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Beyond the bottom line: Institutional pressures and green procurement in Nigeria's automotive aftermarket sector

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Background: Green Public Procurement (GPP) is a key policy instrument for advancing sustainable development, yet the factors driving its adoption in developing economies remain underexplored.

Objectives: This study examines the institutional pressures influencing GPP implementation in Nigeria's automotive aftermarket sector, a strategically important but understudied context.

Method: A qualitative research design was employed, drawing on 14 in-depth interviews with senior managers in Nigeria's Ministry of Transportation. Guided by institutional theory, the study explores how green purchasing is used to promote supplier compliance with environmental requirements.

Results: The findings reveal that GPP implementation is largely compliance-driven and shaped primarily by coercive pressures. National regulatory requirements and mandatory ISO 14001 certification emerged as key drivers of green procurement practices. Mimetic pressures helped to reduce uncertainty through the adoption of recognised best practices, while normative pressures were comparatively weak. This imbalance created an external–internal knowledge gap that hindered the deeper institutionalisation of sustainability values within public organisations.

Conclusion: Although coercive mechanisms play a critical role in driving GPP adoption, their effectiveness is limited without stronger normative capacity and greater internal commitment to sustainability. Environmental certification also serves as an important gateway for suppliers seeking access to public sector contracts.

Contribution: By providing a rare empirical account of compliance-driven GPP in a developing economy, this study extends institutional theory and offers practical insights into how public organisations respond to institutional pressures in pursuing sustainability objectives beyond economic considerations.

Keywords: institutional theory; green public procurement; coercive pressure; mimetic pressure; normative pressure; supplier compliance; automotive aftermarket; Nigeria.

Introduction

The global imperative for sustainable development is inextricably linked to the mitigation of climate change, with the transportation sector emerging as a primary contributor to greenhouse gas (GHG) emissions worldwide (Aminzadegan et al. 2022). In emerging economies, this challenge is particularly acute. Nigeria faces a disproportionate environmental burden, with the road transportation sector accounting for an estimated 71.23% of the nation's total CO_2 emissions (Okafor, Ahove & Odewumi 2025). While direct fuel combustion is a recognised pollutant, a significant yet frequently overlooked portion of these emissions originates from the supply chain of post-manufacturing vehicular components, specifically semi-durable goods such as tyres, lead-acid batteries, chassis frames and engine systems (Dodd et al. 2024; Graziosi et al. 2024).

The context of this study is the Nigerian automotive aftermarket, a sector driven by a heavy reliance on imported used vehicles and the subsequent demand for replacement components. The Federal Government of Nigeria allocates substantial annual capital expenditure estimated at over USD $1 billion towards the procurement of these semi-durable vehicle components to maintain public fleets (National Automotive Design and Development Council [NADDC] 2024). These

components carry a heavy carbon footprint; for instance, the production of a single diesel engine and transmission can generate up to 1539 kg of CO_2 (Graziosi et al. 2024). Despite the existence of regulatory bodies such as the Standards Organisation of Nigeria (SON) and the National Environmental Standards and Regulations Enforcement Agency (NESREA), the procurement of these high-impact goods has historically been driven by cost rather than environmental lifecycle impact, creating a critical gap in emission mitigation strategies.

To address this ecological deficit, Green Public Procurement (GPP) has emerged as a vital policy instrument.

Defined as the procurement of goods and services that minimise adverse ecological impacts across their lifecycle (Singh et al. 2024), GPP enables public institutions to leverage their purchasing power to enforce market compliance. In the context of the Nigerian Ministry of Transportation, GPP serves as a catalyst mechanism, theoretically enabling the state to compel suppliers to adopt environmental standards such as ISO 14001 certification as a prerequisite for business engagement (Elemure 2025; Imam 2024; Kehinde 2023; Zhang & Zhu 2025). However, the transition from traditional procurement to a green framework involves navigating complex institutional pressures that differ significantly from private sector dynamics.

Despite the clear potential of GPP, a critical review of extant literature reveals a significant divergence in focus.

