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Drivers of sustainable procurement in the health sector: perspectives from key informant interviews of two teaching hospitals in Ghana

Foster Abrampa Opoku-Mensah^{1*}, Albert Ahenkan², Berhanu Temesgen³ and Theophilus Maloreh-Nyamekye²

Abstract

Background Sustainable procurement is gaining attention across the world. In Ghana, interest is growing, even though a comprehensive sustainable procurement policy is yet to be implemented. This study explores the driving factors of sustainable procurement in the health sector using the case of two of the oldest teaching hospitals in Ghana.

Methods The study used an exploratory qualitative case study to conduct key informant interviews (KIIs) mainly from Komfo Anokye and Korle-Bu Teaching Hospitals. Nineteen key informants from the two hospitals and four from three regulatory bodies were interviewed. Interviews were conducted from May 2019 to December 2019. The interviews were analysed thematically to find the main drivers.

Results Both hospitals shared several drivers. These include resource conservation, following legal rules, avoiding legal cases, client satisfaction, health concerns, cost savings, and value for money. Komfo Anokye Teaching Hospital also showed context-specific drivers like societal pressure, profit-making, professional and personal ethics, and influence from donors and global groups. On the other hand, Korle-Bu Teaching Hospital has specific drivers such as cultural awareness, protecting public funds, making services affordable, using modern technology, and choosing long-lasting equipment.

Conclusions The study shows that both local and global issues influence sustainable procurement in Ghana. Shared drivers reflect global goals. Context-specific drivers show that each institution also responds to its own needs. These findings show the need to link environmental goals with local social and economic needs in health care.

Keywords Environmental stewardship, Institutional drivers, Legislative framework, Organizational behavior, Public policy, Social responsibility, Supply chain management

*Correspondence:

Foster Abrampa Opoku-Mensah
fopoku-mensah@ucc.edu.gh

¹Department of Management, University of Cape Coast, Cape Coast, Ghana

²Department of Public Administration, University of Ghana Business School, University of Ghana, P.O. Box LG78, Legon, Accra, Ghana

³College of Business and Economics, Addis Ababa University, P.O. Box 1176, Addis Ababa, Ethiopia



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Background

Sustainable procurement has become a strategic tool in public sector governance. It is used to align institutional spending with broader environmental, social, and economic objectives [1–3]. Current global sustainability discourse aims to promote the integration of the ‘triple bottom line’-economic efficiency, social equity, and environmental stewardship-into procurement decisions [4–6]. The concept of sustainable procurement has gained prominence in health systems globally. This is due to the high-volume procurement activities in the health sector, specifically hospitals, significant waste generation in hospitals, and the potential to influence environmental and public health outcomes [2, 7]. Sustainable procurement is closely aligned with the United Nations Sustainable Development Goals (SDGs), particularly SDGs 3, 12, and 13, supporting multiple SDGs, including Good health and wellbeing, responsible consumption and production as well as climate action [8]. By integrating sustainability into procurement processes, health institutions can advance responsible resource use, reduce environmental impact, and promote equitable access to quality healthcare, all of which are central to the SDG agenda.

Notwithstanding global momentum and increasing awareness among stakeholders [1, 2], the practice of sustainable procurement remains inconsistent and poorly institutionalised in Ghana [2, 9–11]. Ghana’s Public Procurement Act (Act 663) was amended by Act 914 (2016) to include limited sustainability-related provisions. Sections 2 and 22 in the amended version recognize and promote sustainable procurement but lacks a comprehensive sustainable procurement policy to mandate and guide implementation [12, 13]. The country’s efforts at promoting sustainable procurement also include longstanding but isolated laws and institutions to regulate and promote environmental resources, promote the rights of the marginalized and develop local capacities to strengthen the economy. Such laws and institutions include Environmental Protection Agency Act, 1994 (Act 490); the Timber Resources Management Act, 1997, (Act 547); and Mining and Minerals Act, 2006 (Act 703). There are also Office of Special Prosecutor; Economic and Organized Crime Office; and the Auditor General’s Office, all showing a clear commitment to enforce procurement breaches and the use of public funds. The legislative gap remains the fragmented nature of the laws without a **composite** policy on sustainable procurement. This is compounded by capacity constraints, low political prioritisation, and unclear operational procedures. Public institutions are therefore, left to interpret and implement sustainable procurement in fragmented and often informal ways [14].

Nonetheless, evidence from recent studies indicate that certain public institutions, including institutions within the health sector, are engaging in sustainable

procurement practices in varying degrees. For instance, there are institutions demonstrating basic awareness of sustainability principles [15, 16]. There are others with reports of partial implementation amid challenges such as limited funding, difficulty accessing suppliers, and inadequate internal structures to support sustainable procurement [9, 17]. What remains unclear are the main driving forces for the adoption of sustainable procurement in the midst of fragmented laws. This highlights the need to explore the specific drivers that facilitate or influence sustainable procurement at the institutional level.

The health sector provides a critical entry point for such enquiry. Hospitals are among the most resource-intensive institutions. Hospitals are directly impacting the national budget, patient safety, energy consumption, waste management, and supply chain resilience [2, 17]. In the context of hospitals, sustainable procurement contributes to both environmental sustainability on one hand and improved healthcare delivery and cost-effectiveness on the other hand [7, 11]. By integrating sustainability into procurement processes, health institutions will advance responsible resource use, reduce environmental impact, and promote equitable access to quality healthcare, all of which are central to the SDG agenda. These strategic importance and potential impact of sustainable procurement, seems to have not received commensurate empirical studies, specifically in the healthcare sector.

This research is very relevant as it seeks to address a highly critical gap in literature and in practice. It examines the factors driving sustainable procurement within Ghana’s health sector. As an issue with significant implications for public health outcomes, environmental stewardship, and economic efficiency, knowledge and understanding of its drivers are not only essential for informing current policy and strengthening institutional practices, but also for guiding future interventions with the aim of embedding sustainability practice into public procurement discourse. Moreover, the paper provides useful insights to support the development of stronger and enduring health systems. This will ultimately contribute to broader national and global sustainability initiatives.

