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Exploring the challenges of sustainable procurement implementation: insights from Botswana's public sector

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Introduction: Sustainable procurement (SP) is increasingly recognized as a strategic tool for addressing environmental (e.g., carbon emissions, pollution), social (e.g., unemployment, discrimination), and economic (e.g., inequality, poor SME support) challenges in developing countries such as Botswana. Despite the public sector's significant purchasing power, persistent implementation barriers continue to limit the potential of SP, necessitating further investigation into these challenges.

Methods: This study explored SP implementation barriers from the perspective of procurement personnel. Data were collected through semi-structured interviews with 15 participants selected using convenience sampling. Thematic analysis was applied to identify key patterns and insights from the qualitative data.

Results: The study reveals three underexplored barriers in the SP literature: undue pressure from political leaders, ineffective government payment systems, and weak reporting channels. Five broader challenge domains emerged: resource constraints, policy constraints, monitoring and evaluation gaps, cultural resistance, and political interference. Notably, institutional barriers (policy, monitoring, cultural, and political) dominated, representing 7 out of 10 subthemes, whereas resource-related barriers accounted for only 3.

Discussion: The findings highlight systemic institutional vulnerabilities that hinder SP implementation, underscoring the need for governance reforms alongside financial and capacity-building investments. Proposed mitigation strategies include revising procurement policies, implementing modern e-payment systems, offering supplier incentives (e.g., tax breaks), improving reporting structures, and enhancing stakeholder collaboration. These insights provide a comparative baseline for future studies and inform policy reforms aimed at overcoming SP implementation barriers in Botswana.

KEYWORDS

sustainable procurement, challenges, public sector, sustainability and government

1 Introduction

The growing emphasis on sustainability and non-financial responsibilities has positioned sustainable procurement (SP) as a strategic priority for institutions aiming to gain a competitive edge in today's highly competitive environment. This shift is driven by increasing awareness of the UN Sustainable Development Goals (SDGs) 2030 and the role of corporate social responsibility (CSR) in shaping strategic objectives (Fatimah et al., 2020; van Wassenhove, 2019). The SDGs, comprising 17 goals and 169 targets, promote a balanced approach to

development by emphasizing the interconnectedness of economic growth, social well-being, and environmental sustainability (Wadhwani and Malpani, 2023; Abidi and Jamil, 2023). Sustainable procurement is regarded as an effective strategy for advancing the SDGs by integrating the pillars of sustainability into procurement practices (Cammarano et al., 2022). For purchasing and supply managers, demonstrating social and environmental responsibility across supply chains has become essential (Walker et al., 2012). SP involves acquiring goods and services that maximize value for money while minimizing environmental harm and considering social and environmental factors across the lifecycle (Leal Filho et al., 2019). By embedding these principles into procurement processes, organizations can promote resource efficiency, reduce waste, and enhance social well-being (Dauda et al., 2023). Consequently, governments can address citizen demands and pursue broader economic, environmental, and social goals through initiatives like sourcing from small and minority-owned businesses (Nyantakyi, 2018).

Globally, many countries have developed procurement policies to promote sustainability. In Northern Ireland, contracts must include at least 10% social value scoring (Department of Finance, 2022; PPN 01/21), while the U.S. prioritizes sustainable products through EPA ecolabel standards (Segal, 2023). Other examples include Scotland's Procurement Reform Act (2014), Canada's Sustainable Development Strategy, the EU Directive (2014), and Spain's Law 9/2017 (Telles and Ølykke, 2017; Bernal et al., 2019). In Africa, implementation has been slower, with only Cape Town and eThekwini having integrated green procurement into supply chains (Agyepong and Nhamo, 2017). Botswana's Public Procurement Act of 2021 emphasizes sustainability through Section 40(i), requiring social and environmental considerations, alongside programs like the Citizen Economic Empowerment and Economic Diversification Drive.

However, traditional procurement methods remain insufficient for addressing growing sustainability risks, particularly in large-scale projects (Yu and Shen, 2013). While the focus has shifted toward SP in public procurement (Brammer and Walker, 2011), progress differs widely, with industrialized nations advancing faster than developing economies like Botswana (Harland et al., 2019). Existing research has explored multiple SP dimensions—including social (Montalbán-Domingo et al., 2021), environmental (Ayarkwa et al., 2020), circular economy (Migliore et al., 2020), and green procurement (Zaman et al., 2024)—highlighting its broad applicability across sectors (Brammer and Walker, 2011; Etse et al., 2023; Boesen, 2024).

Despite SP's growing significance, implementation remains constrained in many developing nations (Oyewobi and Jimoh, 2022; Opoku-Mensah et al., 2024; Ortega Carrasco et al., 2025). While this research utilizes interview-based methodologies involving public sector procurement experts through convenience sampling which may constrain generalizability the qualitative framework offers profound insights into context-specific obstacles that quantitative surveys may fail to capture. African-specific challenges include low awareness, inadequate skills, and cost-driven practices (Awuzie and Emuze, 2016). While some studies examine SP barriers in Nigeria's public construction sector (Oyewobi and Jimoh, 2022) or Ghana's mining industry (Opoku-Mensah et al., 2024), these are either sector-specific or methodologically limited to questionnaires. Research on the Southern African Development Community (SADC) region has focused primarily on mining (Celestin et al., 2024), leaving broader public sector implementation underexplored. While Chari and Chiriseri (2014) identify common barriers to sustainable procurement in Southern Africa (Zimbabwe), Botswana's unique socio-economic and governance context indicates a divergent manifestation of these challenges. A significant contextual variation requiring in-depth analysis is the governance structure, with Zimbabwe employing a centralized system in contrast to Botswana's partially decentralized procurement approach. Notably, no study has comprehensively examined SP challenges within Botswana's public sector, despite its progressive policies and the need for context-specific solutions (Kuruneri and Zivanai, 2024; Botlhale, 2023).

This study addresses this critical gap by investigating the challenges of sustainable procurement in Botswana's public sector through the research question: What are the challenges facing SP implementation in Botswana's public sector? The research is particularly timely given public procurement's significant contributions to energy use and pollution (Agyepong and Nhamo, 2017; Roman, 2017), and the persistent challenges of integrating non-price factors like environmental and social value into evaluation criteria (Kumar, 2022). While international frameworks like the Paris Agreement push for sustainable operations, public organizations often lack motivation to adopt SP due to perceived cost increases (Behravesh et al., 2022), despite evidence of long-term benefits (Pullman et al., 2009; Zaidi et al., 2019).

The study makes several important contributions. First, it addresses the geographic imbalance in SP literature by focusing on Botswana in Southern African region, where research remains limited compared to West African nations or the global west. Second, it provides the first comprehensive analysis of Botswana's public sector SP challenges, offering insights for similar economies. Third, it examines implementation barriers across multiple sectors rather than focusing on a single industry. Finally, it generates policy-relevant findings to support Botswana's sustainable development goals and inclusive procurement initiatives.

The paper is structured as follows: Section 2 presents the theoretical framework and literature review, Section 3 outlines the methodology, Section 4 presents findings and discussion, and Section 5 concludes with key insights and implications for theory and practice.

2 Literature review

2.1 Sustainable procurement concept

The primary goal of traditional procurement is to acquire high-quality products, services, and work at the best price (Arrowsmith et al., 2011). This process requires evaluating product life cycle, compatibility, and longevity. Porter and Kramer (2018) argue that the definition should expand beyond cost-effectiveness to include positive economic and social impacts while minimizing environmental harm. Sustainable procurement (SP) focuses on acquiring cost-effective products and services that reduce environmental impact and promote social benefits (Bardhan, 2024). By considering long-term implications, organizations can achieve sustainability without compromising operational efficiency. SP policies help minimize waste, assess supply chain participants' social/environmental performance, promote eco-friendly products, and reduce carbon footprints through efficient transportation (Islam et al., 2017a, 2017b; dos Santos and da Cunha Reis, 2024; Benchekroun et al., 2024). They also foster effective

governance, strengthen society, and ensure operational security (Sönnichsen and Clement, 2020; Adebayo et al., 2024). Driven by pressure from funders, clients, and regulators, SP enables organizations to reduce risks, enhance reputation, and create long-term value. It ensures fair labor conditions, equitable compensation, and environmentally sustainable products while addressing socio-economic issues like inequality and poverty (Ojelabi and Okonta, 2023). Although SP is gaining traction, its direct financial impact remains inconclusive (Islam et al., 2017a, 2017b). However, studies suggest SP indirectly improves financial performance via enhanced non-financial outcomes. For example, a Kenyan study found economic and ecological procurement strategies boost organizational effectiveness, though they did not directly improve government operational performance (Muema, 2021).

Botswana's public sector has institutionalized sustainable procurement through legal and policy instruments, including Section 40(i) of the Public Procurement Act of 2021. This legislation explicitly requires procuring entities to integrate economic, environmental, and social factors into tender evaluations and procurement decisions. Public sector organizations including ministries, local governments, and parastatals are tasked with supporting sustainable procurement by promoting small and medium enterprises, marginalized individuals, and adherence to environmental standards. Sustainability is primarily driven by public procurement schemes such as the Local Procurement Scheme, Citizen Economic Empowerment, Economic Diversification Drive, and the Economic Inclusion Bill, though these are more focused on social and economic aspects. Despite the integration of sustainable procurement into policy, implementation across government institutions remains at an early stage. This gap between policy and practice makes Botswana's public sector a relevant setting for investigating the challenges of sustainable procurement implementation.

2.2 Previous research on barriers to sustainable procurement implementation

The existing literature provides substantial insights on SP implementation globally, particularly from developed nations. However, these barriers often differ in specific country contexts, necessitating examination within Botswana's framework. In Botswana, SP remains in its early stages despite its integration into the Public Procurement Act of 2021 and its emphasis in both the Citizen Economic Empowerment policy and Economic Diversification Drive. This section contextualizes current literature with Botswana's emerging public procurement reforms, highlighting both alignments and divergences between global findings and local realities.

2.3 Resource constraints

Resource limitations are widely cited as key barriers to sustainable procurement (SP) implementation. Nevertheless, the existing literature frequently assumes that these constraints are self-evident without conducting a thorough examination of their underlying causes or contextual variations. A lack of knowledge is often reported as a critical obstacle, both internal and external to organizations (Ogunsanya et al., 2022; Riadi and Machfudiyanto, 2023; Opoku-Mensah et al., 2024). A study by Kuruneri and Zivanai (2024) on social procurement reveals a lack of understanding of the concept, which is a key element of sustainable procurement. However, the assumption that knowledge deficits are the sole impediment to SP adoption oversimplifies a more intricate interplay of corporate culture, resistance to change, and leadership inertia. For example, while McMurray et al. (2014) and Abubakari et al. (2025) identified knowledge gaps as major hurdles, these studies do not explain why institutions with a better understanding of SP still struggle to integrate it—highlighting that knowledge alone is inadequate (cf. Mathiyazhagan and Haq, 2013; Abubakari et al., 2025).

