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Assessing the State of Sustainable Procurement Practices in Ghanaian Tertiary Institutions

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Abstract: This study assessed the state of sustainable procurement practices in Ghanaian tertiary institutions. The adoption of sustainable procurement practices has gained significant attention due to the growing emphasis on the environmental, social, and economic impact of organizations and their suppliers. It aimed to determine the extent to which sustainability principles were incorporated into procurement practices, identify challenges faced in adopting sustainable procurement, and identify factors that could influence sustainable procurement adoption. A quantitative approach was used, and data were collected through a structured questionnaire administered to 111 procurement officers in 111 Ghanaian tertiary institutions. The questionnaire included statements of sustainability practices, challenges of adoption, and factors influencing adoption. The data were analysed using descriptive statistics. The findings revealed that the adoption of sustainable procurement practices in Ghanaian tertiary institutions is a low to moderate state. Respondents showed disagreement in areas such as following up on environmental and social performance, ensuring the well-being of the less privileged, and including reporting on environmental and social issues. However, respondents expressed moderate agreement in considering alternatives to purchasing, such as reusing, recycling, and hiring. Challenges in adopting sustainable procurement practices were identified, including difficulty in accessing suppliers of sustainable products, suppliers' lack of understanding of sustainability concepts, and low commitment of management to sustainability adoption. Factors that can influence sustainable procurement adoption were also explored, including demystifying the

perceived cost of sustainable products, encouraging top management support and policy implementation, providing sustainability training for staff, and enforcing governmental laws and regulations on sustainability. The study highlights the need for increased awareness and implementation of sustainable procurement practices in Ghanaian tertiary institutions. It emphasizes the importance of addressing challenges and promoting factors that facilitate adoption. By incorporating sustainability principles into procurement practices, these institutions can contribute to a more sustainable future, where resources are used efficiently, waste is minimized, and social well-being is prioritized.

Keywords: Procurement, sustainability, Ghanaian tertiary institutions, sustainable procurement, sustainability practices.

1. INTRODUCTION

In recent years, there has been a growing emphasis on the environmental, social, and economic impact of organizations and their suppliers, attracting significant attention from academics and practitioners. This shift towards sustainability can be attributed to several factors (Kalubanga, 2012). Firstly, there has been a deepening comprehension of the scientific evidence behind climate change, prompting increased concern for its mitigation. Secondly, organizations have faced mounting pressure from diverse stakeholders who demand accountability for the consequences of their activities. Lastly, the advent of greater transparency has shed light on the environmental and social practices of organizations, prompting a call for action (Kalubanga, 2012). Embracing the 2030 Agenda for Sustainable Development, the United Nations (UN) system has been tasked with integrating the Sustainable Development Goals (SDGs) into all facets of its work, including policy formulation, operational implementation, and administrative processes (UN, 2015). Therefore, the United Nations (UN) through the Sustainable Development Goals (SDGs) admonishes countries to act in sustainable ways and for the matter; countries are spending huge amounts of money yearly to achieve these goals (Zaidi et al., 2019). To achieve the SDGs, the practices of procurement are very important.

The relevance of procurement is felt in the choices of individuals and organizations in their purchasing, use, and disposal of materials as these have significant impact on both the natural environment and the social fabric of communities (Grob and Benn; 2014). This management function accounts for a significant portion of national revenue in developing countries (Adjei-Bamfo and Maloreh-Nyamekye, 2019), and has a great potential for contributing to sustainable development through its purchasing decisions. The role played by officers is very crucial in various institutions. Their actions can have both positive and negative impacts on the environment, society, and economy (the triple bottom line). These impacts are felt through their decisions regarding product or service specifications, supplier evaluation and selection criteria, contract management, choice of transportation, and related activities (Zaidi et.al 2019). By adopting sustainability principles, sustainable procurement builds upon traditional procurement practices (Kalubanga 2012). The goal is to ensure procurement activities are conducted with sustainable development in mind. In the context of sustainable procurement, various factors are taken into consideration. These factors include the composition of purchased items, their origin, the manufacturing process, the labor conditions involved, their intended use, and the necessity of the items (Berry and McCarthy, 2011).