This study focuses on two leading tertiary healthcare institutions in Ghana, Korle Bu Teaching Hospital (KBTH) and Komfo Anokye Teaching Hospital (KATH), selected purposively due to their prominence as national referral centres, diverse patient demographics, and large scale of procurement operations. As the oldest teaching hospitals in the country, their procurement practices have considerable implications for public sector efficiency, health service delivery, and sustainability. Moreover, their operational differences-stemming from geography, institutional cultures, and stakeholder influences-provide an opportunity to explore both common

and context-specific drivers of sustainable procurement. Therefore, the study aims to examine the factors-internal, institutional, and external-that drive sustainable procurement in Ghana's health sector.

Institutional theory as a framework for sustainable procurement

This study employed institutional theory to provide insights into the adoption of sustainable procurement practices within Ghana's health sector. Based on the works of Meyer and Rowan as well as DiMaggio and Powell, the theory explains organisational adaptation to external pressures, regulatory, normative, and mimetic, to attain legitimacy and secure survival within institutional contexts [18, 19]. Institutional isomorphism, a fundamental concept of institutional theory, elucidates the process through which organisations attain similarity by embracing practices considered suitable or essential within their institutional environment.

The theory is closely aligned with the study's objective of investigating the reasons behind adoption of sustainable procurement by certain hospitals in Ghana. The Public Procurement Act of Ghana, Act 663 (2003) as amended, Act 914 (2016) incorporates certain sustainability provisions, however, it is deficient in comprehensive enforcement policies, resulting in varying strengths and clarity of institutional pressures. Institutional theory clarifies how hospitals respond to coercive pressures arising from legislation, mimetic pressures through the emulation of peer organisations, and normative pressures stemming from professional norms and stakeholder expectations.

Existing research substantiate the application of institutional theory in the examination of sustainable procurement [20]. While some studies examined the adoption of sustainability practices by public organisations in response to institutional influences [20, 21], others highlighted the interaction between formal policies and informal organisational practices, a dynamic that is apparent in the fragmented implementation of social protection in Ghana [22]. Empirical studies in health-care settings further [23, 24] indicate that organizations, including hospitals integrate sustainability criteria in procurement due to institutional pressures, despite facing resource limitations.

In the context of Ghana, institutional theory is particularly pertinent given the evolving procurement regulatory framework and the increasing awareness of sustainability associated with global initiatives such as the SDGs. Existing research illustrated the strategies employed by Ghanaian public institutions in addressing these pressures [10, 25]. Major hospitals such as Korle Bu Teaching Hospital and Komfo Anokye Teaching Hospital can be analyzed through institutional theory for a broader

understanding of their diverse reactions to both internal and external factors influencing sustainable procurement. This study utilizes institutional theory to reveal the influence of institutional forces on the adoption of sustainable procurement in Ghana's health sector, providing insights for enhancing policy and practice.

Methodology

This study was grounded in an interpretive research paradigm, seeking to understand the perspectives and experiences of individuals within their specific social contexts [26, 27]. Rather than relying solely on existing theories, the approach allowed the authors to explore the social dynamics, interactions, and meanings that shape sustainable procurement practices in the health sector.

A qualitative approach was chosen because the research questions required an in-depth exploration of how and why certain procurement practices emerged and were sustained. This approach allowed for rich, detailed insights from participants' experiences, rather than testing predetermined hypotheses.

The study used a phenomenological approach, which focused on understanding how people experienced and made sense of a particular phenomenon, in this case, the drivers of sustainable procurement. This approach fitted well with our goal of drawing out the lived experiences and insights of procurement professionals in teaching hospitals. The data was analyzed using thematic analysis, a method that helped identify, analyzed, and reported patterns (themes) within qualitative data.

The study population included individuals involved in procurement activities within the two major teaching hospitals in Ghana, Korle Bu Teaching Hospital (KBTH) and Komfo Anokye Teaching Hospital (KATH). It also included representatives from three key regulatory institutions, the Ghana Health Service (GHS), the Ghana Standards Authority (GSA), and the Public Procurement Authority (PPA) in Ghana.

From the population, a sample of 23 participants were selected purposively. According to some studies, a sample size of 5 to 24 is adequate for qualitative studies [28]. According to other studies, a maximum sample of 30 as adequate for qualitative studies [29]. According to [30], phenomenological studies should have a sample size of between 15 and 25 participants. While there is no conclusive evidence on the specific sample for studies of this nature, a sample size of 23 was within the range of the empirical suggestions. The sample comprised of the Directors of Health Administration, Heads of Pharmacy Departments, Heads of Procurement and Supply Chain Units, Heads of Stores, Heads of Accounts, and Members of the Entity Tender Committees (ETC) from both hospitals. Each of these individuals was chosen based on specialized knowledge and direct involvement in

procurement processes. The Heads of Procurement and Supply Chain Units were included due to their comprehensive oversight of procurement operations, while the pharmacists' provided insights into drug procurement. Similarly, the storekeepers offered perspectives based on their experience with storage and inventory systems, and members of the ETC contributed their understanding of policy and compliance in procurement. Participants from the regulatory institutions were selected through suggestive sampling, a process that began during interviews with hospital-based personnel who identified and suggested other key contacts in the regulatory bodies for further interviewing. This approach ensured that those with relevant insights into procurement oversight and standardization were included in the study. The Table 1 below provides a summary of the distribution of participants across the institutions.

The authors used in-depth interviews as a primary data collection method. This allowed for direct engagement with participants and provided flexibility in probing for clarity and deeper insight, where necessary. Five different in-depth interview guides were developed to suit the specific groups involved in the study. These included a general interview guide for workers at KATH and KBTH, enhanced interview guide tailored for the Directors of Finance at both hospitals, and separate interview guide designed for personnel from the Ghana Health Service (GHS), the Ghana Standards Authority (GSA), and the Public Procurement Authority (PPA). The interview guides were designed to elicit detailed narratives and reflections on participants' experiences and roles in procurement processes. Data was collected from October 2018 to September 2019. Interview sections for the data collection lasted between 17 min and 1 h and 17 min. All interviews were audio-recorded with the consent of participants. The recordings were transcribed verbatim and returned to participants for validation before analysis commenced.