The majority of green supply chain management (GSCM) research prioritises the private sector, where drivers are predominantly market oriented and profit motivated (e.g. Gawusu et al. 2022; Guan, Vanpoucke & Quintens 2025). Conversely, studies on public procurement have largely concentrated on developed Western economies with mature institutional frameworks (Al Ahmari & Brika 2025; Dimand 2022). Consequently, there remains a paucity of empirical research exploring how GPP is operationalised within the public sector of developing economies, where decision-making is shaped less by market competition and more by bureaucratic mandates, regulatory coercion and the pursuit of political legitimacy (Dhillon et al. 2023; Tetteh, Agyenim-Boateng & Simpson 2023).

This study addresses this identified gap by applying institutional theory to Nigerian automotive aftermarket context. It seeks to deconstruct how coercive, mimetic and normative pressures shape the Ministry of Transportation's ability to enforce supplier compliance and reduce GHG emissions, thereby offering rare empirical model of sustainable procurement in a developing public sector.

Literature review and theoretical framework

This study engages with the literature on GSCM and grounds its analysis in institutional theory. This section defines the core concepts of green purchasing within the public sector context and outlines the theoretical lenses used to interpret the Ministry's procurement behaviour.

Green public procurement: Definitions and enablers

Green purchasing (GP) is defined as the integration of environmental considerations into purchasing policies, programmes and actions (Balin & Balin 2025). Within the public sector, this evolves into GPP, a strategic process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle compared to goods, services and works with the same primary function (Yang et al. 2022).

In the context of the Nigerian transportation sector, GPP acts as a catalyst for supplier compliance. Enablement in this sector is not merely voluntary but is driven by specific mechanisms, including eco-labelling schemes and adherence to international standards such as ISO 14001 (Environmental Management Systems) and ISO 14064 (GHG quantification) (Kirui et al. 2023). Unlike the private sector, where enablement is driven by competitive advantage and profit maximisation, public sector enablement is motivated by the need for legitimacy, regulatory adherence and the fulfilment of national development goals such as the National Automotive Industry Development Plan (NAIDP) (NADDC 2024).

Theoretical framework: Institutional theory

Institutional theory posits that organisational structures and practices are deeply shaped by the cultural, social and political environments in which they operate (DiMaggio & Powell 1983; Scott 2008). Organisations conform to external norms and expectations not solely for efficiency but to gain legitimacy, secure resources and ensure survival (Risi et al. 2023). This perspective is particularly salient for public entities such as government ministries, which must navigate a dense web of institutional pressures to maintain their social license to operate.

Recent empirical research such as Tetteh et al. (2023) and Ghorbani et al. (2024) indicates that public sector actors respond to these pressures through a spectrum of behaviours, ranging from full compliance to strategic compromise and manipulation. This highlights the complex interplay between formal requirements and informal practices. Institutional theory identifies three primary mechanisms – known as isomorphic pressures that drive organisational conformity.

Coercive isomorphism: The power of mandates and regulation

Coercive isomorphism arises from pressures exerted by powerful external entities upon which an organisation is dependent (DiMaggio & Powell 1983). It is the most direct driver of GPP in the public sector, manifesting through formal government laws, regulations and mandates issued by regulatory bodies such as Nigeria's SON and the NESREA.

These entities compel compliance through the threat of sanctions (Ezeumeh 2023).

Empirical studies consistently demonstrate that coercive pressures are a primary force behind the adoption of sustainable procurement practices across various contexts. They often serve as a compulsory trigger that activates other institutional mechanisms (Nawaz & Guribie 2024; Nsiah-Sarfo, Ofori & Agyapong 2023).

Mimetic isomorphism: Strategies of benchmarking and imitation

Mimetic isomorphism emerges as a response to organisational uncertainty (DiMaggio & Powell 1983). In situations where goals are ambiguous, such as the implementation of a novel GPP policy organisations often seek to reduce uncertainty by emulating the practices of entities perceived as successful or legitimate (Taheriruh & Moshtari 2024). This imitation may involve benchmarking against industry leaders, adopting internationally recognised standards such as ISO 14001 or replicating the corporate social responsibility initiatives of peer organisations. Such behaviour is particularly prevalent in contexts marked by economic policy uncertainty or adverse media scrutiny (Cormier, Magnan & Gutierrez 2024; Xue & Hu 2023). Within the public sector, mimetic isomorphism serves as a strategic mechanism for enhancing legitimacy and demonstrating alignment with global best practices.