By integrating sustainability criteria into their procurement practices, officers ensure that purchased items are sourced sustainably, manufactured in an ethical manner, and aligned with the principles of sustainable development. Through their buying decisions, procurement officials in Ghana can contribute to a more sustainable future, where resources are used efficiently to ensure waste is minimized, and social well-being is prioritized.

Raj et al. (2020) highlighted the scarcity of research delving into the factors shaping sustainable procurement. While sustainable procurement practices are widespread in developed nations, the adoption and awareness of such practices remain relatively low in many developing countries (Harland et al., 2019), including Ghana. Furthermore, there is a lack of documented ideas that can support and drive sustainability initiatives. The lack of established practices limits the opportunity for practitioners to enhance their understanding through knowledge sharing and experience exchange (; PPA Ghana, 2017; Adjei-Bamfo et al., 2019). Hence, this study assessed the state of sustainability adoption in procurement practices in Ghanaian tertiary institutions. This study examined the extent to which tertiary institutions incorporated sustainability principles in their procurement practices. It also established the challenges of adopting

sustainable procurement practices by higher learning institutions and investigated factors that could influence sustainable procurement adoption.

The focus of this study was on tertiary institutions due to their significant impact on society. These institutions play a crucial role in shaping attitudes and influencing various aspects of social life. Their role is crucial in the transformation of a circular economy (Zaidi et al., 2019). They actively engage in activities like curriculum development, community outreach, and research, which have been proven to be powerful catalysts for change and social transformation. They also operate lots of buildings, buy products and services and produce lots of waste (; Young et al., 2016; Zaidi et al., 2019; Mendoza et al., 2019). Given these attributes, tertiary institutions are highly relevant in addressing sustainability issues (Etse et al., 2020). By reframing their consumption patterns, prioritizing re-use and recycling, and embracing green construction, the educational sector can make a significant impact on sustainability. Research into sustainability practices in education is crucial for understanding current practices, identifying areas for improvement, and providing scientific information to enhance sustainability efforts. Some studies had confirmed that these institutions face several challenges when they adopt sustainable procurement (Freidenfelds et al., 2018). The ultimate goal was to promote responsible consumption and production, ensuring that actions align with sustainability principles and contribute to a more sustainable future.

2. MATERIAL METHODS

Research Design and Sampling

A quantitative approach was adopted for this study. Institutions were randomly sampled from Ghana Tertiary Education Commission (GTEC) website. Snowball and convenience sampling methods were used to collect data from representatives who performed procurement roles from the institutions that formed the sample. The study focused on tertiary institutions listed on the website of Ghana Tertiary Education Commission (GTEC).

Table 1: Tertiary institutions accredited by GTEC

Institution category	Total number in Ghana	Sample category
Public Universities	15	All
Public Technical Universities	10	All
Public Nursing Training Colleges	67	Bono, Bono East and Ahafo Regions
Public Colleges of Education	46	Bono, Bono East and Ahafo Regions
Chartered Private Tertiary Institutions	10	All
Distance Learning Institutions	2	All
Colleges of Agriculture	4	All
Total	154	111

Source: GTEC 2023

Using Yamane formula for sample calculation; $n = \frac{N}{1+Ne^2}$

Where; n is sample

N is total population

e is margin of error

With a confidence level of 95% and a margin of error of 0.05; the sample size was 111

2.2 Data Collection

The study employed a comprehensive data collection approach that involved the utilization of a structured questionnaire. The target group for data collection consisted procurement or supply officers from tertiary institutions in Ghana. The questionnaire was administered online through google forms. To ensure

consistency and facilitate analysis, all the questions were formulated in the 5 – point likert scale format, allowing respondents to express their opinions and perceptions on a standardized scale. The first section of the questionnaire contained statements of sustainability practices along the Triple Bottom Line (TBL), indicating that, questions were based on the environment, economic and social aspects of sustainability. These practices were adopted from the sustainable procurement guide (2013) of the Australian government. The second part contained statements relating to the challenges of adopting sustainability practices identified by Claudia Gomes Jabbour ACJC. (2017) on the same likert scale while the third part presented factors that could enable practitioners adopt the practices of sustainability.