Each interview transcript was labeled using a consistent alphanumeric system to ensure easy identification while maintaining confidentiality. Transcripts from Komfo Anokye Teaching Hospital (KATH) were coded as KATH/R/1 through KATH/R/10, while those from Korle Bu Teaching Hospital (KBTH) were coded as KBTH/R/1 through KBTH/R/9. The coding of the regulatory

institutions began with "O" to represent "Other Institution," followed by an abbreviation of the organization name. Therefore, interviews from the Public Procurement Authority were coded as OPPA/R/1, those from the Ghana Standards Authority were coded as OGSA/R/2 and those from the Ghana Health Service were coded as OGHS/R/3.

Data analysis began with transcribing all interview recordings into Microsoft Word documents. Each transcript was carefully reviewed and broken into meaningful segments to capture important details. Initially, open coding was used to label these segments in order to generate as many codes as necessary to reflect the data accurately. The list of codes was then reviewed to identify overlapping and redundant codes, which were merged to reduce the number to a more manageable set. Once the main codes were finalized, the data was examined more closely to identify major themes and sub-themes. This thematic organization helped revealed recurring patterns and allowed similar ideas to be grouped together meaningfully.

Further analysis involved exploring how the identified themes and sub-themes interacted with each other. Special attention was given to relationships across themes, examining how they connected or contrasted, and what those relationships revealed about the phenomenon under study. Throughout the process, a constant comparison method was employed to ensure consistency between the coding and the broader context, allowing for deeper insights to emerge organically from the data.

Results

The study explored the main driving forces behind the adoption of sustainable principles in hospital procurement. Data from the in-depth interviews indicated that both pull and push drivers influenced the adoption of sustainability principles. The pull drivers were social, environmental, legal, ethical, professional and economic drivers. The push drivers were foreign and technology-based drivers.

Foreign drivers

The data indicated foreign drivers as ways through which foreign countries and organizations either persuaded or forced procuring authorities of the hospitals to adapt to standards that promote sustainability. Two drivers of this nature were found as signatory and membership to international organizations and protocols; and donor support.

Signatory and membership to international protocols and organizations

According to the respondents, Ghana is a signatory to several international protocols, forcing procuring entities in the country to adopt standards of sustainability.

Table 1 Summary of the institutions and participants

Organization	Total
Korle Bu Teaching Hospital	10
Komfo Anokye Teaching Hospital	9
Ghana Standard Authority	2
Public Procurement Authority	1
Ghana Health Service	1
Total	23

Examples of such protocols were mentioned as the SDGs, the Johannesburg Convention, and the Geneva Convention. The protocols that Ghana have signed to have specific sustainable standards that members are expected to subscribe. A participant from the PPA accepted the incorporation of sustainability principles and further give the following reason.

...there was this convention (i.e. the Johannesburg convention) on 10 years development program for people to achieve this sustainable consumption and development, and PPA happened to attend that convention. There was also one at Geneva way back in 2009 or so. Then in Morocco, there was a taskforce on sustainable consumption and production and PPA was invited to attend. All these things started before the introduction of the SDGs. So, our adoption is also largely because of our commitment to international conventions (OPPA/R/01).

Related to the signing of international protocols is Ghana's membership of international organizations like United Nations Development Project (UNDP). Members are expected to help achieve the aims of the organizations. Some of the organizations have taskforces to regularly monitor activities in member countries to make sure members are in line with set objectives. It was found in KATH for instance, that, UNDP and some academic institutions have been monitoring the procurement activities of the hospital from time to time. A participant explained that,

In terms of the ... drivers, yes, currently we have UNDP and then I think one University, (I'm not too sure) are so much interested in what we use for cleaning. They are also interested in who we asked to do the cleaning and how to dispose our waste basically, because they know that what we use for the cleaning has impact on the environment. So yes, we have organizations that are monitoring the hospitals in what we do (KATH/R/09).

Donor support

Another foreign driver identified was the directive, advice or pressure from donors. As a developing country, Ghana as said to receive a lot of donor support. Institutions in the health sector, like hospitals also receive such support directly or indirectly through the GOG, either of which comes with conditions attached. As part of the strings, these donors normally direct, advice or coerce procuring institutions to adopt sustainable requirements as explained below by a participant.

Donor pressure is a major driver. An example is the issue about World Bank. Most of the donors [especially USAID] when they are giving you donations, they ensure you follow their procurement rules (KATH/R/09).

Another participant said.

What I know is that.... our procurement Act is a mirror image of the World Bank. So, World Bank is pushing for some of these things and other donor organizations I mention Sweden government. I also know of DANIDA [Danish International Development Agency] or so (KATH/R/09).

Legal drivers

Some legal issues served as catalysts for adopting sustainable principles in the procurement processes of the hospitals. These were general principles found to be driving SP in both study areas. The strength and influence of legal drivers was possibly indicated by the number of participants who mentioned it and the number of times it was mentioned throughout the 23 interviews. Specifically, 13 participants mentioned legal requirements as the driver for sustainable procurement on 193 occasions. From the data, two main Legal Drivers were identified as legal requirements in the country which require institutions to be law-abiding and the quest of the hospital to avoid lawsuits.

Legal requirements

First, it was suggested the law of Ghana Itself was written with the spirit of sustainability in mind. Following the rigors of the law thus led to adopting sustainable procurement. An interview participant explained in the following way.

...based on how the law is written, [I will say], they want procurement to be sustainable. But everything concerning the procurement process indicates that they want procurement to be sustained (KATH/R/03).

This means one cannot claim to be doing procurement without following some basic legal requirement as stipulated by the law. The law was written in the spirit of sustainability, and a participant explained how procurement authorities were bound by the tangents of the law and its requirements. As a result of this, the procurement processes in the hospitals were found to be modelled in such a way to follow the law to the latter. Evidence of this is found in the following quotation.

