved in public procurement of selected tertiary Institutions in Nigeria make up the population for this study. The study also focused on employees across Nigeria, who are actively engaged in procurement activities in public tertiary institution. The population for the study was decided using the opinions of Ebabu, Tsunekawa, Haregeweyn, Tsubo, Adgo, Fenta, and Poesen, (2022). who carried a similar study and recommended the use of procurement personnel as respondents. The study populations of 150 procurement professionals were chosen from whom the respondents were drawn using the formula proposed by Yamane in 1967, cited by Kiarie (2020), to arrive at the sample size. The selection formula is as follows:

$$n = \frac{N}{1+Ne^2} \quad [1]$$

Where n → the required sample size N = is the Target Population (150 employees) e = accuracy level required. Standard error = 5% Sample calculation $n=150/(1+150(0.05)^2)$ $n= 150/1.375$ $n= 109.9$ $n=110$ Respondents

Therefore, minimum of 110 respondents are required for this study

Sampling Size

The sampling population for this study is 110 respondents who are procurement specialists/professionals and other pertinent stakeholders involved in procurement in public tertiary institutions. The sample size was chosen applying the views of Mwangi, (2020) as guide.

Random sampling was employed for the study. Random sampling was employed in the study. Random sampling frequently minimizes the sampling error in the population, as it minimizes human biases in sampling, (Legg, & Moon, 2020).

Data Collection

Quantitative data collection approach was employed for the study using the views of Rahman, (2020). The study collected primary data using a structured questionnaire that was designed based on relevant literature, research question, objective of the study and theoretical frameworks to gather needed data from the participants. An online survey was distributed to respondents who were randomly selected. Questionnaire used for the study composed of open and closed ended questions which agrees with the views of Kiarie (2020). The closed-ended questions were to gauge

various aspects including the impact of stakeholder relationship on procurement of public work contracts in public tertiary institution in south-east, Nigeria.

Data Analysis

The quantitative data collected were analyzed using descriptive statistics and t-test to show the relationship between dependent and independent variable. According to Pandey, & Pandey, (2021), descriptive analysis is a scientific method that involves observation and description of behavior of a subject without influencing it in any way. To determine useful meaning from the data collected and examine the propositions of the study, the following descriptive and inferential statistical techniques were used. The quantitative data were subjected to analysis as to facilitate decision making on formulated hypotheses. As such, this study employed both inferential and descriptive statistics to analyze the data with the aid of Statistical Package for Social Sciences (SPSS) for the analysis.

The first stage (the descriptive analysis; will feature descriptions of the properties of the data to show the variations in responses of the study's participants using such tools as frequencies and percentage distribution tables, bar charts, central tendency (mean) and measures of dispersion (standard deviation), (Pandey, & Pandey, 2021). Also, it provided the views and opinions of the respondents on the role of auditors in performance of sustainable procurement in tertiary higher Institutions of learning.

Decision Rule for Hypotheses Testing

According to Zhang, (2022), at a given level of significance, If the p-value obtained is lower than 0.05, it indicates that the relationship between the variables is statistically significant, hence reject the null hypothesis (Ho) while the alternative hypothesis (H₁) is accepted. Conversely, p-value (>0.05) indicates that the relationship between the variables is not statistically significant, hence accept the null hypothesis (Ho) while the alternative hypothesis (H₁) should be rejected, (Pandey, & Pandey, 2021).

Discussion

Background Information of The Respondent

The analysis of main research questions and hypothesis testing is preceded by the summary of the demographic characteristics of the respondent as organized and presented in Figures 1 to 6. Descriptive statistics was employed applied to the demographic data from respondents. **Question 1: Age of respondent**

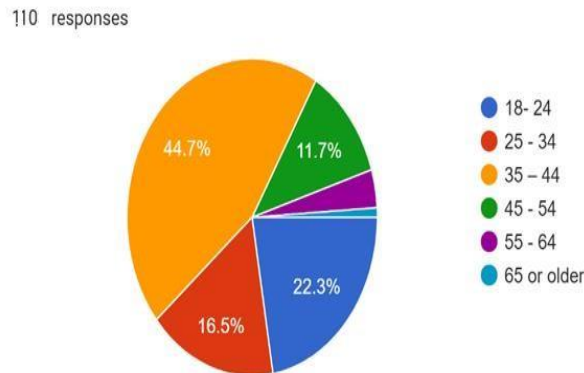


Figure I: Age distribution of Respondents Source: Field Survey (2024)

Figure 1 summarize the age distribution of respondents. About half of the respondents (44.760 %) are within the age bracket of 35-44 years, 11.7% belong to the age category of 45-54 years, 16.6 % belong to the age bracket of 25-34 year of age and 22.3% are within the age categories of between 18 – 24-year-old.