2.4 Data Analysis

The quantitative data were coded and organized using Statistical package for Social Sciences (SPSS) and analysed using descriptive statistics.

3. RESULTS

Analysis was conducted to determine the extent to which goods and services were procured sustainably by observing practices that help or hinder sustainable procurement.

3.1 Sustainable Procurement Practices

Table 2 provides an overview of the responses to questions related to sustainability practices. Questions asked were geared towards examining the extent to which tertiary institutions incorporated sustainability principles in their procurement practices. The table presents sustainability practices along with their corresponding mean and standard deviation values. The mean (M) values indicate the average level of agreement with each practice, while the standard deviations (SD) provide an indication of the dispersion or variability in the responses. The respondents were asked to rank a number of practices based on their level of agreement using a five-point Likert scale, where 1 represented "strongly disagree" and 5 represented the highest level of agreement, "strongly agree." To interpret the results, a mean value below 3 indicates disagreement, a mean of 3 represents neutrality, and a mean above 3 signifies agreement with the presented concepts.

According to the data, respondents expressed disagreement towards promoting to including reporting on environmental and social issues with a mean (M) 2.9 and standard deviation (SD) of 0.9. They also did not actively monitor their environmental and social performance (M=2.7; SD=0.9) and they disagreed to ensuring that the less privileged are not exploited (M=2.7; SD=1.0)

The respondents were neutral in the following regard; waste minimization (M= 3.0; SD=0.8), doing more with less (M=3.0; SD=0.8), discussing and understanding of the potential environmental and social impacts and risks of products (M=3.0; SD=1.0), conducting risk assessment for the supplying organization based on environment and social impacts (M=3.0; SD=0.8) defining sustainability aspects of every procurement (M=3.0; SD=0.9) and identify areas of continuous improvement (M=3.0; SD=0.9)

Respondents moderately agree to considering alternatives to purchasing, such as reusing, recycling, and hiring as indicated (M= 3.1; SD= 0.5), identifying whether there is really need for goods and services before the procurement process is started (M=3.6; SD=0.5), researching alternatives that may offer reduced environmental and social impacts (M=3.2; SD=0.8) and planning for inclusion of sustainability specification in the contract management and reporting process (M=3.1; SD=0.8).

Table 2: sustainable procurement practices

Statement	Mean	Standard deviation
We Follow up environmental and social performance	2.7	0.9
We ensure that the less privileged are not exploited	2.7	1.0
We include reporting areas to ensure environmental and social are delivered	2.9	0.9
We determine how goods are disposed in the most environmentally	2.9	0.9

preferable ways		
In our institution we try our best to minimize waste	3.0	0.8
we do more with less in our institution	3.0	0.8
In our institution, we discuss and understand the potential environmental and social impacts and risks of products	3.0	1.0
We conduct a risk assessment for the supplying organization based on environment and social impacts	3.0	0.8
We define the sustainability aspects of the procurement	3.0	0.9
We identify areas of continuous improvement	3.0	0.9
We consider alternatives to purchasing, such as reusing, recycling, and hiring	3.1	0.5
We plan for inclusion of sustainability specification in the contract management and reporting process	3.1	0.8
We research alternatives that may offer reduced environmental and social impacts	3.2	0.8
In our bid to procure, we identify whether there is really need for goods and services before we start the procurement process	3.6	0.5

Source: Survey, 2023

3.2 Challenges of Adopting Sustainability Practices

The study aimed to identify the challenges encountered by the institutions of focus regarding the incorporation of sustainability principles into their practices. The challenges were assessed based on the responses provided by the participants. The mean values and standard deviations were calculated to determine the level of agreement among the respondents regarding each challenge.