What I can say for a fact is that all principles and procedures enshrined in the law are followed because if you don't follow those principles to the later, you are in contravention with the law and I know the head of procurement is hard on that (KBTH/R/08).

As a result of the importance of the law to sustainable procurement and the caution taken to make sure all procedures are followed to achieve it, there was an inclusion of a legal person on the procurement committee of the hospitals. This is evident in the following statements captured during the interviews.

If you look at the procurement entity, the legal [aspect] is always there and must be followed. So that's why a rep of the Attorney General [a legal person] is brought in to make sure that the legal aspect is always followed (KBTH/R/05).

Avoiding legal battles

Because the law directs procuring authorities to strictly follow certain procedures, they are likely to attract lawsuits if they do anything in contravention. In the opinion of some participants, this was the only factor driving the adoption of sustainable procurement. A participant explaining what was driving his institution in adopting sustainable procurement opined that:

All we are concerned about is to follow the laws of Ghana and that's all that I see. ...it is about what the law says about procurement. It says this, it says that, so let's do it. If you fail to follow what the law says, you will be sued (KBTH/R/02).

Another participant said,

...compliance with regulations and policies as well as legislation is part of [the] procurement processes. You can be taken to court if you fail to comply with any provision of the law (KBTH/R/09).

Technological drivers

Another set of drivers found to be leading the adoption of sustainable procurement were technological in nature. All technological drivers were recorded at KBTH, where the advent of technology and the quest to keep abreast with it were the major reasons for adopting sustainable procurement. A participant at KBTH explained that for a hospital of its caliber, it is incumbent on authorities to use State of the Art Technology (SAT), which must include sustainability elements. To get along with such technology, therefore, is to get along with sustainability. On the other hand, the quest to use tried and tested

technology, was important because, users easily abandon obsolete technology for new ones, which may come at a very huge cost. To do this, the following response was recorded.

...we also have technological drivers. We want to buy products that are state of the art. Buy from manufacturers whose technology has stand the test of time and place. We don't want to buy a product and within a short time, we are told the manufacturer has shut down or shifted to a different technology. How then do you get maintenance? How do you get consumables to run a machine once it [referring to the technology] is absolute? So, you consider some of these things (KBTH/R/10).

Economic drivers

The data fund an avalanche of economic drivers explaining the adoption of sustainable procurement. Economic Drivers in this study were the financially related reasons for adopting SP practices. Out of the 25 participants, 14 mentioned at least one economically related driver, demonstrating the dominance of this driver. While aspect of this driver was shared by both hospitals, there is a hospital-specific aspect. Two drivers shared by the hospitals were quest to reduce cost and to have value for money.

Cost reduction

Concerning cost reduction, nine participants across both hospitals agreed that it was incumbent on them to reduce the cost of all procurement-related activities. As a result, they did rigorous evaluations to be able to take better financial decisions. Factors such as the price of products as well as lifetime costing issues like cost of repairing, fuel/electricity consumption cost, cost of disposal and cost of replacing parts were examined in this regard. They also examined total life span of a product. An interview participant explained,

...the considerations include...pricing because we have to make sure we meet the budget of the hospital" (KATH/R/05).

The main purpose of considering price according to another interviewee was to limit cost and become cost-effective, which was also captured in the following extract.

Because of our budget, we need to consider the cost aspect of the product and all those things. We have limited budget. There are a lot of things we have to buy. So, sustainability comes to play in terms of the economic decisions that we need to take (KATH/R/02).

Concerning lifetime costing issues, another participant explained this way.

Let's say we want to buy an ambulance ... we look at the running cost.... Are we buying [an] ambulance that uses diesel or ... petrol? ...petrol cars consume more fuel. But diesel cars are [a] little bit okay. Diesel cars are quite costly/difficult to maintain compared to petrol ones. Or if you are buying a cross-country vehicle, you do life cycle cost of say Toyota and Nissan. For Nissan, the price may be quite okay, but when you do the Life Cycle Costing (LCC), you can calculate the amount of fuel it will consume per hour and know the cost you will incur on fuel in the number of years you will be using the car... Compared to the Nissan [cars], Toyota may be using less fuel during the same period. So, in the long run ... you will be spending more on the Nissan compared to the Toyota. So, these are the various issues with the economic drivers (KBTH/R/10).

As a result of LCC, procurement officers were found to be motivated by the quest to reduce cost due to limited resources. On the issue of reducing lifetime cost, a participant from KATH gave the following remarks:

...when we are evaluating the product, the pricing [decision] should not be based only on [immediate] lower prices. Because when we consider only lower price, we might end up getting inferior products. Sometimes you ...might end up paying more... If you use one [drug] for a certain patient to get well, the price might be lower. But you might use four [of those drugs to get the patient well] whose accumulated price will be high if you were to use a different one with a higher unit price (KATH/R/07).

Value for money

An economic driver shared by both hospitals was the pursuit of value for money. Value for money goes beyond the monetary cost of an item to include how satisfied users are with the products usage. Participants were motivated to procure products and services that inure to their maximum benefit and satisfaction. One participant said,

Economically, we are looking for value for money (KBTH/R/07).

Participant seven from KBTH gave a detailed explanation of what was meant by value for money in the following way when asked for further explanation.

Yes, we are looking for value for money and we are also looking at, you know, the long-lasting [effects] of that service. You see, you can purchase something and within this time it could be okay, but in the next few years, you realize that it will be obsolete. No, we don't want that, but [instead] we are looking for something [that is of high quality with a longer life span] so that the lifespan would actually give us a value for money (KBTH/R/07).

Clients affordability

Another economic factor identified to be uniquely driving sustainable procurement at KBTH was considerations for clients' affordability. As a referral hospital, participants considered it incumbent on workers to serve people from all walks of life, including both rich and poor. To help reduced the cost burden on prospective clients and ensured affordability by all, a participant said,

If we are buying for instance generic drugs...we are looking at our client base and asking whether they can buy (KBTH/R/08).