The emphasis on training as a solution, though recurrent (Mendoza Jimenez et al., 2019; Ayarkwa et al., 2020), also warrants further examination. Most literature regards training as a common remedy but provides limited analysis of its delivery, assimilation, or organizational support. Furthermore, characterizing financial constraints as a general impediment may obscure critical differences between settings where insufficient financing reflects deeper structural or policy deficiencies (Islam and Siwar, 2013; Zaidi et al., 2019). For instance, while Zaidi et al. (2019) highlight cost as a limitation, they also hint that managerial priorities—especially post-COVID—now lean heavily towards cost-saving, raising questions about whether SP is viewed as unimportant rather than excessively costly. The persistent mention of poor e-procurement systems (Lukacs de Pereny Martens and Schwarz, 2024) reflects a technology-focused perspective that is often disconnected from organizational preparedness or political will. Although digital systems are critical enablers (Adjei-Bamfo et al., 2019; Adebayo et al., 2024), the notion that technological solutions alone will improve sustainable procurement overlooks the socio-political variables that influence acquisition practices in the public sector. In Botswana, the Government Accounting and Budgetary System (GABS) is consistently reported to be malfunctioning (Bwtechzone, 2025), delaying payments to suppliers—including small enterprises that are particularly sensitive to payment delays. Furthermore, procurement in Botswana is reported to prioritize price over value for money (Botlhale, 2017), making sustainable products less appealing.

2.4 Leadership and management constraints

Leadership is pivotal to the success of sustainability initiatives, as poor leadership or a lack of management support can hinder sustainable procurement (SP) implementation (Zaidi et al. 2019; Ershadi et al., 2021; Oyewobi and Jimoh, 2022). In contrast, research in Kenya's oil and gas sector found that management commitment positively influences SP execution (Murungi and Senelwa, 2019). This apparent contradiction reveals a gap in literature: although leadership is widely recognized as crucial, the mechanisms through which it affects SP adoption are not fully examined. Effective leaders with sustainability knowledge can help overcome SP challenges (Oyewobi and Jimoh, 2022), while a lack of leadership commitment negatively impacts SP budgets and resource allocation for training (Zaidi et al. 2019). However, attributing SP failures solely to leadership oversimplifies the complex interactions among leadership, organizational culture, and institutional support. In Botswana, despite recent procurement reforms, some procurement managers still report

to finance managers who prioritize cost savings over the total value of a purchase or, in the worst cases, to professionals with little or no understanding of procurement.

Additionally, transformational leadership has been shown to drive green innovation and procurement (Shah et al., 2020). Yet, several studies downplay the significance of leadership, arguing instead that the alignment of e-procurement systems with operational objectives may be more critical (Gunasekaran and Ngai, 2008). This reflects an ongoing debate regarding the relative impact of leadership on SP outcomes. Finally, government support also plays a critical role in SP success (Oyewobi and Jimoh, 2022; Shaikh et al., 2023), further contributing to the discourse on whether leadership or external support structures hold more weight in SP implementation.

2.5 Cultural constraints

Resistance to change, from both organizational and industry perspectives, is a key cultural barrier to adopting sustainable procurement (SP) (Mendoza Jimenez et al., 2019; Ayarkwa et al., 2020). This resistance is influenced by factors such as incentive structures (Ershadi et al., 2021), leadership (Riadi and Machfudiyanto, 2023), and prevailing attitudes (Agyekum et al., 2023). Organizational culture, shaped by environmental factors including national, regional, and industry norms, plays a significant role in this resistance (Tan et al., 2019). However, a significant portion of the literature treats resistance as an inherent trait, rather than examining the processes through which organizational principles are established, negotiated, or challenged. In Botswana, many procurement professionals remain reluctant to adopt sustainable procurement practices, particularly when financial constraints arise especially as the country faces challenges in diamond sales, its primary revenue source.

Leadership is critical in overcoming such barriers, as it shapes values and behaviors and influences the acceptance of concepts like SP (Tan et al., 2019). Incorporating stakeholder perspectives into corporate social responsibility (CSR) practices helps ensure alignment between organizational, sectoral, and national cultures (Adzimah et al., 2020). Nonetheless, CSR is often discussed without assessing whether it truly transforms corporate norms or merely reflects symbolic compliance. Furthermore, promoting awareness and fostering a sustainability-oriented culture within organizations can reduce resistance to change by helping employees understand the relevance and importance of sustainable procurement (Solomon et al., 2024). For instance, while training is a key strategy to address cultural barriers, the overemphasis on training as a universal remedy can obscure deeper systemic issues, including entrenched values, lack of meaningful incentives, and hierarchical inertia. That said, the lack of training is consistently identified as a major challenge in SP literature (Ayarkwa et al., 2020; Ershadi et al., 2021; Riadi and Machfudiyanto, 2023; Lukacs de Pereny Martens and Schwarz, 2024).

2.6 Regulatory and policy constraints

Regulatory and policy constraints are widely acknowledged in the literature, though they manifest in diverse ways. For example, barriers related to organizational structures (Ayarkwa et al., 2020; Agyekum et al., 2023), procedures, and controls (Ershadi et al., 2021) are often influenced by internal policies and regulations, posing substantial challenges to sustainable procurement (SP). Additionally, the absence of environmental sustainability regulations (Shaikh et al., 2023) and the lack of comprehensive regulatory frameworks (Gormly, 2014; Oyewobi and Jimoh, 2022; Hekmatsyar and Machfudiyanto, 2023) are also critical hurdles.

It is worth noting that only a limited number of studies rigorously evaluate whether these regulatory deficiencies stem from political stagnation, ineffective enforcement mechanisms, or divergent policy objectives. In some cases, policies and regulations exist but are inadequate to effectively drive SP (Ogunsanya et al., 2022; Kolawole and Idris, 2020; Riadi and Machfudiyanto, 2023). Conversely, in the European Union, despite robust policies and regulations, voluntary implementation remains a significant barrier (Varga and Hayday, 2023). This raises questions about the relative importance of regulatory presence versus regulatory enforcement. Botswana has implemented several procurement schemes such as the Economic Inclusion Act and local procurement programs that explicitly target the social, economic, and environmental dimensions of sustainability. However, it would be valuable to examine the barriers these policies face amid global challenges.

Furthermore, misalignment between procurement policies and national priorities has also been identified as a major issue (Ogunsanya et al., 2022). To address these challenges, scholars recommend that governments adopt environmentally friendly public procurement policies, noting that widespread acceptance and meaningful improvement require considerable time (Zaidi et al., 2019). Nevertheless, literature offers limited discourse on political or institutional resistance that may impede such alignment. Developing nations are encouraged to learn from advanced green procurement practices in wealthier countries, and cross-national collaboration has been proposed as a strategy to resolve policy misalignment (Oyewobi and Jimoh, 2022).

2.7 Communication and collaboration constraint

Factors hindering sustainable procurement (SP) often center on communication and stakeholder engagement issues. Ayarkwa et al. (2020) and Ershadi et al. (2021) highlight challenges in working with government agencies, which compromise SP integration and create relational and information-sharing difficulties (Agyekum et al., 2023). Internal and external teamwork problems further complicate collaboration (Ershadi et al., 2021; Shaikh et al., 2023). Tuffour et al. (2024) also identify challenges such as competing stakeholder interests, power imbalances, and communication barriers, including language differences. Although there is broad consensus about these obstacles, there is a paucity of critical analysis concerning the negotiation of stakeholder disputes, or if communication failures stem from structural, cultural, or leadership flaws. In Botswana, public procurement faces persistent collaboration and communication challenges that hinder its efficiency and effectiveness (Botlhale, 2017). However, Botlhale's study took a broader approach to public sector challenges rather than focusing specifically on sustainable procurement barriers. Additionally, while Botlhale employed content analysis, the current study utilizes interview-based methods, offering different methodological perspectives.

Additional barriers include a lack of environmentally friendly products, poor planning, negative perceptions of SP, inadequate incentives, and insufficient emphasis on SP. Insufficient monitoring and evaluation also appear as part of the obstacles of SP implementation, (Obicci, 2017; Zaidi et al., 2019). These concerns are often noted in literature, although seldom are they analyzed about their interrelations, origins, or the institutional mechanisms that perpetuate them. These issues are interconnected: for instance, poor training and an unresponsive culture contribute to a lack of knowledge, while strong leadership can drive training, change management, and e-procurement investment. This connection indicates the need for systemic analysis instead rather than addressing each obstacle in isolation. Addressing one barrier often indirectly mitigates others, underscoring the interdependent nature of these challenges.

Overall, existing scholarship highlights numerous constraints that hinder sustainable procurement implementation. Several of these barriers align with findings from related studies on Botswana's public procurement system.

2.8 Theoretical framework: resource based view and institutional theory

This study uses Resource-Based View (RBV) and Institutional Theory as lenses to examine the obstacles to sustainable procurement (SP) implementation within the public sector. The RBV posits that access to the right resources enables organizations to gain a competitive edge and improve performance (Barney, 1991; Slotegraaf et al., 2003; Vorhies and Morgan, 2005). It helps organizations develop dynamic capabilities and strategic plans to achieve long-term competitive advantage (Chen, 2008; Ismail et al., 2011; Inman et al., 2011). To deliver this advantage, resources—whether tangible or intangible—must be valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). The RBV characterizes resources as all assets, capabilities, organizational processes, firm attributes, information, and knowledge possessed by an organization that facilitate the formulation and execution of strategies to enhance efficiency and effectiveness (Barney, 2001). However, the RBV has been criticized for assuming that resource value is fixed and independent of context. This research seeks to address these shortcomings by examining how contextually embedded resources may paradoxically obstruct or undermine sustainable procurement.

This study investigates how resources intended to facilitate sustainable procurement in the public sector may, paradoxically, hinder its implementation. RBV provides an effective lens for analyzing how unique internal resources—such as knowledge, finance, infrastructure, skills, and reputation can also act as impediments to SP (Sarkis et al., 2010). This research critically applies the RBV to the public procurement sector, which is often overlooked in RBV literature, highlighting the dual role of internal capacities as both enablers and constraints. Using this perspective enables the study to recommend strategies for leveraging internal resources more effectively to implement sustainable procurement and achieve competitive advantage.

Lastly, the RBV is deemed an appropriate framework, as the reviewed literature indicates that several key obstacles to strategic planning and implementation in SP arise from internal resource limitations (Oyewobi and Jimoh, 2022; Lukacs de Pereny Martens and Schwarz, 2024).