This implies the average population of the respondents are in their prime ages.

Question 2: What is your gender of respondent

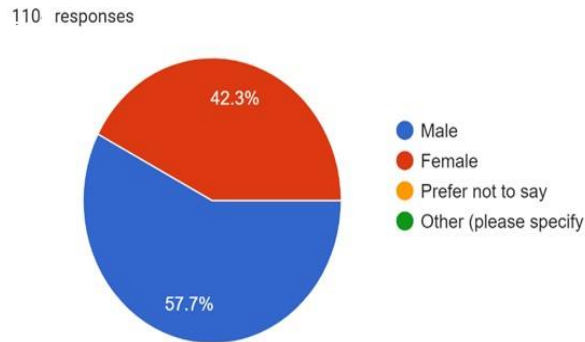


Figure 2: Gender distribution of respondents Source: Field Survey (2024)

Figure 2 show that 67.7% of respondents are male while 42.3% are females, with the implication that there are more male procurement officers than female procurement officers in the selected tertiary institutions used for the study.

Question 3: Educational background of respondent

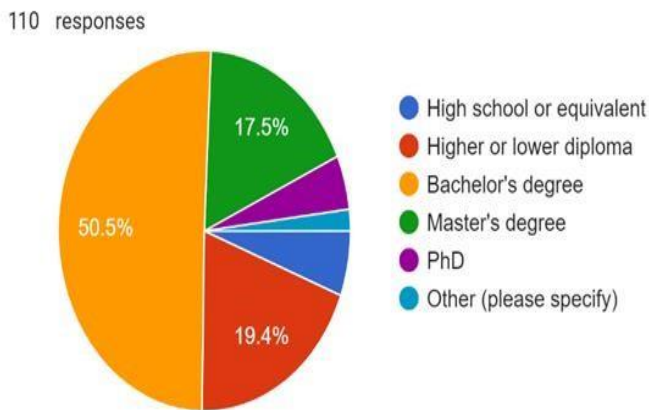


Figure 3: Educational Qualifications of Respondents Source: Field Survey (2024)

The educational qualifications of respondents are presented in Figure 3. About 50.5% of the respondents had Bachelor’s degrees, 17.5 had Masters degrees while 19.4 % have obtained higher and lower Diploma. Interestingly, only about 6.20 % had Higher School or Equivalent certificates. %.2 % of the respondents possess PhDs while the remaining 1.20 % of respondents had unclassified educational qualifications.

Question 4: How many years of experience do you have in auditing

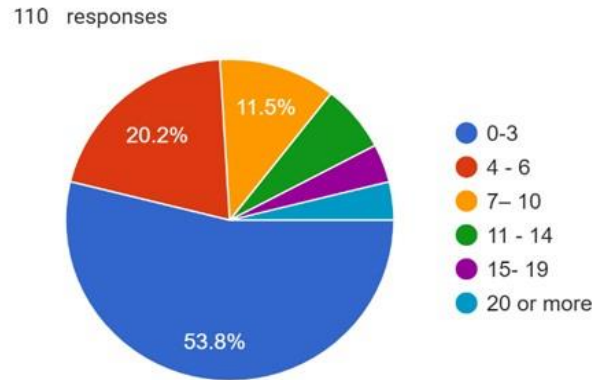


Figure 4: Years of Experience of Respondents Source: Field Survey (2024)

Figure 4 presents data on years of experience of respondents. 53.8 % of respondents sample had between 0 and 3 years of experience in procurement, 20.2 % had 4-6 years of experience, 11.5 % had 7-10 years, 7 % had 12-14 years, 3.7 5 had 15-19 years while the remaining 3.8 5 of the respondents had 20 years or more working experience in procurement job role.