Among the challenges that were presented, respondents moderately agreed to encounter those challenges as the means range from 3.1 to 3.8 with standard deviation ranging from 1.0 to 1.5. Details are presented in table 3. This suggests that the level of agreement among the participants regarding this challenge was relatively consistent.

Table 3: Challenges of adopting sustainability practices

Statement	Mean	Standard deviation
Difficulty in accessing suppliers of sustainable products	3.1	1.3
Suppliers do not understand the sustainability concept	3.4	1.4
Absence of culture to promote the sustainability drive in my institution	3.5	1.0
There is low commitment of management on sustainability adoption.	3.6	1.0
I/We lack training in the area of sustainability and that makes it difficult for us to adopt sustainability practices	3.8	1.1
The bureaucracy and economic agents involved are making it difficult to adopt sustainable procurement practices	3.8	1.0

Source: Survey, 2023

3.3 Factors that can Influence Sustainable Procurement Adoption

Shifting the focus to factors that can facilitate the integration of sustainability into procurement practices in the institutions, respondents expressed varying levels of agreement (Table 4). They moderately agreed that debunking the perceived cost of sustainable products can have an impact on the adoption of sustainability ($M=3.6$; $SD=1.0$). On the other hand, they strongly agreed that encouraging top management support and implementing policies on sustainability would foster adoption ($M=4.4$; $SD=1.0$). Additionally, the respondents strongly agreed that providing continuous sustainability training for staff would influence

adoption ($M=4.4$; $SD=0.7$). Furthermore, they believed that enforcing governmental laws and regulations on sustainability would encourage adoption ($M=4.5$; $SD=0.6$), and intensifying sustainability education for the public would have a positive effect ($M=4.4$; $SD=0.9$).

Table 4: Factors that can influence sustainable procurement adoption

Statement	Mean	Standard deviation
Demystifying Perceived cost of sustainable products can influence sustainability adoption	3.6	1.0
Encouraging top management support and implement policies on sustainability will foster adoption	4.4	0.6
Further and constant sustainability training for staff will influence adoption	4.4	0.7
Intensifying sustainability education for general public can enable adoption	4.4	0.9
Enforcing Governmental laws and regulations on sustainability will also encourage adoption	4.5	0.6

Source: Survey, 2023

4. DISCUSSION

This study aimed to examine the extent to which tertiary institutions incorporated sustainability principles into their procurement practices. A survey of 111 sampled institutions reflected a low – moderate incorporation of sustainability practices along the Triple Bottom Line (TBL), as all means range were below 4. Institutions did not place much emphasis on environmental and social protection as well as reports to ensure suppliers performed in that regard. Alternatives to purchasing is one important aspect of sustainability. However, this is not a practice among the institutions. This practice encourages reusing, recycling and hiring. This practice could reduce waste in many ways, which in the end will achieve aspects of sustainable procurement. This is however not adhered to. Respondents remained neutral to sustainability practices that minimized waste reduced the quantities of items used, discussion and understanding the potential environmental and social impacts and risks of products, conducting risk assessment for the supplying organization based on environment and social impacts defining sustainability aspects of every procurement and identify areas of continuous improvement. Even those concepts that gained some positive responses reflected a weak positive, as responses were just a little above average. These results indicate that, there is more to desire in sustainable procurement practices in tertiary institutions. This is consistent to the outcomes of Etse et al., (2021) who in their comparative study, found sustainable procurement to be moderately adopted in Ghanaian health and education sectors. It still reflects the assertion sustainable procurement is in the infant stages in developing countries (Islam et al. 2017).