2.9 Institutional theory

While the Resource-Based View (RBV) focuses on internal organizational factors, Institutional Theory emphasizes the external forces that shape organizational behavior (Meyer and Rowan, 1977). Institutional Theory explores how norms, culture, regulations, and stakeholder demands influence sustainable procurement (SP) practices—particularly through external factors such as industry standards, pressures for conformity, and regulatory mandates (Rogers, 1995; Terlaak and Gong, 2008). Studies have used this framework to identify barriers to SP and recommend institutional reforms (Leal Filho et al., 2019; Wang et al., 2020; Raj et al., 2020; Vejaratnam et al., 2023).

However, despite its widespread use, Institutional Theory has not been thoroughly applied to explain how external pressures interact with internal constraints—especially in resource-limited public sector environments. This research addresses this gap by integrating Institutional and Resource-Based perspectives.

DiMaggio and Powell (1983) identified three isomorphic pressures that influence organizational behavior:

1. *Coercive pressures*: These arise from entities upon which organizations depend for resources, such as governments or funding bodies. They enforce norms through regulations, incentives, or penalties and include demands from NGOs and advocacy groups for transparency and ethical conduct (Acquah et al., 2021).
2. *Normative pressures*: These relate to socio-cultural expectations that encourage alignment with sector-specific goals, such as citizen empowerment or environmentally responsible practices, often formalized through frameworks like the Public Procurement Act of 2021.
3. *Mimetic pressures*: These occur when organizations emulate successful SP models to gain legitimacy, enhance reputation, promote knowledge-sharing, and align with global initiatives such as Sustainable Development Goal (SDG) 17.

This study uses Institutional Theory to identify barriers to SP adoption and to explore ways of strengthening institutional frameworks and promoting collaborative practices. Institutional Theory is particularly relevant to this research because it provides a comprehensive lens through which to examine SP obstacles—by revealing how legislative requirements, normative expectations, and legitimacy-seeking behaviors shape organizational responses. Furthermore, the integration of this theory into the study allows for a critical examination of how external legitimacy-seeking behaviors can sometimes override internal efficiency objectives, thereby highlighting potential conflicts between compliance and strategic procurement.

3 Methodology

3.1 Research design

The research is qualitative in nature and adopts an interpretivist approach, allowing the researcher to gather high-quality information from procurement personnel on the challenges of sustainable procurement (SP). This design was chosen for several reasons: it supports the extraction of rich, in-depth insights into SP barriers from

participants' perspectives (Danek and Urgosikova, 2024), offers flexibility to accommodate emerging trends aligned with research objectives (Cloutier, 2024), and underscores the underlying reasons why certain barriers occur (Loraine et al., 2020).

3.2 Data collection method

Semi-structured interviews were employed as the primary data collection method, offering a flexible yet focused approach to explore participants' perspectives and enhance understanding of public sector challenges in sustainable procurement (Adeoye-Olatunde and Olenik, 2021; Al Balushi, 2016). This approach was particularly appropriate for investigating the intricate challenges of sustainable procurement (SP) in the public sector, as it facilitates in-depth discussions and allows for follow-up questioning. A convenience sampling strategy was used to recruit 15 participants representing diverse roles within procurement (e.g., managers, officers, policymakers). This sample size aligns with established qualitative research standards, where 12–20 interviews typically suffice to achieve thematic saturation (Vasileiou et al., 2018). While the total sample size may be relatively small, it aligns with qualitative research practices that prioritize quality over quantity, focusing on depth and the richness of insights into sustainable procurement barriers rather than just the number of participants. Thematic saturation was confirmed by the 13th interview, as subsequent interviews yielded no new themes; the final two interviews served to verify redundancy and reinforce data completeness. To accommodate participant accessibility, a mix of face-to-face and telephone interviews was conducted. The key questions of the interview focused on participants' understanding of SP, current implementation practices, obstacles faced, and awareness of SP regulations. By sharing interview questions three days in advance, we encouraged thoughtful contributions, thereby improving input quality. Each semi-structured interview lasted 15 to 45 min, was audio-recorded with participant consent, and transcribed verbatim for analysis.

3.3 Population and sampling

The study targeted procurement personnel employed by public sector organizations (PSOs) in Botswana. PSOs are defined as government-owned entities dedicated to delivering public services. Procurement personnel were selected as key stakeholders in implementing sustainable procurement (SP) during the tender preparation process, as outlined in Section 40(i) of the Public Procurement Act. These organizations include local governments, ministries, departments, parastatals, state enterprises, and agencies, all adhering to the Public Procurement Act's emphasis on sustainable procurement. The Public Sector Organization (PSO) representatives interviewed come from a diverse range of sectors, including health, infrastructure development (e.g., roadways and public buildings), education, communications, local governance, rural development, and trade. Each sector has distinct procurement needs and priorities that may influence how sustainable procurement practices are interpreted and implemented. However, all procurement activities across these sectors are governed by the Public Procurement Act. Participants held roles ranging from operational to strategic levels, including procurement officers, senior procurement officers, sourcing managers, procurement oversight managers, and procurement managers. Convenience sampling, a non-probability method based on participants' accessibility, availability, and willingness (Wienclaw, 2019), was used due to its practicality and common application in research (Zhao, 2020). Moreover, convenience sampling is efficient and cost-effective, making it suitable under resource constraints (Rivera, 2019). To enhance representation, stratified sampling was employed alongside convenience sampling. Participants were grouped into strata central government, local government, parastatals, and state enterprises to ensure inclusion of all organizations governed by the Public Procurement Act (Xiao et al., 2020).

3.4 Data analysis process

The interviews were audio-recorded and transcribed to ensure an accurate representation of participants' input and to facilitate analysis. Data validation was supported by departmental colleagues and experienced researchers, who helped resolve discrepancies and enhance the reliability and credibility of the findings. Member checking was conducted by sharing transcripts with participants to confirm accuracy, thereby improving credibility and facilitating researcher reflection and potential revisions (DeCino and Waalkes, 2019). This technique enabled participants to verify that the data accurately captured their views and experiences (Vella, 2024) and provided an opportunity to identify and correct any inaccuracies or misinterpretations in the transcripts or analysis (DeCino and Waalkes, 2019). In addition to ensuring validity, member checking encouraged constructive feedback and deeper engagement through continued dialogue (Sahakyan, 2023). It also contributed to reducing potential researcher bias and addressing power dynamics by actively involving participants in the interpretive process (Sahakyan, 2023).

Furthermore, a reflective journal was maintained to promote reflexivity, document decisions, and uphold research integrity by critically evaluating actions from moral, ethical, and social perspectives (Sparkes, 2015). Data were analyzed using thematic analysis, a widely used method for identifying patterns and themes in qualitative data and particularly suitable for uncovering meaning (Jason and Glenwick, 2016). The analysis followed the six steps outlined by Jason and Glenwick (2016) as follows:

Stage 1: Immersion with data—The researcher engaged in deep immersion by transcribing the interviews and thoroughly reviewing the transcripts multiple times to ensure familiarity with the content. During this phase, the researcher maintained a reflective journal to capture early impressions, potential biases and crucial analytical decisions which improved transparency and reflexivity during the analysis process.

Stage 2: Generating initial codes—After familiarizing the data, initial codes were formulated deductively, guided by the Resource-Based View (RBV) and Institutional Theory adopted in the study. These frameworks informed the coding process, enabling the researchers to identify patterns related to internal resource constraints and external institutional pressures, while also noting any emerging themes. To enhance credibility and reliability, a peer review was conducted with fellow researchers from the college's business department, who assessed a sample of transcripts and provided feedback on the coding process. Any discrepancies were discussed and resolved collaboratively. A

structured coding matrix was utilized to align codes with the theoretical frameworks, systematically organizing and documenting them to ensure transparency and traceability in the analytical process.

Stage 3: Searching for themes—Following the coding process, similar codes were grouped together to develop preliminary themes. Codes were organized using a thematic coding matrix designed to map connections and overlapping concepts. Any outlier data and codes that did not align into established themes were thoroughly reviewed and captured to avoid overlooking crucial insights from the data.

Stage 4: Reviewing themes—Emerging themes were reviewed for consistency, coherence, and alignment with the coded data. The themes were verified through cross-checking against the raw transcripts to ensure they accurately represented participants' voices. Furthermore, peer debriefing with academic researchers within the college was conducted to strengthen the validity of the thematic structure.

Stage 5: Defining and naming themes—Each theme was clearly defined and refined to capture its core meaning and relevance to the research question. The definitions were collaboratively evaluated with peers to ensure accuracy and coherence, with final theme labels selected to best reflect the core concepts.

Stage 6: Report writing—Once the themes were finalized and interrelationships established, findings were written up and interpreted. Transcripts were shared with participants through member checking to ensure validity and enhance the study's trustworthiness by addressing any discrepancies. Furthermore, a reflective journal was maintained during the analysis process to monitor the researcher's positionality, mitigate bias, and support ethically sound decision-making.

The six outlined steps provided a clear structure for analyzing the data, enabling the identification and reporting of sustainable procurement (SP) barriers from the perspective of procurement officers.

4 Results

This study aims to identify the barriers that undermine sustainable procurement implementation in the public sector and 10 barriers which fall into five main themes (resources, policy, monitoring and evaluation, culture and undue pressure) have been revealed by the study. Supplementary Table 1 outlines the five thematic areas unveiled by the study and the 10 subthemes which are either internal or external of the organization.

4.1 Resources constraints

Resource constraints emerged as a prominent theme from the data, manifested in three key challenges: cost implications, knowledge gaps, and an unreliable payment system. As outlined in Supplementary Table 1, these represent internal challenges faced by the government in implementing sustainable procurement (SP).

4.1.1 Cost implications

Many participants highlighted the high cost of eco-friendly products as a major barrier to their purchase, citing prices that often exceed budgetary limits. This theme is illustrated by the following extracts:

> *In terms of resources, they are not enough since most of these green products are expensive. P4.*

> *We wanted to buy solar lights, and we ended up suspending the purchase since the cost was high. P5.*

Another participant noted a preference for cheaper, readily available conventional products over costly green alternatives, as reflected in the following excerpts:

> *I would say sustainable products prices are high so most departments would say our budget is tight so they opt for what they can afford in the market. P1.*

In a nutshell, participants perceive the green products to be expensive in light with the limited budget they are allocated.

4.1.2 Knowledge gap

Participants identified a lack of knowledge about sustainable procurement as a key resource-related barrier, highlighting a limited understanding among procurement professionals and their superiors. Participants revealed that, in some instances, critical players involved in SP implementation lack relevant information about the concept, which negatively affects their attitudes and perceptions toward SP practices. The following extracts support this theme:

> *There is also a lack of information on sustainable procurement, it's not like SP is out there, people do not know it… P2.*

> *In terms of education, I don't think we are there, people don't know what SP all is about. What I know about SP is what I have read about it. P10.*

Additionally, another participant explained that the lack of knowledge is also evident within the communities they serve or purchase from.

> *I think the challenge is lack of knowledge, most people don't know about the concept of SP, especially in communities. P4.*

The extracts indicate that they lack knowledge about SP from key internal stakeholders and external stakeholders.