Another participant providing explanation on how and why consideration was given to the affordability drive also said,

...you can go and buy Para (which is very cheap) compared to when you go and buy Panadol which is more expensive. Possibly one could be economically sustainable than the other. And looking at your clients, which one will you stock more? Can they afford it? (KBTH/R/08)

Protection of the public purse

Another important economic factor found to be driving the adoption of sustainable procurement at KBTH was the quest to protect the public purse. The procuring authorities are using public resources, regarding which the best economic decisions must be taken. To do this, they were motivated to go for the best available cost without ignoring quality. According to participants at KBTH, it was important to protect the public purse. A participant, for instance, said,

...once the legal regiments are met the next thing is economics because we also need to protect the public purse...You are looking at your purse (KBTH/R/08).

Profit

The last economic motive identified pertaining to only KATH, was profit motive. Two of the participants noted that, their motive for pursuing financial propriety during procurement was to ensure that the cost of the

procurement did not exceed the cost of rendering services to clients. An interviewee said,

Economically, our main driver is to get the right price for the products that we purchase. That's the main [economic] principle. If they are overpriced, we won't get the profit or turnover that will help the hospital move on. So, as for the pricing, we take consideration of that (KATH/R/03).

Ethical drivers

Ethical drivers in this study were identified as personal ethics and professional ethics.

Personal ethics

Personal ethics are the individual convictions and beliefs about what is right and wrong, what must be done or not be done, which drove the behaviour of procurement officials in adopting sustainable procurement. As a result of their personal guilty conscience, individuals felt obliged to behave well because of current and future generations, hence the adoption of sustainable procurement practices. Explaining this phenomenon, an interview participant said,

...the greatest driver for adopting sustainable manners is probably because of the fact that as human beings, we have moral accountability ...we believe that all the resources on the globe belong to one big creator who has given it for our use today, people have used it before [but] they are gone, they have left it for us. And whatever we are doing, we should be also mindful of the fact that it impacts on others who are yet to come (KATH/R/02).

Another participant added more clarity in the following way.

...we are working in a healthcare [setting]. The first important thing is to take the patients at heart. Whatever and whenever you procure, you yourself should make sure that the items are of high quality and will help in quality healthcare delivery. So, your personal morals and convictions should guide you to put the patient at the centre of all procurement issues (KATH/R/02).

Professional ethics

It was also found that the various staff members associated with the procurement process were people belonging to various professional organizations and departments, within or outside work place. These professional bodies and departments had ethical standards guiding behavior of their members. The central theme of

the ethics of these professional organizations was making sure members do things right. At KATH, officials held the ethics of their professions in high esteem, with high premium being placed on quality delivery, professionalism, transparency and avoidance of corruption, leading to sustainability adoption. A participant illustrated that,

Ethically as a procurement officer..., you should ... achieve value for money, transparency and avoid corruption Sustainable procurement frowns on corruption and unprofessional conduct, as a procurement officer, you have to know that you are supposed to be professionally apt at any point in time (KATH/R/02).

Environmental drivers

Environmental drivers were found to be the totality of reasons motivating procurement officials to adopt sustainable procurement procedures in order to protect the physical environment. This driver protects the environment from degradation, pollution or destruction. Eight participants from both hospitals alluded to this claim. A participant from KBTH said,

Effect on the environment is a key concern because you don't procure things that are going to cause harm to the environment (KBTH/R/04).

Because of this, procurement officials, took steps to procure products which did not emit harmful chemicals while in use, whose disposal did not cause environmental problems, and which was not disposed of without being used, possibly polluting the environment in vain. The following explanation was provided by a participant as an illustration.

What chemicals will be emitted by the product? How will it fall into the wastage system in Kumasi? If you are procuring a new item, like...a new incinerator, you need to do an Environmental Impact Assessment (EIA) to see how it is going to affect the environment (KATH/R/08).

An environmental impact assessment proved key in this. Before procuring, procurers demonstrated concerns about how products were disposed after usage. A participant asked the following series of questions to assert the influence of environmental drivers on procurement decisions.

How are you going to dispose of the item after use? What chemicals will be emitted by the product when disposed [of]? How will it fall into the wastage system in Kumasi? (KATH/R/08).

It must be noted that the above statement did not allude that the disposal issues are completely ignored. The respondent acknowledged that some level of consideration was given to disposal during procurement decisions. To further prevent pollution, procuring authorities were said to be careful in procuring only what was useful. This was done in order not to end up procuring what something to be disposed of without using it, as doing so was considered adding to the environmental waste in a rapid and unjustified manner. This was explained in the following way.

...environmentally, I will say we want to be sure of what is coming because we would have looked at it between now and that time. So, I'm not going to talk about probably bringing something that I would not need and I will have to discard or find ways and means of going to do away with it (KBTH/R/03).

Procurement officials were also careful about expiry dates of products before procuring. The inventory practices of the hospitals were thus designed in a way to avoid keeping consumables for long. Inventory practices such as first-in-first-out and first-to-expire-first-out are applied in inventory management. At KBTH, a participant summed the environmental driver in the following sentence.

The efficient use of materials in operation and equipment, pollution and waste disposal, and energy-saving are the main considerations during procurement (KBTH/R/09).

Social drivers

The findings indicated that, care and concern for workers, clients and the general population, summed together as social drivers, leading to procuring authorities adoption of sustainable standards. Even a participant who believed the legal issues were the main drivers of sustainable procurement went ahead to accept how social issues also drive sustainability to some extent. The participant said,

It's basically the law. So, it's just that... what gave birth to it is the law (OGHS/R/04).

Client satisfaction

The study found that, staff from both hospitals were engulfed in satisfying clients and this motivated them in instituting and adopting sustainability principles in their procurement activities. A total of 5 participants during interview sessions mentioned this driver. Being cognizant of the varied customers they serve, the needs of all

groups of people are considered when making procurement decisions. To illustrate this, a respondent said,

Socially, we want to satisfy our clients [and that] is what is driving us (KATH/R/04).