Question 5: What is your current job title/role

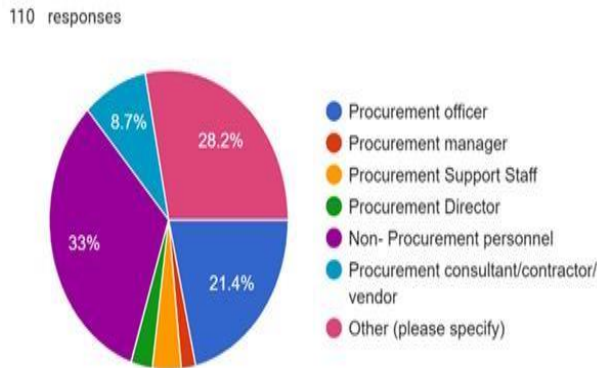


Figure 5 Current Job Title/Role of Respondents Source: Field Study (2024)

The Current Job Title/Role of Respondents are presented in Figure 5. 21.40 % of respondents are currently working as procurement officers; 4.0% are Procurement managers; 2.4% are Procurement Support Staff; 2.3% are Procurement Directors; 33% are non-procurement personnel; 8.% are Procurement consultants/contractors/vendors; while the remaining 28.2 of respondents indicated “Others”.

Question 6: What Industry Sector are you employed

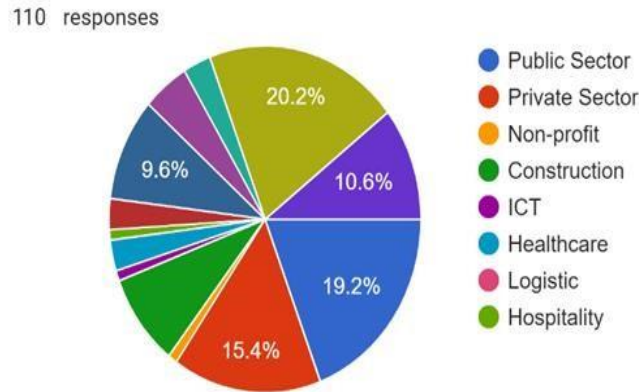


Figure 6 Industry Sector where Respondents work
 Source: Field Study (2024)

The information of industry sector where respondents work is presented Figure 6. However, 19.5 of the respondents said they are employed in public sector; 15.4 % work in Private Sector; 8.0% work in Construction; 10.6 % in ICT; 9.6 % work in healthcare; 8.0% work in Logistic; 20.2 work for Hospitality industry; and the remaining 9.0 % of respondents sampled did not indicate their industry of employment.

Research Hypotheses Testing

The criterion mean used in the comparison was obtained by getting the average of a 5-point Likert scale coded with numerical values for ease of analysis. The values assigned are 5 for strongly agreed (SA), 4 for agreed (A), 3 for disagreed (D), 2 strongly disagreed (SD), 1 for undecided. The null hypothesis was tested using the t-test statistical tool at 0.05 Level of Significance (α) with statistical package for social sciences (SPSS) software version 22.

H0₁: there is no significant relationship between specific responsibilities (functions) of auditors and compliance with sustainable procurement standards in Nigeria Institutions of higher Learning.

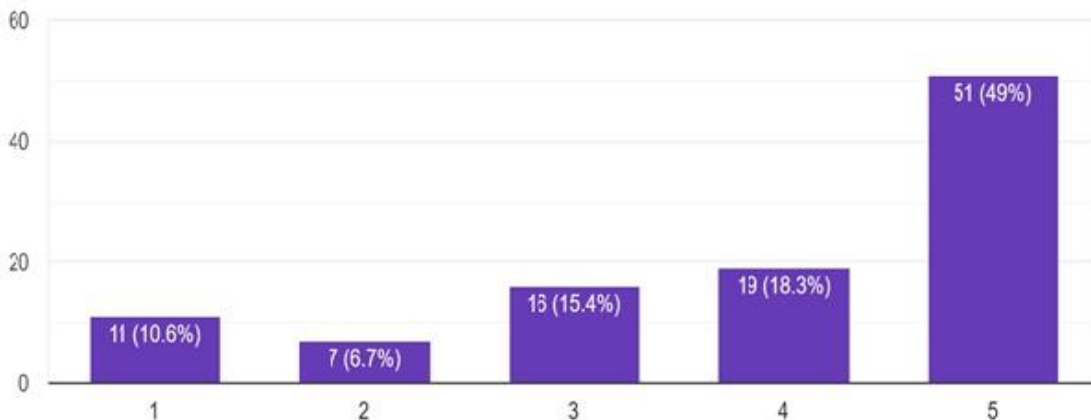


Figure 7 Relationship between specific responsibilities (functions) of auditors and compliance with sustainable procurement standards in Nigeria Institutions of higher Learning

(Source: Field Study 2024)

The raw quantitative data collected from respondents is presented in Figure 7 from which SPSS was used to further analyse these data. However, summary of the SPSS analysis is as follows: Mean score = 3.923077; Std. Deviation = 1.297438; Std. Error Mean = 0.127224; p-value of = 0.01 degree of freedom =103; 95% Confidence Interval of the Difference (lower) = -1.329242; 95% Confidence Interval of the Difference (upper) = -0.824604; t = -8.464761; Mean Difference = -1.076923; and N =104 respectively.