4.1.3 Inefficient payment systems

Participants highlighted the government's inefficient payment system as a barrier to sustainable procurement, citing its negative impact on SME cash flow and the resulting strain on relationships with suppliers. This theme was consistent among all participants who used the Government Accounting and Budgeting System (GABS) and were affiliated with local government and parent ministries. Notably, this challenge is less commonly addressed in existing literature, underscoring its contextual significance. This theme is supported by the following excerpts:

> *But the biggest challenge we have is the government Accounting and Budgeting Systems (GABS), most of the time we are unable to pay on time because the system is always down and the payment for suppliers is now taking long. P12.*

> *The fact is that we have a government system that has not been working for a year now. Procurement is not done on time, and it's*

> *not conducted efficiently as it should be because of the system not working. P8.*

The extracts highlight the disruptions caused by the unreliable GABS, which hampers the supply chain and undermines sustainability efforts.

4.2 Policy constraints

Policy constraints emerged as a strong theme, supported by sub-themes including lack of management support, inadequate policies, and poor procurement reporting lines. Participants noted that although the policy framework formally supports sustainable procurement, management has not proactively embraced the concept. Furthermore, the policy is seen as inadequate due to its heavy emphasis on social and economic aspects at the expense of environmental considerations. Finally, the hierarchical structure where procurement professionals report to non-procurement personnel or finance departments further undermines effective sustainable procurement practices. These sub-themes are discussed in detail below.

4.2.1 Lack of management support

Procurement professionals expressed frustration over management's lack of support, noting that while management claims commitment to sustainability, they are unwilling to bear its costs and demonstrate a limited understanding of the concept. This theme is illustrated by the following extracts:

> *Not yet enough support for such initiatives, if I come as procurement personnel and propose something that is environmentally friendly yet expensive, there will be talk about why I am buying something that is expensive. P4.*

> *The support is very low, sustainable procurement must get a buy in from the top. Not sure if it's an issue of education, because people are not well informed on the issue of sustainability. P10.*

The excerpts suggest that management's lack of support stems from a limited understanding of sustainability and the perceived high cost of eco-friendly products. One participant noted that this lack of support is reflected in decisions that contradict sustainability principles, such as failing to empower local suppliers. This theme is further reinforced by the following:

> *For example, we hosted an event in June and during this activity there was an issue of limited funds, and my supervisors opted for us to cook for ourselves rather outsource such an activity since cooking is not our core activity. P8.*

The highlighted extracts indicate that indeed management support for sustainable procurement is lacking.

4.2.2 Inadequate policies

Participants highlighted that the Procurement Act and its regulations prioritize the economic and social aspects of sustainable procurement over environmental considerations, thereby hindering progress toward environmental sustainability. They noted that guidance on environmental issues often comes from the Ministry of Environment, while the Act primarily addresses social and economic aspects. This theme is reinforced by the following statements:

> *For now, there is no point of reference to guided environmental aspects, a lot is left for the environmental unit to guide on this area and teach people but in terms guidance it's not clear. P10.*

> *There is little that is being said or implemented or applied in terms of environmental awareness and I think even in the new act it's more into social and economic than environmental. P8.*

> *In terms of the public procurement act, I don't think it's enough except that in our tenders there is a part where safety and health environment (SHE) and environmental impact assessment (EIA) are addressed not sure if they fall under environmental sustainability. We have a ministry responsible for the environment in which we pick issues of environment from. P13.*

Participants noted that the Procurement Act lacks a clear reference for the environmental aspect of sustainability, with guidance typically drawn from documents issued by other departments, such as the Ministry of Environment.

4.2.3 Poor procurement reporting channels

Participants criticized poor reporting channels that hinder their efforts to promote sustainability through procurement, noting that they report to individuals who are either not procurement professionals or who prioritize cost savings over sustainability. This represents one of the novel themes emerging from this study, underscoring structural challenges within the reporting hierarchy. This theme is highlighted in the following statements:

> *I am being supervised by a Chief Admin, that person is already out of the procurement profession, the person has little awareness/knowledge of procurement and that create a whole new barriers and it takes time for that person to learn procurement principles/culture and these are people that are in the leadership position and it's going to take long time for the procurement principles to reach to lower level from them. P8.*

> *Procurement reports to finance and one of the things that can make improvements is when procurement began to report directly to the CEO as finance people tend to focus more on cost saving. P7.*

Participants noted that when external stakeholder standards are clear, they have less difficulty gaining buy-in from leaders and supervisors, despite the costs associated with sustainable procurement practices. This is reinforced by the following statement:

> *When you tell them that this thing is disposed of in this way, they tell you a different issue. At least the buyers forced us to comply with their standards in terms of disposal strategies to satisfy EU standards as our clients. In most cases we struggle with situations where leaders focus more on cost cutting. P7.*

The statements highlight how internal government structures hinder efforts to advance sustainable procurement.

4.3 Monitoring and evaluation constraints

This is one of the strong themes that emerged from the data through poor monitoring and evaluation and poor implementation of sustainable procurement practices.

4.3.1 Poor monitoring and evaluation

Monitoring and evaluation constraints emerged as a consistent theme, with participants noting that sustainable procurement practices are only partially monitored, often neglecting the environmental aspects. This theme is emphasized in the following extracts:

> *We simply align our report to what the committee requires, mostly the social aspects. P9.*
>
> *There is no monitoring of environmental initiatives, there is no documentation to support that these initiatives are executed and there is no evidence that can be presented. P4.*

Another participant noted that monitoring and evaluation are delegated to project managers, who often do not follow up to assess sustainable performance. This is emphasized in the following statement:

> *Yes, the monitoring and evaluation does go with it and we leave it to the project contracts managers to enforce that. P3.*

Participants indicated that monitoring and evaluation of sustainable procurement are ineffective in the public sector.

4.3.2 Poor implementation

Some participants acknowledged that while policies are strong, the main challenge lies in their implementation. They attributed this to the limited capacity of key stakeholders responsible for executing the policies. This theme is emphasized in the following statements:

> *Our challenges come with policy implementation. Our government has not yet recognized that the human resources that drive objectives of government need to be equipped or capacitated to implement the policies. P13.*
>
> *To be honest, on paper yes, we do talk a lot about these issues, where I am particularly there has been a minimal attempt to do workshop on sustainable procurement. You would be surprised if told you that even after the new public procurement act, we haven't been into any workshop at all except for a few online sessions which are less effective compared to face to face. P8.*

The above extracts illustrate how the results are linked to other constraints, such as the lack of knowledge, which undermines the government's efforts.

4.4 Culture constraints

Cultural constraints, particularly resistance to change, emerged as a key theme, reflecting the challenges within the public sector culture that hinder the adoption of sustainable procurement.

4.4.1 Change resistance

The public sector remains entrenched in conventional procurement practices focused on price rather than total cost of ownership. Participants explained that sustainable procurement is largely rejected due to its perceived cost and a lack of understanding among users and leaders critical to its implementation. This is illustrated in the following statements:

> *If I propose something that is environmentally friendly yet expensive there will be talk about why am buying something that is expensive. There is resistance to change towards green initiatives on that basis. P4.*
>
> *It's still difficult for them to understand or grasp that the time is now, and they are still resistant to change to sustainable procurement. P11.*

Another participant noted that resistance to sustainable procurement stems from a fear of change and moving away from established practices. This theme is reinforced in the following extract:

> *There is the issue of change resistance due to fear of the unknown, it is one of the things that is an obstacle to* SP. *P9.*

These excerpts reveal that resistance to sustainable procurement in the public sector stems from limited understanding, cost concerns, and fear of the unknown.

4.5 Political constraints

The political theme emerged consistently in the data, with participants noting that undue external pressure primarily from senior politically appointed leaders hinders their ability to achieve sustainable value through procurement. These leaders tend to prioritize cost-cutting and are often unwilling to accept the short-term cost implications associated with sustainable procurement.

4.5.1 Undue external influence

Participants explained that their efforts to promote sustainability are often undermined by leaders who issue directives that contradict sustainable procurement principles. They further noted that fear of victimization compels them to comply with such unreasonable instructions, despite their misalignment with sustainability goals. This represents another novel theme identified in this study, highlighting the negative external influence of hierarchical power dynamics. The following extracts emphasize this issue:

> *Failure to apply the instruction from the supervisors constitutes insubordination. It doesn't matter what you have disobeyed, and you will be persecuted. P11.*

> *One of the things that limit us is bureaucracy and hierarchy, starting from the politician to the permanent secretary or CEOs of parastatals they still can't lose hold of the budget they still want to control the procurement. P7.*

One participant noted that undue influence can also come from heads of other departments, who seek to have unreasonable say in procurement decisions rather than contributing to the strategy set by procurement professionals. The following quotes reinforce this theme:

One participant noted that undue influence can also originate from heads of other departments, who attempt to exert unreasonable control over procurement decisions rather than supporting the strategic direction led by procurement professionals. This interference undermines professional autonomy and weakens sustainable procurement efforts. The following quotes reinforce this theme:

> *The other challenge is a lot of interferences from other departments; they interfere too much with procurement.*

The undue pressure from both internal and external forces compromises the achievement of economic, social, and environmental goals in procurement, with these forces prioritizing their own interests over procurement objectives. In summary, as shown in Supplementary Table 1, most challenges to sustainable procurement are internal and within the government's control, while a few, such as negative external influence, are external barriers.

5 Discussion of results

This study aims to identify the challenges of sustainable procurement implementation in the public sector, and it reveals five major themes: resources, policy, monitoring and evaluation, culture, and political constraints, as well as a total of 10 subthemes, which are mostly internal factors and a few external factors, as outlined in Supplementary Table 1.

5.1 Resources

This study challenges the Resource-Based View (RBV), which posits that unique resources provide a competitive advantage. Instead, it reveals that resource constraints such as high costs, knowledge gaps, and delayed payments act as barriers to sustainable procurement (SP), particularly in the public sector. This suggests that RBV may have limited applicability when resource availability is shaped by bureaucratic and political processes rather than strategic intent. The study shows that procurement professionals often avoid eco-friendly products because they are perceived as costly by supervisors and budget holders. This finding aligns with Opoku-Mensah et al. (2024) and Lukacs de Pereny Martens and Schwarz (2024), who also found that cost is a major factor compromising SP implementation in organizations. However, framing cost as a barrier may obscure the role of short-term budget cycles and political pressure in limiting long-term investment in SP initiatives. Studies by Peprah et al. (2016) and Digalwar et al. (2020) argue that these costs are often short-lived, suggesting that capacity-building is needed to shift perceptions toward long-term value. A persistent knowledge gap among stakeholders further hinders SP, as emphasized by participants. This is consistent with Ogunsanya et al. (2022), Riadi and Machfudiyanto (2023), and Opoku-Mensah et al. (2024), who link inadequate awareness to poor training while also highlighting deeper structural issues such as a lack of incentives and weak management support. Though knowledge is important (Grandia and Voncken, 2019), it is noteworthy that organizations with strong leadership commitment can implement sustainable practices even in the face of knowledge gaps (Amann et al., 2014).