Health concerns of staff, clients and society

Another social issue found to be driving sustainable procurement decisions was the health of staff and clients. A total of 3 participants explained that health consideration of clients and staff were among the reasons for adopting sustainability. According them, procurement is done for either staff or clients. To avert the negative health implications on staff and clients for using products, procurers were careful about what to procure. To achieve this, users have been made part of the teams for technical specification and evaluation. Again, some forms of feedbacks were always taken from users on use of products. A participant explained that,

For us, it is the health of our patients that is the primary driver. Whatever we do is because we do it on human beings, we always want to be very certain that the benefits will outweigh costs. That's the main [driver], ... we look at emotional effects, talk about the cosmetic, and all other social aspects of health,... the main driver is the health of clients because we deal with patients (KBTH/R/05).

Another social driver was the anticipated effects of a product on the wider society. Besides clients and the staff, the activities of the hospital may also affect the larger society. Procurement officials were therefore mindful of the positive and the negative effects of products to be procured. A total of five interview participants alluded to this. Such decisions included user-friendliness, concerns for health of the users, and the benefits of the product to the entire society. A participant explained.

I think ... effect of the items on the population is a driver (KBTH/R/04).

In a bid to maximize positive effects on the wider society, and to eliminate or minimize the negative effects, respondents alluded that, all stakeholders were usually consulted and feedback taken from them before final procurement decisions were taken. To illustrate a consideration for wider stakeholder concerns, a respondent said,

Community and stakeholders' concerns need to be considered in every procurement practice (KBTH/R/07).

Social pressure

Another social driver of sustainable procurement at KATH was pressure from society. The study found that, the society sometimes fights for its interest by advising or coercing the hospital to adopt friendly standards. This was normally done through the mass media, Civil Society Organizations (CSOs), radical protests, legal actions, naming and shaming, among others. By these, the society pressured authorities to adopt sustainable procurement. A respondent explained in the following way.

With the social drivers, ... we have a lot of Civil Society Organizations [CSOs] that are the voice of the people, that are the voice of the environment, that are keeping people to be accountable and also [ensure] good governance and good practices. Yes, and some of these social organizations, sometimes can even take legal action against you, they also do name and shaming. Yeah, so, we are aware now that, people have constituted themselves into what we call watchdogs for society. So, whatever you are doing, you have to be extra cautious to make sure that the things are socially acceptable (KBTH/R/07).

Another social driver found to be pushing procurement staff at KBTH to adopt sustainability was concern for good corporate image. Because of good corporate image, procuring authorities were expected to institute practices to serve as benchmarks for other healthcare providers. In their thoughts, this constitutes the expectation of many external stakeholders. To support this, an interviewer said,

Why people? Because when you procure sustainably, it becomes a plus for the organization. It gives you a good cooperate image. If you become a leader, other organizations will want to come and benchmark your practices. These are some of the sociological drivers. The perception of the outside world, how do the external stakeholders perceive us? When we procure responsibly, it raises us to [a] certain standard and gives us [a] certain kind of advantage over our peers (KBTH/R/10).

Cultural sensitivity

Again, procurement officials at KBTH took into account the cultural values of the people. Procurement officials are aware that, they are procuring to serve people with diverse cultural backgrounds and therefore took into account cultural diversity in procurement decisions. Steps were taken not to discriminate against any individual or group of individuals based on their cultural background. A participant said,

And then culturally, you know, we are dealing with human beings and we have different cultures in the communities. So, whatever we are doing, we want it to be culturally sensitive. It shouldn't be something that this culture will prefer [while] others would not. Rather, it should be something that will be acceptable by all (KBTH/R/07).

This implied procurement and service provision in the hospital took into consideration cultural differences to help avoid discrimination in service provision based on social and cultural characteristics. The summary of the drivers of sustainable procurement is presented in Fig. 1 below.

Discussion

The study identified foreign drivers as external influences originating from international institutions or actors. Two key foreign drivers emerged. First, was membership in international organisations and protocols. This means Ghana's affiliation with global bodies such as the United Nations and the World Bank, alongside its endorsement of protocols like the SDGs and the Johannesburg Declaration, positions the country within a framework of sustainability obligations. The SDGs, comprising 17 goals and 169 targets, aim to address global challenges, including promotion of sustainable procurement practices. Second, donor pressure was found to play a significant role in adopting sustainable procurement techniques. According to respondents, often, donors do not only provide financial support but also expect recipient countries to adopt their values, which may include sustainability principles. As such, accepting such donations can mean aligning procurement policies with sustainability standards imported from these donor countries and/or institutions. This finding supports existing research which suggests that donor involvement and partnerships can significantly shape domestic policies, either directly or indirectly [8, 31]. In Ghana's case, donor influence on sustainable procurement appears tangible, especially as funding may be conditional on compliance with donor expectations.

Legal drivers emerged as one of the most significant set of influences. These include both the regulatory environment and the avoidance of legal repercussions. Consistent with literature [32, 33], legal mandates were found to be pushing organisations towards more sustainable practices. However, while studies from developed countries highlight proactive legal support for sustainable procurement [34], the Ghanaian context presented a contrast. Participants in our study reported a fragmented legal framework with no consolidated and comprehensive policy specifically requiring and directing procurement to be carried out sustainably. This may limit the strength