In addition, the study identified the challenges that institutions faced when making efforts to incorporate sustainability principles into procurement practices in the focused institutions. To achieve that, a list of possible challenges were outlined. It was obvious from the responses that, the presented challenges were encountered as the means ranged from 3.1 to 3.8, with standard deviations ranging from 1.0 to 1.5. The challenges identified by the respondents included, difficulties in implementing sustainable procurement practices due to a lack of knowledge and skills among staff, lack of commitment from top management, bureaucracy and involvement of economic agents, absence of a culture promoting sustainability, difficulty in accessing suppliers offering sustainable products and suppliers' lack of understanding of the sustainability concept. These outcomes confirm the challenges identified by Claudia Gomes Jabbour ACJC. (2017) and are similar to the revelations of Pacheco-Blanco & Bastante-Ceca (2016) in their study of Spanish public sector universities.

These established factors could influence sustainable procurement adoption in the tertiary institutions in Ghana. The analyses indicated that the respondents strongly agreed to factors such as; top management support in sustainability implementation, policies providing continuous sustainability training for staff, enforcing governmental laws, regulations on sustainability and intensifying sustainability education for the general public. The other factor, which was moderately agreed among the listed factors, was perceived cost of sustainable products, which could have an impact on the adoption of sustainability. These outcomes re-eco the revelations of Kipkorir & Wanyoike (2015) and Zaidi et al. (2019) that adequate training and education are imperative in sustainable procurement adoption.

5. CONCLUSION

Overall, SDG 12 recognizes the potential of procurement as a strategic tool to promote sustainability, enhance resource efficiency, address social challenges, and contribute to the broader agenda of achieving the SDGs. Tertiary institutions serve as ambassadors of societies, carrying the responsibility to foster awareness regarding environmental concerns and sustainable development. They play a crucial role in supporting policymakers and stakeholders by showcasing optimal management practices. It is no doubt that the institutions need to identify and justify the needs for any procurement request before approval is granted for procurement process implementation to enhance procurement performance. Respondents reasonably agreed on the need to incorporate sustainability principles in procurement practices. This means that when efforts are made to promoting alternatives to purchasing, such as reusing, recycling, and hiring for waste minimization, doing more with less, discussing and understanding of the potential environmental and social impacts, conducting risk assessment based on environment and social impacts, defining sustainability activities of every procurement and identify areas of continuous improvement will have a positive influence on the procurement sustainability practices. Also, for the institutions to have effective implementation of sustainable procurement, challenges such as lack of training in the area of sustainability, low commitment of management, bureaucracy and economic agents, absence of culture to promote the sustainability drive, difficulty in accessing suppliers' of sustainable products and suppliers do not understand the sustainability concept need to be addressed. Again, the tertiary institutions need to be abreast with some of the key important factors that influence sustainability procurement adoption like top management support on sustainability policies, continuous sustainability training for staff, enforcing governmental laws, regulations on sustainability and intensifying sustainability education for the all key stakeholders. The study concludes that all the variables can significantly and positively affect sustainable procurement performance, thus incorporating sustainability principles are very important indicators to ensure sustainable procurement performance.

6. RECOMMENDATION

The study suggests that challenges need to be addressed to fully realize the socio-economic and environmental benefits of sustainable procurement practices. By providing training, fostering a culture of sustainability, and establishing mechanisms to access sustainable products and educate suppliers, institutions can overcome these challenges and successfully incorporate sustainability principles into their procurement processes.

7. ACKNOWLEDGEMENT

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IMPORTANT INFORMATION:

In order to clarify our objectives and academic scope, the International Journal of Multidisciplinary Studies and Innovative Research (IJMSIR) has its first website URL as (<https://ijmsir.org>). ISSN: 4132-2894 for print; 2413-3248 for online. IJMSIR was launched in October 2020. A migration to OJS was necessary in order to increase its international visibility and improve its position. The second website (<https://ijmsirjournal.com>) is a continuation of the first website (<https://ijmsir.org>).

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