The study also identifies an unreliable government payment system as a major internal challenge to sustainable procurement (SP) in Botswana's public sector. This novel finding underscores the importance of context-specific research. The ineffective payment system appears to stem from weak infrastructure, further compounded by the government's slow recovery from COVID-19-related financial disruptions and ongoing declines in diamond sales. Delayed payments to SMEs create significant cash flow problems, erode supplier trust, hinder long-term collaboration, and threaten the financial viability of local businesses. This finding extends the Resource-Based View (RBV) by showing how a dysfunctional financial system undermines valuable internal resources such as supplier relationships and operational efficiency that are essential for achieving sustainable procurement outcomes.

While prior studies (e.g., Adebayo et al., 2024) have recommended technological upgrades, this research argues that payment inefficiencies reflect deeper institutional weaknesses, including bureaucratic inertia, poor accountability, and weak financial governance. Thus, technical fixes alone are insufficient. What is needed is a comprehensive structural transformation involving streamlined financial procedures, transparent accountability systems, and strong policy enforcement. Without such reforms, the government's inclusive and sustainable procurement goals risk remaining rhetorical rather than actionable (Preuss, 2009; Walker and Brammer, 2009). This insight challenges the prevailing assumption that institutional reform alone is sufficient to drive SP and highlights the practical implications of internal capability deficits.

5.2 Policy constraints

The study identifies policy-related barriers that reflect institutional theory's emphasis on how formal rules and informal norms shape organizational behavior. Although procurement regulations exist, the findings reveal a significant implementation gap, highlighting major discrepancies between planned policies and actual practices. Participants noted that procurement policies are often ambiguous, unevenly enforced, or poorly understood across the public sector. A key constraint is the lack of leadership support senior management's continued preference for price-focused approaches undermines the adoption of sustainable procurement (SP). This finding aligns with Ershadi et al. (2021), Oyewobi and Jimoh (2022), and Hekmatsyar and Machfudiyanto (2023). However, the current study reveals that in Botswana's resource-constrained public sector, this barrier is further

exacerbated by rigid budgetary controls and the absence of clear sustainability performance metrics.

While Gunasekaran and Ngai (2008) emphasize technological factors as primary drivers, participants in this study noted that leadership inertia, rather than lack of digital systems, was a more immediate barrier. This divergence becomes particularly prominent in developing economies, where weaker institutional support systems heighten their dependence on managerial decision-making. Botswana's procurement regulations demonstrate biased institutionalization of some elements of sustainability, emphasizing social and economic sustainability while environmental aspects remain advisory. Study findings show that this imbalance leads procurement officers to deprioritize environmental criteria, viewing them as non-essential in evaluation processes. While Shaikh et al. (2023) identify similar regulatory gaps, participants in this study described how these gaps compel them to seek external guidance, creating inconsistency in how SP is interpreted and applied across institutions. The expected synergy between social and environmental sustainability (Prieto et al., 2022) fails to emerge when policy instruments remain uncodified.

Structural misalignments in reporting channels present a critical and uncommon barrier revealed by this study. Despite the reform-driven intent of the 2021 Public Procurement Act, the continued practice of procurement officers reporting to finance departments illustrates organizational resistance to change where new policies coexist with entrenched legacy structures. This finding uniquely highlights how outdated internal hierarchies persist despite regulatory progress, extending the work of Hsueh et al. (2020) by demonstrating how emerging economies struggle to dismantle historically cost-driven governance models. The subordination of procurement under finance reflects an institutional logic that prioritizes short-term budget compliance over long-term sustainability outcomes. Notably, this theme was consistently observed among state enterprises and parastatal representatives. Together, these insights expose a persistent policy–practice gap, in which formal regulatory reforms outpace organizational readiness and structural adaptation. The findings suggest that advancing sustainable procurement requires more than policy reform, it demands leadership transformation, active regulatory enforcement, and structural realignment of procurement reporting lines, particularly in public sector environments characterized by slow institutional evolution.

5.3 Poor implementation, monitoring and evaluation

The study identifies significant shortcomings in the implementation, monitoring, and evaluation (M&E) of sustainable procurement practices, reinforcing Institutional Theory's premise that organizational outcomes are shaped by both formal and informal institutional structures. These results not only validate previous academic studies on implementation issues (Obicci, 2017) and M&E limitations (Zaidi et al., 2019), but also highlight a deeper institutional mismatch unique to emerging economy contexts. The research demonstrates that sustainable procurement evaluation in Botswana remains fragmented, with project teams disproportionately emphasizing social sustainability, while procurement teams focus narrowly on tender design integration. This operational contradiction exposes major shortcomings across the dimensions of institutional isomorphism: the regulative (lack of uniform measurements), normative (absence of cross-functional responsibility), and cognitive (divergent interpretations of sustainability). The research makes two notable theoretical contributions. First, it highlights how the delegation of M&E activities to project teams reflects a form of institutional decoupling, where sustainability is treated as a project-specific afterthought rather than embedded as a core organizational objective. This study challenges notions in sustainable procurement literature regarding the natural dissemination of sustainability ideals across organizational units. Second, the study demonstrates that Botswana's comparatively strong emphasis on social and economic sustainability has unwittingly produced an institutional blind hole, where environmental component remains undeveloped in assessment frameworks.

When compared to established sustainable procurement systems (e.g., EU Green Public Procurement), Botswana's experience underscores the limitations of policy transfer without corresponding institutional capacity development. The persistent gap between formal policy goals and practical implementation suggests that developing economies require context-specific approaches that address both structural constraints (e.g., limited resources) and cognitive challenges (e.g., varied understandings of sustainability). Practical efforts should focus on creating integrated evaluation frameworks that bridge procurement and project teams, while leveraging Botswana's current strengths in social sustainability as a foundation for broader, more balanced assessments.

5.4 Cultural constraints

A consistent theme in the study was resistance to change, with participants noting that user departments and management preferred conventional procurement practices. While Institutional Theory suggests that change occurs due to external pressures, this study highlights how internal procurement routines resist external influences, such as procurement regulations and industry best practices. This aligns with findings by Mendoza Jimenez et al. (2019) and Ayarkwa et al. (2020), who noted that resistance to change undermines sustainable procurement across public and private sectors. Resistance in this context is further compounded by poor reporting structures, where procurement teams report to finance staff who lack procurement expertise. This, combined with the perception of sustainable procurement as costly, leads to resistance from both users and management. Consequently, a pattern of organizational inertia emerges, whereby entrenched norms and misaligned power structures obstruct transformation, irrespective of external regulatory pressures. This indicates that change attempts based only on regulatory reform may be inadequate if they do not address informal power dynamics and entrenched beliefs within institutions. To address this, the public sector must foster a cultural shift at all levels. Short training programs and awareness campaigns can help promote the value of sustainable procurement. Additionally, strict adherence to the revised procurement act, which mandates reporting to an oversight

procurement manager, must be ensured and closely monitored. Nonetheless, in the absence of simultaneous investment in internal capabilities and the restructuring of reporting relationships, compliance risks may be symbolic rather than reflecting the authentic change desired.

5.5 Political constraints

Participants identified undue pressure from external forces, particularly politicians, as a major and uncommonly discussed barrier in the existing literature, yet one that significantly hinders the implementation of sustainable procurement. This theme reflects coercive institutional isomorphism, where external pressures shape internal practices, often undermining sustainability objectives. This finding aligns with Vluggen et al. (2019), who noted that political interference hampers sustainable procurement in the Dutch public sector. However, unlike Vluggen et al., the current study notes that politically appointed stakeholders, such as permanent secretaries, further exacerbate the issue by prioritizing short-term political goals. This prioritization reveals a conflict between political cycles and sustainability goals, exposing a fundamental incompatibility between short-term oriented governance and long-term focused procurement reform. Unlike Zaidi et al. (2019), who emphasized the role of local communities and suppliers, this study identifies senior political stakeholders as primary disruptors. Moreover, while governance pressure often propels sustainability initiatives, it does not inherently enhance economic performance, revealing a disjunction between sustainability policy discussions and actual procurement results. This prompts inquiries into the authenticity of present governance arrangements in facilitating actual empowerment versus serving as mere symbolism. Enhancing these structures would protect procurement officers from undue political interference, enabling ethical, regulation-based decision-making free from fear of victimization. Targeted training for decision-makers, including politicians and permanent secretaries, is essential to improve their understanding of sustainability's value and promote alignment with sustainable procurement practices. Nonetheless, such training must be coupled with effective accountability procedures; otherwise, political players may persist in using procurement for strategic or personal advantage.

6 Conclusion

Growing interest in sustainable procurement stems from its potential to address environmental, social, and economic challenges in developing countries like Botswana. However, despite its promise and some progress, SP implementation in Botswana continues to face significant barriers that limit its developmental impact. This study explored these challenges within the public sector and proposed strategies to address them. Notably, the research contributes to theory by identifying three underexplored barriers: ineffective payment systems, undue political pressure from appointed leaders and misaligned reporting channels, which are largely absent from existing literature. These findings highlight how entrenched institutional dynamics can obstruct sustainable procurement, emphasizing the need for context-specific research. Alongside these unique insights, the study also confirms commonly reported obstacles such as lack of knowledge, inadequate policy frameworks, resistance to change, poor monitoring and evaluation, rising costs, and limited management support. Together, these findings inform both policy and practice, reinforcing the necessity for institutional reform, capacity-building, and leadership engagement to advance sustainable procurement in similar contexts.

Decision-makers should integrate sustainable practices into procurement processes, aligning with national sustainability goals and acknowledging their cost implications. This directly addresses the observation that both user departments and management often resist change due to perceived high costs and limited understanding. Given the emphasis of the research on professionals engaged in public sector procurement, the recommendations are principally directed towards governmental institutions and agencies. Subsequent interventions ought to be customized to align with the circumstances described by these professionals. The necessity for effective leadership within public institutions is imperative in order to champion the implementation of standardized sustainable procurement policies. This includes embedding environmental and social sustainability provisions within the Public Procurement Act and associated regulations. However, these efforts need to be supported by clear, standardized implementation guidelines and accountability mechanisms, such as monthly reports addressing all pillars of sustainability, especially in light of the research's findings on inconsistent enforcement and weak reporting systems. For the supplier community, addressing persistent barriers such as inefficient payment systems can enhance cash flow, support business continuity, and foster entrepreneurship, particularly among small and medium enterprises (SMEs). Although the study did not interview other stakeholders such as suppliers, the procurement professionals' input highlights the significance of an effective payment system to allow suppliers to deliver on sustainable objectives.