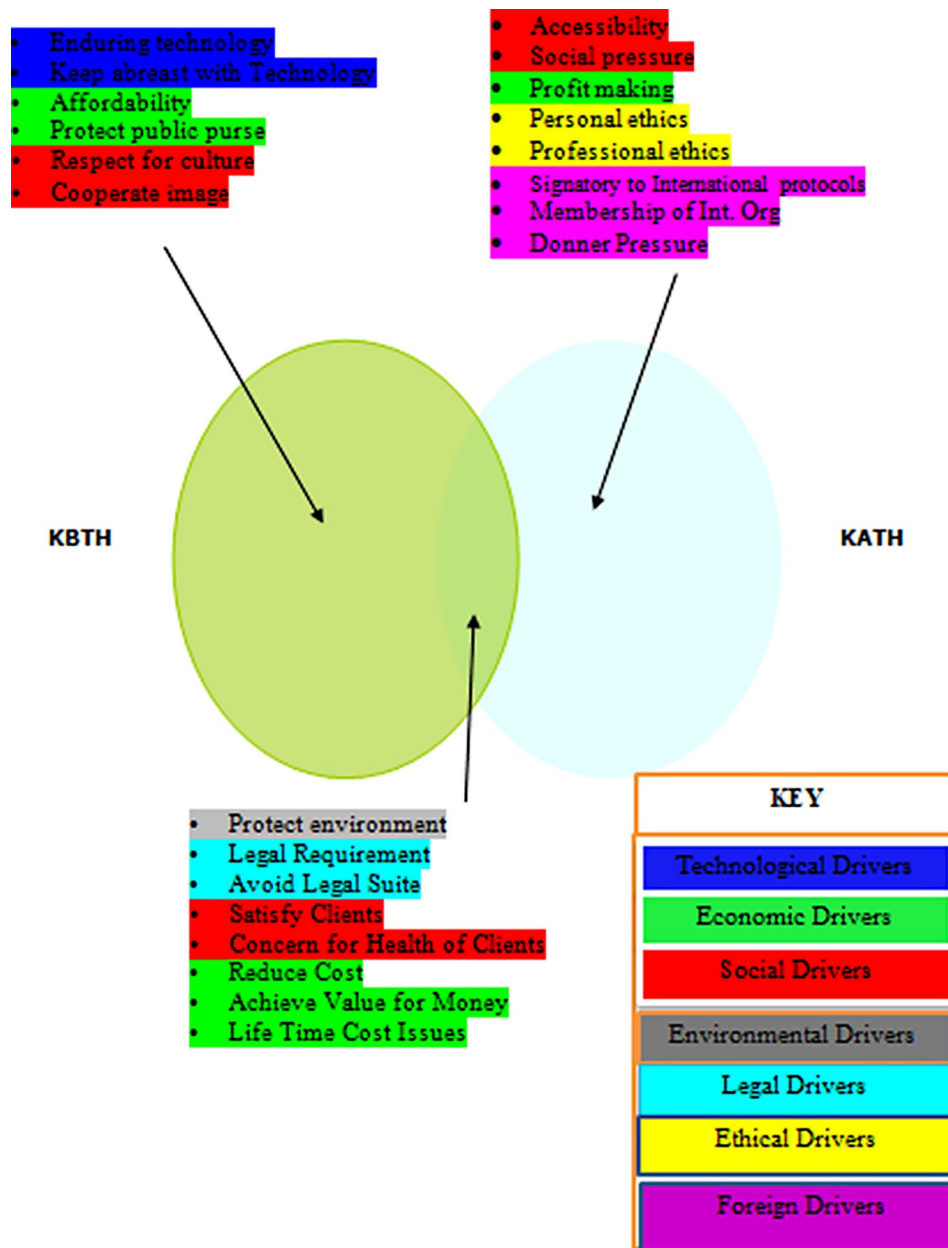


Fig. 1 Summary of Drivers of SP

of legal influence on procurement behaviour. However, legal concerns still impact procurement decisions. The fear of litigation or being penalised for non-compliance with existing procurement laws can prompt officials to lean towards more cautious and sustainable choices. This finding aligns with experiences in Kenya, where legal accountability has driven the adoption of sustainable practices in procurement [35].

Technological advancement was also found to drive the adoption of sustainable procurement. This was particularly true in the health sector where service delivery often depended on the longevity and adaptability of procured goods. The study found that procurement officials

were increasingly focused on acquiring technologies and products that were durable and fit for long-term use. This aligns with global calls for organisations to stay abreast with technological innovation [36]. The contribution of this study lies in establishing a clear link between the desire to remain technologically up-to-date and the practical adoption of sustainable procurement practices. This relationship supports the importance of investing in technology not just for efficiency, but also for sustainability.

Economic considerations were another major category of drivers. It comprised of the desire to reduce costs, maximise value for money, protect public purse, ensure affordability for clients, and maintain profit margins.

These factors influenced procurement decisions at various levels – organisational, individual, and national. The cost-saving measures and efficient use of public funds support existing principles, practices and studies claiming that, even in high-income countries, cost-efficiency remains a fundamental principle of public procurement [37]. The profit motive, notably observed at the Komfo Anokye Teaching Hospital (KATH), was linked to maintaining service delivery during delays in government subventions. This also aligns with earlier research which focused mainly on private sector organisations [38]. The current study shows that the economic logic applies in public institutions.

Affordability was also cited as an important driver under economic issues. This reflected sensitivity to clients' economic conditions and supported the findings that access to health services was influenced by ability to pay [39]. The innovative contribution of this study is the way it links affordability with sustainable procurement, which seems to have not been widely explored in the Ghanaian and African contexts. Policies such as national health insurance schemes in Ghana and in Nigeria highlight affordability as a public concern [40, 41]. The current study added a procurement dimension to the discourse. Reducing costs, profit motive, and ensuring value for money were organisationally driven, affordability is client-focused, while protecting the public purse was a national-level concern. This structural understanding of economic drivers added to the novelty of the findings and provided a more comprehensive framework for analysing motivations behind sustainable procurement in the health sector.

Environmental considerations were acknowledged by respondents, but appeared to carry less weight compared to other drivers. While previous research highlighted environmental sustainability as a central pillar of sustainable procurement, especially in high-income countries [42], this study found relatively low prioritisation among Ghanaian procurement officials. Only eight interviewees mentioned environmental concerns, suggesting that although there was awareness, it may not yet be a strong influence in procurement decision-making. This was a likely reflection of broad national challenges in integrating environmental priorities into institutional processes.

In contrast to the weaker environmental drive, social drivers emerged strongly. These include concern for patient welfare, client satisfaction, accessibility of services, cultural relevance, and the institution's public image. These drivers appeared to be shaped by Ghana's communal societal structure, where public institutions are closely connected to the communities they serve. This differed from findings in the developed world, where social drivers were often less influential [38]. The emphasis on social responsibility is particularly prominent in

public sector organisations, where there was a moral imperative to serve public interests which may be used to explain the stronger social influence observed in this study.