Decision

The obtained p-value is 0.01 at 0.05 level of significance is much lower than 0.05 (95% Confidence Interval of the Difference), which indicates that there is a significant relationship between specific responsibilities (functions) of auditors and compliance with sustainable procurement standards in Nigeria Institutions of higher Learning. Hence by applying the decision rule stated earlier in section 2.7, the null hypothesis (H_{01}) is which states that “there is no significant relationship between specific responsibilities (functions) of auditors and compliance with sustainable procurement standards in Nigeria Institutions of higher Learning” is therefore rejected. while the alternative hypothesis (H_1) which states that “there is a significant relationship between specific responsibilities (functions) of auditors and compliance with sustainable procurement standards in Nigeria Institutions of higher Learning” is hereby accepted is accepted. This implies that procurement auditors play a positive in role ensuring compliance with sustainable procurement standards in Nigeria Institutions of higher Learning. This result is in agreement with the works of Caruana, and Kowalczyk, (2021), who found that public sectors have a stronger emphasis and demand for improving audit quality, efficiency and assurance level over that of private sectors.

The result obtained from testing H_{01} is not significantly different from that of a study by Amoako, Bawuah, Asafo-Adjei, and Ayimbire, (2023), in which they found that auditors play a critical role in promoting sustainability in procurement processes through their functions of conducting regular audits, offering independent assessments, and suggesting improvements. The study also revealed that auditors who actively participate in continuous monitoring and evaluation of procurement activities significantly increase compliance with sustainable procurement standards, (Amoako, et al., 2023).

Meanwhile, several research outcomes show that auditors' unique roles and duties are essential to guaranteeing that sustainable procurement requirements are followed, (Fraser, Schwarzkopf, & Müller, 2020). Sustainable procurement procedures are greatly enhanced by critical tasks including risk assessment, independent audits, ongoing monitoring, and improvement recommendations, (Karikari, Tettevi, Amaning, Ware, & Kwarteng, 2022). It is crucial to give auditors the skills, resources, and education they need to assess and advance sustainability in procurement procedures if they are to have the greatest possible influence.

H_{02} : there is no significant relationship between procurement auditing and fraud control within procurement systems of tertiary Institutions in Nigeria.

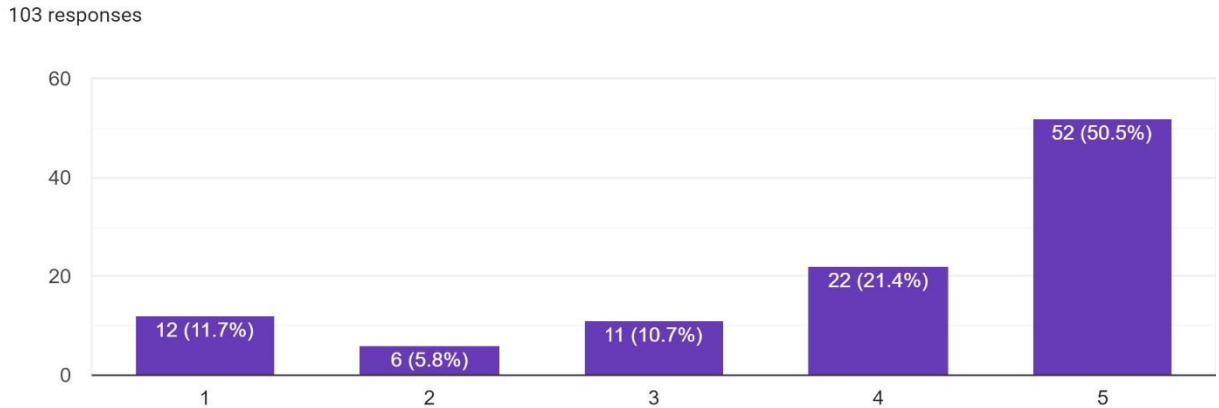


Figure 8 Relationship between procurement auditing and fraud control within procurement systems of tertiary Institutions in Nigeria. Source: Field Study (2024)

The raw quantitative data collected from respondents is presented in Figure 8. However, summary of the SPSS analysis is as follows: Mean score = 3.3932039; N=103; Std. Deviation = 1.380978; Std. Error Mean = 0.136072; p-value of = 0.03; degree of freedom = 102; 95% Confidence Interval of the Difference (lower) = -1.337859; 95% Confidence Interval of the Difference (upper) = -0.798063; t = 7.848511; and Mean Difference = -1.067961.