In addressing the knowledge gap in SP reporting and evaluation, capacity building is also essential. Offering short-term targeted training programs for procurement personnel within the public sector is vital to deepen their knowledge of sustainable procurement principles. This is especially relevant considering findings on limited technical proficiency and the marginalization of procurement units within institutional hierarchies. The capacity-building training can go beyond procurement regulations and focus on issues of sustainability tracking, evaluation, and reporting. Additionally, community awareness initiatives on sustainable procurement should be piloted and assessed in partnership with public institutions to improve their effect and encourage sector-wide behavioral change. However, as the study's sample demonstrates, such interventions should be attentive to the environment and in line with the unique institutional and cultural dynamics of Botswana's public sector.

The study advances both the Institutional Theory and the Resource-Based View (RBV) by demonstrating how internal institutional and resource-related factors influence sustainable procurement within the public sector. While the RBV theory is premised on the availability of distinctive resources such as finances, systems, human resources, and machines, this study

highlights that the impact or effectiveness of these resources also depends greatly on institutional structure or alignment. Similarly, the study contributes to Institutional Theory by underscoring how misaligned reporting lines and institutional decoupling can derail sustainable procurement practices despite procurement reforms. The study reveals three uncommon barriers undue political influence, ineffective government payment system and poor reporting lines demonstrating how external power structures and organizational hierarchies undermine policy objectives. These insights highlight the shortfalls of presuming that formal policies alone can propel sustainable procurement practices without supportive organizational structures and a receptive culture. Furthermore, by underscoring how environmental aspects remain less institutionalized compared to social and economic dimensions, the study challenges the general assumption of uniform adoption of sustainability pillars. In summary, the results underscore the need for deeper incorporation of context-specific factors into both RBV and Institutional Theory to accurately represent the reality of public procurement systems in developing countries.

The study recommends that the government of Botswana adopt several strategies to enhance sustainable procurement implementation in the public sector. First, the government should review the Public Procurement Act to incorporate environmental criteria alongside social and economic dimensions. It should also create a centralized database of sustainable procurement companies, incentivizing them through tax breaks, grants, and long-term contracts. The study also recommends that the public sector invest in reliable e-payment infrastructure to address inefficiencies and stabilize supplier cash flow, especially for SMEs. Benchmarking with countries like China, the UK, and South Africa can offer insights. Furthermore, vendors actively promoting sustainability should be recognized and motivated through awards and certificates of excellence, which they can use to gain an advantage when bidding for public tenders. The study also recommends capacity development to address the lack of knowledge by offering short- and medium-term training for procurement professionals, decision-makers, and consumers to prioritize sustainable products and services within the public sector supply chain. Additionally, the public sector, in partnership with various stakeholders, should establish platforms for knowledge sharing, such as online forums, cross-functional communities, and webinars focused on sustainable procurement strategies. The public sector should also redefine procurement reporting lines to ensure that procurement professionals report to procurement directors rather than the finance department, which tends to focus on cost-cutting.

Like many studies, this research has its limitations despite employing strategies to mitigate its weaknesses. Firstly, the use of convenience sampling limits the generalizability of the findings to other sectors. Future research could address this by adopting a probability sampling method approach such as systematic or cluster sampling or a mixed method approach to validate and further explore this insight. Secondly, while the study managed its small sample size effectively to ensure data quality, replication with a larger sample size is recommended. Expanding the study to include the private sector in Botswana could also provide more comprehensive insights. Furthermore, future studies could explore barriers from a multi-stakeholder perspective and analyze the correlations between these barriers.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Department of Research and Knowledge Business. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

JK: Writing – original draft, Writing – review & editing, Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization.

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The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author declares that no Gen AI was used in the creation of this manuscript.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/frsus.2025.1645902/full#supplementary-material

References

Abidi, S. A., and Jamil, M. (2023). Examining progress on sustainable development goals across regions through an intertemporal lens. *J. Policy Res.* 9, 85–94. doi: 10.61506/02.00011

Abubakari, M., Mkandawire, T., Mbewe, P., Ramadan, O. K., and Paul, Z. (2025). "Challenges of sustainable procurement practices in Northern Ghana" in Development and investment in infrastructure in developing countries: a 10-year reflection. (Abingdon: CRC Press), 262–270.

Acquah, I. S. K., Essel, D., Baah, C., Agyabeng-Mensah, Y., and Afum, E. (2021). Investigating the efficacy of isomorphic pressures on the adoption of green manufacturing practices and its influence on organizational legitimacy and financial performance. *J. Manuf. Technol. Manag.* 32, 1399–1420. doi: 10.1108/JMTM-10-2020-0404

Adebayo, V. I., Paul, P. O., and Eyo-Udo, N. L. (2024). Sustainable procurement practices: balancing compliance, ethics, and cost-effectiveness. *GSC Adv. Res. Rev.* 20, 098–107. doi: 10.30574/gscarr.2024.20.1.0247

Adeoye-Olatunde, O. A., and Olenik, N. L. (2021). Research and scholarly methods: semi-structured interviews. *J. Am. Coll. Clin. Pharm.* 4, 1358–1367. doi: 10.1002/jac5.1441

Adjei-Bamfo, P., Maloreh-Nyamekye, T., and Ahenkan, A. (2019). The role of e-government in sustainable public procurement in developing countries: A systematic literature review. *Resources, Conservation and Recycling*, 142, 189–203.

Adzimah, E. D., Lei, L., and Ishawu, M. (2020). Organisational culture influences on corporate social responsibility and sustainable procurement in a service sector industry. *J. Psychol. Afr.* 30, 390–396. doi: 10.1080/14330237.2020.1821309

Agyekum, A. K., Fugar, F. D. K., Agyekum, K., Akomea-Frimpong, I., and Pittri, H. (2023). Barriers to stakeholder engagement in sustainable procurement of public works. *Eng. Constr. Archit. Manag.* 30, 3840–3857. doi: 10.1108/ECAM-08-2021-0746

Agyepong, A. O., and Nhamo, G. (2017). Green procurement in South Africa: perspectives on legislative provisions in metropolitan municipalities. *Environ. Dev. Sustain.* 19, 2457–2474. doi: 10.1007/s10668-016-9865-9

Al Balushi, K. (2016). The use of online semi-structured interviews in interpretive research. *Int. J. Sci. Res.* 57, 2319–7064. doi: 10.21275/ART20181393

Amann, M., and Roehrich, K. J., Eßig, M., and Harland, C. (2014). Driving sustainable supply chain management in the public sector: The importance of public procurement in the European Union. Supply Chain Management: An International Journal, 19, 351–366.

Anaba, D. C., Kess-Momoh, A. J., and Ayodeji, S. A. (2024). Sustainable procurement in the oil and gas industry: challenges, innovations, and future directions. *Int. J. Manage. Entrepreneurship Res.* 6, 2162–2172. doi: 10.51594/ijmer.v6i7.1264

Arrowsmith, S., Treumer, S., and Jiang, L. (2011). Public procurement regulation: an introduction. Public procurement regulation: an introduction – Nottingham ePrints. Accessed May 07, 2024.

Awuzie, B. F., Emuze, F. (2016). Barriers to the sustainable procurement of built university assets in sub-Saharan Africa. International Conference on Infrastructure Development in Africa.

Ayarkwa, J., Agyekum, K., Opoku, D. G. J., and Appiagyei, A. A. (2020). Barriers to the implementation of environmentally sustainable procurement in public universities. *Int. J. Procure. Manage.* 13, 24–41. doi: 10.1504/IJPM.2020.105201

Bardhan, S. K. (2024). Sustainability and Business Strategy: The role of sustainable procurement in renewable energy adoption. In *Proceeding Book VI International Congress on.*

Barney, J. (1991). Firm resources and sustained competitive advantage. *J. Manag.* 17, 99–120. doi: 10.1177/014920639101700108

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *J. Manag.* 27, 643–650. doi: 10.1177/014920630102700602

Behravesh, S. A., Darnall, N., and Bretschneider, S. (2022). A framework for understanding sustainable public purchasing. *Journal of Cleaner Production*, 376, 134122

Benchekroun, H. T., Benmamoun, Z., and Hachimi, H. (2024). Sustainable public procurement for supply chain resilience and competitive advantage. *Acta Logist.* 11, 349–360. doi: 10.22306/al.v11i3.519

Bernal, R., San-Jose, L., and Retolaza, J. L. (2019). Improvement actions for a more social and sustainable public procurement: A Delphi analysis. *Sustainability* 11:4069. doi: 10.3390/su11154069

Boesen, R. A. (2024) Sustainable Procurement Behavior Among Contracting Officers (Doctoral dissertation, School of Education, University of Wisconsin-Stevens Point)

Botlhale, E. (2017). Infusing value for money (VfM) into the public procurement system in Botswana. *J. Public Procure.* 17, 281–341. doi: 10.1108/JOPP-17-03-2017-B001

Botlhale, E. (2023). The Case for Gender-Responsive Public Procurement in Botswana. In Gender, Vulnerability Theory and Public Procurement Routledge, 100–118.

Brammer, S., and Walker, H. (2011). Sustainable procurement in the public sector: an international comparative study. *Int. J. Oper. Prod. Manag.* 31, 452–476. doi: 10.1108/01443571111119551

Bwtechzone (2025). Minister of finance explains GABS system challenges. Accessed July 22, 2025.

Cammarano, A., Perano, M., Michelino, F., Del Regno, C., and Caputo, M. (2022). SDG-oriented supply chains: business practices for procurement and distribution. *Sustainability* 14:1325. doi: 10.3390/su14031325

Chari, F., and Chiriseri, L. (2014) Barriers to sustainable procurement in Zimbabwe

Chen, C. C. (2008). An objective-oriented and product-line-based manufacturing performance measurement. *Int. J. Prod. Econ.* 112, 380–390. doi: 10.1016/j.ijpe.2007.03.016

Christensen, D. M., Serafeim, G., and Sikochi, A. (2022). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *Account. Rev.* 97, 147–175. doi: 10.2308/TAR-2019-0506

Celestin, M., Kumar, A. D., and Vasuki, M. (2024). Sustainable procurement in the mining industry: A focus on SADC. *International Journal of Current Research and Modern Education*, 9, 18–26.

Cloutier, C. (2024). Strategies for generating deliberately emergent qualitative research designs. *J. Appl. Behav. Sci.* 60, 358–380. doi: 10.1177/00218863241235417

Dauda, S., Nchor, W. A., and Owusu-Mensah, M. M. (2023). Assessing the state of sustainable procurement practices in Ghanaian tertiary institutions. *International Journal of Multidisciplinary Studies and Innovative Research*, 11, 1427–1435

Danek, A., and Urgosikova, M. (2024). Qualitative research design in education: tools challenges and practical implications. *Ad Alta* 14. 385–396. doi: 10.33543/j.1402.385389

DeCino, D. A., and Waalkes, P. L. (2019). Aligning epistemology with member checks. *Int. J. Res. Method Educ.* 42, 374–384. doi: 10.1080/1743727X.2018.1492535

Department of Finance. (2022). PPN 01/21: Scoring Social Value. Northern Ireland Executive: Procurement Board. Available at: https://www.finance-ni.gov.uk/sites (accessed 10 June, 25).