Two forms of ethical drivers were observed, which were personal ethics and professional ethics. Personal ethics were the internal values that motivated individuals to make the right decisions, such as protecting resources, considering the needs of current and future generations, and avoiding corrupt practices. Although personal ethics vary among individuals, their impact have proven to be significantly embedded in organisational culture and influenced procurement decision making. Professional ethics, on the other hand, were shaped by the codes of conduct of the various professional bodies to which procurement officials belong. From the findings, these codes have sustainability principles, thereby reinforcing ethical decision-making in procurement. The combined role of internal and institutionalised ethics enhanced the credibility and sustainability of procurement processes.

Conclusions

The aim of this study was to explore the factors driving the knowledge and adoption of sustainable procurement in Ghana, particularly in the midst of a fragmented sustainable procurement framework. This was achieved through an in-depth collection of perspectives from workers at two teaching hospitals, with a focus on both shared and institution-specific drivers. The findings revealed that both hospitals prioritised environmental, legal, and economic drivers. More specifically, these included resource conservation, adherence to regulations, avoidance of litigation, cost reduction, and the pursuit of value for money. In contrast, institution-specific drivers were found to play contextual roles in influencing the adoption of sustainable procurement. At Komfo Anokye Teaching Hospital (KATH), societal pressure emerged as a social driver, alongside profit motive as an economic driver, and both professional and personal ethics as ethical drivers. Membership of international protocols and organisations, as well as donor pressure, also featured as foreign drivers. At Korle Bu Teaching Hospital (KBTH), cultural responsiveness was identified as a key social driver, while protection of the public purse and the need to remain up-to-date with technological advancements emerged as important economic and technological drivers respectively.

This study contributed to the growing body of knowledge on sustainable procurement, both locally and internationally, by illustrating how general policy influences and institution-specific contextual drivers interact to shape sustainable procurement practices. The presence of legal drivers across different institutions-and particularly the role of foreign drivers-reflects Ghana's evolving

regulatory environment. Foreign drivers, for instance, highlighted institutional efforts to comply with international standards, serving as a powerful mechanism for integrating sustainable procurement into public procurement processes.

Moreover, the identification of institution-specific drivers spoke to the importance of context-sensitive strategies for promoting sustainable procurement adoption. For example, KBTH's demonstrated adaptability to technological change presents an opportunity to accelerate and enhance sustainable procurement practices. The hospital could leverage on this foundation and consider adopting other technological tools such as Digital Supplier Evaluation Platforms (DSEP), the use of artificial intelligence for procurement performance analytics, blockchain for transparency and traceability, and smart contract management systems to strengthen sustainable procurement implementation. Similarly, KATH's strong ethical foundation could be further harnessed through seminars and educational programmes to promote adherence to ethical principles in procurement. The study's findings—particularly those related to environmental protection, cultural sensitivity, resource conservation, health concerns, and cost efficiency—also reflect institutional contributions towards the achievement of various SDGs.

By highlighting how the interplay between shared and institution-specific drivers in shaping procurement practices aligned with sustainability principles, this study offers valuable insights for policymakers and hospital administrators. These insights can inform strategies to promote sustainable procurement in alignment with both national priorities and global sustainability objectives.

Limitations and recommendations

Despite the deeper and richer insight into drivers of sustainable procurement within the procurement landscape in hospitals in Ghana, the nature and design of this study render it susceptible to certain methodological, contextual, and scope-related limitations. The study was confined to only two hospitals, which are also the largest teaching hospitals in Ghana. The researchers acknowledge that the findings may not be generalisable to smaller facilities, particularly those providing primary and secondary healthcare. Another methodological limitation of the study is the reliance on self-reported data from workers, which may introduce bias into the findings. Respondents might have presented ideals rather than the realities on the ground. Furthermore, the data was limited to the personal knowledge and experiences of the participants, thus, may exclude drivers outside the knowledge and awareness of participants. Additionally, some of the contextual factors identified in the study may not have universal relevance or applicability.

Drawing from the findings and the above limitations, the following recommendations are proposed for policy, research, and practice. First, the authors suggest further investigation into the subject in healthcare facilities at lower levels of the service delivery structure. Such studies should focus on non-teaching hospitals, including regional and district hospitals, as well as polyclinics. A study involving private healthcare providers would also be useful, allowing for a comparison between profit-driven motives and sustainability considerations. We further recommend that future research explores the long-term viability of donor pressure as a specific foreign driver of sustainable procurement. Such investigations would be valuable given the transient nature of donor support, which may eventually diminish or cease altogether. It is, therefore, important to examine the implications for sustainable procurement in the case of cessation of donor support. For policy and practice, we recommend that future interventions address both universal drivers—such as cost efficiency—and context-specific factors, such as cultural alignment at KBTH or donor pressure at KATH.

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Author contributions

FAO-M conceived the idea of the study and collected and analyzed the data and wrote the manuscript. AA, BT, and T-MN were project supervisors. All authors contributed to reading, editing and approving the final version of the manuscript.

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Data availability

Transcripts used for analysis are available from the corresponding author upon request with the requirements of the Ethics Review Committee of University of Ghana, Ethics Review Committee of Korle-Bu Teaching Hospital and Review Committee of the Komfo Anokye Teaching Hospital.

Declarations

Ethical approval

Ethical standards of the relevant national and institutional committees on human experimentation and the Helsinki Declaration of 1975, as revised in 2008 were followed in all procedures. Ethical approval was obtained from the Ethics Review Committees of the Korle-Bu Teaching Hospital (KBTH) with protocol ID Number KBTH-STC 00071/2019, Komfo Anokye Teaching Hospital (KATH) with reference number CHRPE/AO/233/19 and the University of Ghana with Protocol Number ECH119/18–19. Participants also signed informed consent forms before data collection began.

AI declaration

AI, specifically Perplexity.ai, was used to aid in proofreading editing and improving the language of the paper.

Consent to participate

Not applicable.

Competing interests

The authors declare no competing interests.

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