Decision

The obtained p-value is 0.03 at 0.05 level of significance is much lower than 0.05 (95% Confidence Interval of the Difference), which indicates that there is a significant relationship between procurement auditing and fraud control within procurement systems of tertiary Institutions in Nigeria. Hence also by applying the decision rule stated earlier in section 2.7, the null hypothesis (H_0) is which states that “there is no significant relationship between procurement auditing and fraud control within procurement systems of tertiary Institutions in Nigeria” is therefore rejected. while the alternative hypothesis (H_2) which states that “there is significant relationship between procurement auditing and fraud control within procurement systems of tertiary Institutions in Nigeria” is hereby accepted. This implies that procurement auditing is an effective fraud control mechanism in procurement systems of tertiary Institutions of Nigeria. The results obtained here agrees with that of Lyra, Damásio, Pinheiro, and Bacao, (2022), in which the researchers reported that procurement audits aim at assessing the value for money, in response to the economic crisis and the budget deficit of the world so as to achieve cost-savings and promote efficiency in business ventures across the world.

Also, close observation, the result from the testing of H_0 revealed similarity with that of Zahra, Abdullah, Kahar, Din, and Nurfalah, (2021, studied the connection between fraud control and procurement auditing. According to Zahra, et al., (2021) there is a strong correlation between fewer procurement fraud incidents and thorough procurement audits. The researchers emphasized how important auditor roles are to efficient fraud management, including confirming procurement records, assessing procurement processes, and keeping an eye on compliance with procurement standards, (Zahra, et al., 2021).

Research findings continuously indicate a noteworthy correlation between procurement auditing and the prevention of fraud in procurement systems, (Gunasegaran, Basiruddin, & Rizal, 2023). Thorough and frequent procurement audits, comprising ongoing observation, risk evaluations, compliance examinations, and in-depth analyses of procurement operations, considerably aid in the identification and prevention of fraudulent activity in public procurement, (Gunasegaran, et al., 2023). It is therefore, crucial to make sure auditors have the resources and training they need to carry out their responsibilities efficiently and uphold

the integrity of procurement procedures in order to optimize fraud control. Improve efficiency, accountability and transparency in a procurement system.

Conclusion

The study investigated the crucial role of auditors in sustainable procurement at several higher institutions. The research objective was achieved. The findings highlight the value of auditors not just in assuring financial correctness and compliance, but also in advocating and enforcing sustainable procurement practices. In addition, the research yielded several major conclusions presented as follows; auditors play an important role in increasing accountability and transparency in procurement procedures. Auditors assist organizations in adhering to sustainability standards and ethical principles by thoroughly analyzing procurement activities, promoting a culture of integrity and accountability. Also, auditors play a vital role in promoting sustainable procurement practices. They provide significant insights and recommendations by assessing procurement policies and procedures, encouraging the use of environmentally sustainable, socially responsible, and commercially feasible techniques.

The study concluded that “auditors play an important role in promoting sustainable procurement in tertiary institutions”. Their work not only assures compliance and risk management, but it also encourages the adoption of environmentally friendly, socially responsible, and economically beneficial practices. As institutions embrace sustainability, auditors will play an increasingly essential role in ensuring a sustainable future.

Recommendations/Implications

In addition, the study offered some significant recommendations to improve auditors' effectiveness and influence in supporting sustainable procurement practices, which include:

- i. Tertiary institution Leadership should provide continual training and capacity building for procurement auditors in order to equip them with the information and skills needed to properly evaluate and enforce compliance with sustainable procurement strategies in these institutions.
- ii. Tertiary Institution leaders should encourage collaboration among auditors, procurement officers, and sustainability experts to develop a holistic strategy to sustainable procurement in their particular institutions.

The outcome this study is beneficial because it has significantly contributed to the current body of knowledge on sustainability and procurement auditing in the following ways. The study focuses on auditors' diverse activities beyond typical financial monitoring, notably their contributions to sustainable procurement. This broadens the usual perspective of auditors, highlighting their potential as significant drivers of sustainability in procurement procedures at these higher education institutions. The study examines the impact of auditors on sustainable procurement at tertiary institutions, providing actual evidence. This context-specific knowledge is useful for similar institutions trying to develop or improve their sustainable procurement practices at higher education institutions.

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