Digalwar, A., Raut, R. D., Yadav, V. S., Narkhede, B., Gardas, B. B., and Gotmare, A. (2020). Evaluation of critical constructs for measurement of sustainable supply chain practices in lean-agile firms of Indian origin: A hybrid ISM-ANP approach. *Bus. Strateg. Environ.* 29, 1575–1596. doi: 10.1002/bse.2455

DiMaggio, P. J., and Powell, W. W. (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *Am. Sociol. Rev.* 48, 147–160. doi: 10.2307/2095101

dos Santos, A. L. T., and da Cunha Reis, A. (2024). Public procurement from the triple bottom line lens: the identification of sustainability criteria from the international literature review. *Environ. Dev. Sustain.* 27, 9805–9840. doi: 10.1007/s10668-023-04343-1

Ershadi, M., Jefferies, M., Davis, P., and Mojtahedi, M. (2021). Barriers to achieving sustainable construction project procurement in the private sector. *Cleaner Eng. Technol.* 3:100125. doi: 10.1016/j.clet.2021.100125

Etse, D., McMurray, A., and Muenjohn, N. (2023). Sustainable procurement practice: The effect of procurement officers' perceptions. *J. Bus. Ethics* 184, 525–548. doi: 10.1007/s10551-022-05150-w

Fatimah, S., Setyowati, E., Triyono, M., and Sholahuddin, M. (2020). A literature review on some success factors of expatriate in Indonesia for supporting the success of Sustainable Development Goals (SDGs). Proceedings of the 2nd International Research Conference on Economics and Business (IRCEB 2018). *SCITEPRESS – Science and Technology Publications*, 201–203.

Gormly, J. (2014). What are the challenges to sustainable procurement in commercial semi-state bodies in Ireland? *J. Public Procure.* 14, 395–445. doi: 10.1108/JOPP-14-03-2014-B004

Grandia, J., and Voncken, D. (2019). Sustainable public procurement: The impact of ability, motivation, and opportunity on the implementation of different types of sustainable public procurement. *Sustainability* 11:5215. doi: 10.3390/su11195215

Gunasekaran, A., and Ngai, E. W. (2008). Adoption of e-procurement in Hong Kong: an empirical research. *Int. J. Prod. Econ.* 113, 159–175. doi: 10.1016/j.ijpe.2007.04.012

Harland, C., Telgen, J., Callender, G., Grimm, R., and Patrucco, A. (2019). Implementing government policy in supply chains: an international coproduction study of public procurement. *J. Supply Chain Manag.* 55, 6–25. doi: 10.1111/jscm.12197

Hekmatsyar, D. F., and Machfudiyanto, R. A. (2023). Influence of policy and institutional on sustainable procurement in the LRT TOD apartment project. In E3S Web of Conferences (Vol. 405, p. 03004) EDP Sciences, doi: 10.1051/e3sconf/202340503004.

Hsueh, L., Bretschneider, S., Stritch, J. M., and Darnall, N. (2020). Implementation of sustainable public procurement in local governments: a measurement approach. *Int. J. Public Sect. Manag.* 33, 697–712. doi: 10.1108/IJPSM-09-2019-0233

Inman, R. A., Sale, R. S., Green, K. W. Jr., and Whitten, D. (2011). Agile manufacturing: relation to JIT, operational performance and firm performance. *J. Oper. Manag.* 29, 343–355. doi: 10.1016/j.jom.2010.06.001

Islam, M. M., Murad, M. W., McMurray, A. J., and Abalala, T. S. (2017a). Aspects of sustainable procurement practices by public and private organisations in Saudi Arabia: an empirical study. *Int. J. Sustain. Dev. World Ecol.* 24, 289–303. doi: 10.1080/13504509.2016.1209794

Islam, M. M., and Siwar, C. (2013). A comparative study of public sector sustainable procurement practices, opportunities and barriers. *Int. Rev. Bus. Res. Pap.* 9, 62–84.

Islam, M. M., Turki, A., Murad, M. W., and Karim, A. (2017b). Do sustainable procurement practices improve organizational performance? *Sustainability* 9:2281. doi: 10.3390/su9122281

Ismail, H. S., Poolton, J., and Sharifi, H. (2011). The role of agile strategic capabilities in achieving resilience in manufacturing-based small companies. *Int. J. Prod. Res.* 49, 5469–5487. doi: 10.1080/00207543.2011.563833

Jason, L., and Glenwick, D. (Eds.) (2016). Handbook of methodological approaches to community-based research: Qualitative, quantitative, and mixed methods. New York: Oxford University Press.

Kannan, D. (2021). Sustainable procurement drivers for extended multi-tier context: A multi-theoretical perspective in the Danish supply chain. *Transp. Res. E Logist. Transp. Rev.* 146:102092. doi: 10.1016/j.tre.2020.102092

Kolawole, R. A., and Idris, K. M. (2020). Investigating Barriers to the Uptake of Sustainable Procurement in the Nigerian Construction Industry. *African Journal of Earth and Environmental Science*, 2, 508–516.

Kumar, S. (2022). "Status of Sustainable Procurement Implementation" in Understanding Sustainable Public Procurement: Reflections from India and the World (Cham: Springer International Publishing), 87–151.

Kuruneri, J., and Zivanai, W. (2024). An exploratory study of the concept of social procurement in the construction industry in Botswana: contractor's perspective. *Mod. Supply Chain Res. Appl.* 6, 63–83. doi: 10.1108/MSCRA-06-2023-0025

Leal Filho, W., Skouloudis, A., Brandli, L. L., Salvia, A. L., Avila, L. V., and Rayman-Bacchus, L. (2019). Sustainability and procurement practices in higher education institutions: Barriers and drivers. *J. Clean. Prod.* 231, 1267–1280. doi: 10.1016/j.jclepro.2019.05.202

Liza, S. A., Chowdhury, N. R., Paul, S. K., Morshed, M., Morshed, S. M., Bhuiyan, M. T., et al. (2023). Barriers to achieving sustainability in pharmaceutical supply chains in the post-COVID-19 era. *Int. J. Emerg. Mark.* 18, 6037–6060. doi: 10.1108/IJOEM-11-2021-1680

Loraine, B., Wick, W., and Christoph, G. (2020). How to use and assess qualitative research methods. *Neurol. Res. Pract.* 2, 1–10. doi: 10.1186/s42466-020-00059-z

Lukacs de Pereny Martens, S. G., and Schwarz, G. M. (2024). Examining contemporary Australian local government sustainable procurement practices: a national study. *Int. J. Public Adm.* 47, 342–358. doi: 10.1080/01900692.2022.2120002

Mathiyazhagan, K., and Haq, A. N. (2013). Analysis of the influential pressures for green supply chain management adoption—an Indian perspective using interpretive structural modeling. *The International Journal of Advanced Manufacturing Technology*, 68, 817–833.

Marshall, D., McCarthy, L., Claudy, M., and McGrath, P. (2019). Piggy in the middle: How direct customer power affects first-tier suppliers' adoption of socially responsible procurement practices and performance. *J. Bus. Ethics* 154, 1081–1102. doi: 10.1007/s10551-016-3387-0

Mazharul Islam, M., and Alharthi, M. (2020). Relationships among ethical commitment, ethical climate, sustainable procurement practices, and SME performance: An PLS-SEM analysis. *Sustainability* 12:10168. doi: 10.3390/su122310168

McMurray, A. J., Islam, M. M., Siwar, C., and Fien, J. (2014). Sustainable procurement in Malaysian organizations: Practices, barriers and opportunities. *J. Purch. Supply Manag.* 20, 195–207. doi: 10.1016/j.pursup.2014.02.005

Mendoza Jimenez, J., Hernandez Lopez, M., and Franco Escobar, S. E. (2019). Sustainable public procurement: from law to practice. *Sustainability* 11:6388. doi: 10.3390/su11226388

Meyer, J. W., and Rowan, B., 1977. Institutionalized organizations: Formal structure as myth and ceremony. *American journal of sociology*, 83, 340–363.

Migliore, M., Talamo, C., Paganin, G., Migliore, M., Talamo, C., and Paganin, G. (2020). Strategies for circular economy and cross-sectoral exchanges for sustainable building products. Cham: Springer Nature.

Montalbán-Domingo, L., Pellicer, E., García-Segura, T., and Sanz-Benlloch, A. (2021). An integrated method for the assessment of social sustainability in public-works procurement. *Environ. Impact Assess. Rev.* 89:106581. doi: 10.1016/j.eiar.2021.106581

Muema, D. (2021) Sustainable Procurement Practices and Organizational Performance of the County Governments in Kenya (Doctoral dissertation, University of Nairobi).

Murungi, G. B., and Senelwa, W. A., 2019. Determinants of implementation of sustainable procurement practices in oil and gas sector in Kenya. (A case of Kenya pipeline). *International Journal of Recent Research in Commerce Economics and Management*, 6, 185–191.

Nawaz, W., Linke, P., and Koç, M. (2019). Safety and sustainability nexus: A review and appraisal. *J. Clean. Prod.* 216, 74–87. doi: 10.1016/j.jclepro.2019.01.167

Nyantakyi, A. (2018). Preparing today for prosperity tomorrow: Using sustainable public procurement as a tool for development in Ghana. *Pub. Cont. LJ* 48:377.

Obicci, P. A. (2017). Trouncing barriers to sustainable procurement practices in public sector organizations in Uganda. *Int. J. Res. Manage. Soc. Technol.* 5, 64–74.

Ogunsanya, O. A., Aigbavboa, C. O., Thwala, D. W., and Edwards, D. J. (2022). Barriers to sustainable procurement in the Nigerian construction industry: an exploratory factor analysis. *Int. J. Constr. Manag.* 22, 861–872. doi: 10.1080/15623599.2019.1658697

Ojelabi, E., and Okonta, E. D. (2023). Advancing sustainable procurement in the construction industry: insights, awareness, and collaborative strategies. In Proceedings of the 4th International Conference, The Federal Polytechnic, Ilaro, Nigeriain Collaboration with Takoradi Technical University, Takoradi, Ghana. *The Federal Polytechnic Ilaro*, 490–502.

Opoku-Mensah, F. A., Ahenkan, A., and Adane, F. (2024). The dilemma of sustainable procurement: an exploration of challenges in the context of multi-theoretical perspective. *Green Low-Carbon Econ.* 1–10. doi: 10.47852/bonviewGLCE42022917

Ortega Carrasco, P., Iannone, F., Ferrón Vílchez, V., and Testa, F. (2025). Green public procurement as an effective way for sustainable development: a systematic literature review and bibliometric analysis. *Sustain. Dev.* 33, 2364–2391. doi: 10.1002/sd.3234

Oyewobi, L. O., and Jimoh, R. A. (2022). Barriers to adoption of sustainable procurement in the Nigerian Public Construction Sector. *Sustainability* 14:14832. doi: 10.3390/su142214832

Peprah, J. A., Opoku-Fofie, I., and Nduro, K. (2016). Factors influencing green supply chain in the mining sector in Ghana. *Eur. J. Logist. Purchasing Supply Chain Manage.* 4, 32–50.

Pilati, F., and Di Stradis, F. (2024). Social procurement practices in food logistics: a case study of a south European food processing company. *J. Clean. Prod.* 434:140244. doi: 10.1016/j.jclepro.2023.140244

Porter, M. E., and Kramer, M. R. (2018). "Creating shared value: how to reinvent capitalism—and unleash a wave of innovation and growth" in Managing sustainable business: An executive education case and textbook (Dordrecht: Springer Netherlands), 323–346.

Preuss, L. (2009). Addressing sustainable development through public procurement: the case of local government. *Supply Chain Management: An International Journal*, 14, 213–223.

Prieto, L., Amin, M. R., and Canatay, A. (2022). Examining social sustainability in organizations. *Sustainability* 14:12111. doi: 10.3390/su141912111

Pullman, M. E., Maloni, M. J., and Carter, C. R. (2009). Food for thought: social versus environmental sustainability practices and performance outcomes. *J. Supply Chain Manag.* 45, 38–54. doi: 10.1111/j.1745-493X.2009.03175.x

Raj, A., Agrahari, A., and Srivastava, S. K. (2020). Do pressures foster sustainable public procurement? An empirical investigation comparing developed and developing economies. *J. Clean. Prod.* 266:122055. doi: 10.1016/j.jclepro.2020.122055

Riadi, H., and Machfudiyanto, R. A. (2023) Critical success factor in applications of sustainable procurement to improve procurement performance in construction projects. In E3S Web of Conferences (Vol. 405, p. 04023). EDP Sciences.

Rivera, J. D. (2019). When attaining the best sample is out of reach: Nonprobability alternatives when engaging in public administration research. *J. Public Aff. Educ.* 25, 314–342. doi: 10.1080/15236803.2018.1429821

Rodriguez-Plesa, E., Dimand, A. M., and Alkadry, M. G. (2022). Community social capital, political values, or organizational capacity? Indicators of engagement in sustainable public procurement at the local level. *J. Clean. Prod.* 338:130556. doi: 10.1016/j.jclepro.2022.130556

Roman, A. V. (2017). Institutionalizing sustainability: A structural equation model of sustainable procurement in US public agencies. *J. Clean. Prod.* 143, 1048–1059. doi: 10.1016/j.jclepro.2016.12.014

Rogers, E. M. (1995). *Diffusion of innovations*. 4th. New York: Free Press.

Roos, R. (2012) Sustainable Public Procurement: Mainstreaming sustainability criteria in public procurement in developing countries. CSM, Centre for Sustainability Management.

Sahakyan, T. (2023). Member-checking through diagrammatic elicitation: Constructing meaning with participants. *TESOL Q.* 57, 686–701. doi: 10.1002/tesq.3210

Sajid, Z. W., Aftab, U., and Ullah, F. (2024). Barriers to adopting circular procurement in the construction industry: the way forward. *Sustainable Futures*:100244. doi: 10.1016/j.sftr.2024.100244

Sarkis, J., Gonzalez-Torre, P., and Adenso-Diaz, B. (2010). Stakeholder pressure and the adoption of environmental practices: The mediating effect of training. *J. Oper. Manag.* 28, 163–176. doi: 10.1016/j.jom.2009.10.001

Segal, M. (2023) Biden administration announces new sustainable procurement rules for federal government. ESG Today (Accessed May 5, 2023).

Shah, A. K., Jintian, Y., Sukamani, D., and Kusi, M. (2020). How green transformational leadership influences sustainability? Mediating effects of green creativity and green procurement. *J. Innov. Sustain. RISUS* 11, 69–87. doi: 10.23925/2179-3565.2020v11i4p69-87

Shaikh, A. R., Qazi, A., Ali, I., and Appolloni, A. (2023). Analyzing the barriers to sustainable procurement in an emerging economy: an interpretive structural modeling approach. *Int. J. Emerg. Mark.* 19, 4204–4225. doi: 10.1108/IJOEM-07-2022-1082

Singh, P. K., Ismail, F. B., Wei, C. S., Imran, M., and Ahmed, S. A. (2020). A framework of e-procurement technology for sustainable procurement in ISO 14001 certified firms in Malaysia. *Adv. Sci. Technol. Eng. Syst. J.* 5, 424–431. doi: 10.25046/aj050450

Slotegraaf, R. J., Moorman, C., and Inman, J. J. (2003). The role of firm resources in returns to market deployment. *J. Mark. Res.* 40, 295–309. doi: 10.1509/jmkr.40.3.295.19235

Solomon, N. O., Simpa, P., Adenekan, O. A., and Obasi, S. C. (2024). Sustainable nanomaterials and role in green supply chains and environmental sustainability. *Engineering Science and Technology Journal*, 5, 1678–1694

Sönnichsen, S. D., and Clement, J. (2020). Review of green and sustainable public procurement: Towards circular public procurement. *Journal of cleaner production*, 245, 118901.

Sparkes, A. C. (2015). Developing mixed methods research in sport and exercise psychology: critical reflections on five points of controversy. *Psychol. Sport Exerc.* 16, 49–59. doi: 10.1016/j.psychsport.2014.08.014

Tan, W., Walters, D., and Foster, D., (2019). [*Global Strategic Supply Chain*]. Stamford: *Chartered Institute of Procurement and Supply (CIPS)*.

Telles, P., and Ølykke, G. S. (2017). Sustainable procurement. *Eur. Procure. Public Priv. Partnersh. Law Rev.* 12, 239–252.

Terlaak, A., and Gong, Y., 2008. Vicarious learning and inferential accuracy in adoption processes. *Academy of Management Review*, 33, 846–868.

Tuffour, P., Chen, G., Opoku-Mensah, E., Darko, P. A., and Adu Agyapong, R. (2024). Toward sustainable development: developing a decision-making framework for cross-sectoral engagement in green procurement. *Sustain. Dev.* 32, 2233–2252. doi: 10.1002/sd.2772

Van Wassenhove, L. N., 2019. Sustainable innovation: Pushing the boundaries of traditional operations management. *Production and Operations Management*, 28, 2930–2945.

Vorhies, D. W., and Morgan, N. A., 2005. Benchmarking marketing capabilities for sustainable competitive advantage. *Journal of marketing*, 69, 80–94.

Varga, E., and Hayday, M. (2023). "Social procurement to promote social" in Social economy science: transforming the economy and making society more resilient, 385.

Vasileiou, K., Barnett, J., Thorpe, S., and Young, T. (2018). Characterising and justifying sample size sufficiency in interview-based studies: systematic analysis of qualitative health research over a 15-year period. *BMC Med. Res. Methodol.* 18:148. doi: 10.1186/s12874-018-0594-7

Vejaratnam, N., Chenayah, S., Mohamad, Z. F., and Appolloni, A. (2023). Strategic responses to environmental performance monitoring barriers: a case study of Malaysian Government green procurement. *Sustain. Account. Manage. Policy J.* 14, 515–537. doi: 10.1108/SAMPJ-07-2021-0307

Vella, J. (2024). In pursuit of credibility: Evaluating the divergence between member-checking and hermeneutic phenomenology. *Res. Soc. Adm. Pharm.* 20, 665–669. doi: 10.1016/j.sapharm.2024.04.001

Vluggen, R., Gelderman, C. J., Semeijn, J., and Van Pelt, M. (2019). Sustainable public procurement—external forces and accountability. *Sustainability* 11:5696. doi: 10.3390/su11205696

Wadhwani, D., and Malpani, P. (2023). United Nations sustainable goals: global to local need of the hour. Available at SSRN 4426147.

Walker, H., and Brammer, S. (2009). Sustainable procurement in the United Kingdom public sector. *Supply Chain Manage. Int. J.* 14, 128–137. doi: 10.1108/13598540910941993

Walker, H., Miemczyk, J., Johnsen, T., and Spencer, R. (2012). Sustainable procurement: Past, present and future. *J. Purch. Supply Manag.* 18, 201–206. doi: 10.1016/j.pursup.2012.11.003

Wang, L., Morabito, M., Payne, C. T., and Robinson, G. (2020). Identifying institutional barriers and policy implications for sustainable energy technology adoption among large organizations in California. *Energy Policy* 146:111768. doi: 10.1016/j.enpol.2020.111768

Wienclaw, R. A. (2019). Salem press encyclopedia. Available online at: https://eds-aebscohost-com.nwulib.nwu.ac.za/eds/detail/detail?vid=1&sid=614866f5-65a9-420e-ae7d-8e493c8583d6%40sdc-v-sessmgr01&bdata=JnNpdGU9ZWRzLWxpdmU%3d#AN=89185687&db=ers.

Xiao, S., Oladyshkin, S., and Nowak, W. (2020). Reliability analysis with stratified importance sampling based on adaptive Kriging. *Reliab. Eng. Syst. Saf.* 197:106852. doi: 10.1016/j.ress.2020.106852

Yu, A. T., and Shen, G. Q. (2013). Problems and solutions of requirements management for construction projects under the traditional procurement systems. *Facilities*, 31, 223–237.

Yu, A. T. W., Yevu, S. K., and Nani, G. (2020). Towards an integration framework for promoting electronic procurement and sustainable procurement in the construction industry: a systematic literature review. *J. Clean. Prod.* 250:119493. doi: 10.1016/j.jclepro.2019.119493

Zaman, S. I., Ali, M. R., and Khan, S. A. (2024). Exploring interrelationships among barriers and enablers of green procurement for a sustainable supply chain. *Int. J. Procure. Manage.* 19, 226–252. doi: 10.1504/IJPM.2024.136051

Zaidi, S. A. H., Mirza, F. M., Hou, F., and Ashraf, R. U. (2019). Addressing the sustainable development through sustainable procurement: what factors resist the implementation of sustainable procurement in Pakistan?. *Socio-Economic Planning Sciences*, 68, 100671.

Zhao, K. (2020). Sample representation in the social sciences. *Synthese* 198, 9097–9115. doi: 10.1007/s11229-020-02621-3

Zorzini, M., Hendry, L. C., Huq, F. A., and Stevenson, M. (2015). Socially responsible sourcing: reviewing the literature and its use of theory. *Int. J. Oper. Prod. Manag.* 35, 60–109. doi: 10.1108/IJOPM-07-2013-0355