Normative isomorphism: The role of professional values

Normative isomorphism is driven by professionalisation, encompassing the values, norms and cognitive frameworks shared within occupational communities (DiMaggio & Powell 1983). These pressures are transmitted through professional networks, academic institutions and expert bodies that collectively define standards of appropriate conduct in relation to sustainability (Kauppi & Luzzini 2022). In the context of GPP, normative pressures influence the Ministry through the ethical standards and professional guidelines promoted by associations such as the NSE, Nigerian Association of Engineering Geology and the Environment as well as through knowledge dissemination at industry seminars and workshops. This form of isomorphism shapes perceptions of professional responsibility, thereby influencing managerial and staff decisions even in the absence of formal mandates (Leal Filho 2020a). The findings of this study, however, reveal that the mere presence of professional networks does not necessarily lead to the deep internalisation of their norms within the organisation. This underscores the pivotal role of professional knowledge and values in shaping internal decision-making processes related to GPP implementation.

Research methods and design

Research approach and philosophical stance

This study adopts a qualitative research approach underpinned by an interpretivist philosophical stance (Creswell & Creswell 2018). This paradigm was purposefully selected to facilitate an in-depth understanding of the nuanced experiences, perceptions and socially constructed realities of practitioners engaged in the complexities of GPP. Interpretivism asserts that reality is subjective and shaped by individual interpretations and social contexts, making it a suitable lens for exploring the lived experiences of individuals (Bryman & Bell 2019).

Rather than merely quantifying levels of compliance, this approach enables the investigation of the underlying 'why' and 'how' questions that inform the Ministry's strategic responses to institutional pressures. The overarching aim is to generate a rich, contextualised and empathetic or verstehen understanding of the phenomenon from the perspectives of those directly involved (Saunders, Lewis & Thornhill 2019).

Research context and case selection

The empirical context for this study is the Nigerian Ministry of Transportation and its affiliated state-level ministries. This setting is particularly salient for several reasons. Firstly, Nigeria, Africa's largest economy, faces acute environmental challenges, with the transportation sector identified as a major contributor to GHG emissions (Atedhor 2023). Secondly, the public sector commands substantial purchasing power, positioning government ministries as strategic actors in advancing national environmental policy objectives.

Although Nigeria has established climate mitigation frameworks, the transition away from fossil fuels remains hindered by infrastructural deficits and policy uncertainty (Farinloye et al. 2024; Isah et al. 2023).

This study specifically focuses on the post-manufacturing supply chain for vehicular components, including tyres, batteries and service parts. This segment of the automotive aftermarket is critical to the operational lifecycle of the public vehicle fleet and constitutes a persistent source of environmental impact. Despite its significance, it remains markedly underexplored within the GPP literature (Ortega Carrasco et al. 2025). Accordingly, this research targets a high-impact, policy-relevant and theoretically underdeveloped domain.

Sampling strategy and participant profile

To explore the strategic dimensions of green purchasing, this study employed semi-structured interviews as the primary method of data collection. The sampling frame was derived from the official personnel directories of the Ministry of Transportation across seven selected federal states in Nigeria (Rivers, Lagos, Imo, Edo, Delta, Bayelsa and Akwa Ibom). From this frame, the target population comprised senior and middle-level managers with strategic oversight responsibilities within the procurement and operations departments.

A purposive sampling strategy was adopted to ensure data validity by deliberately selecting participants based on strict inclusion and exclusion criteria (Tutz 2023). Eligible

participants were required to hold a senior or middle management position with decision-making authority, possess at least 3 years of direct work experience in the transport industry to ensure sufficient institutional memory and have first-hand knowledge of green purchasing and supply chain practices within the Nigerian public sector. Personnel with less than 3 years of experience, those in purely administrative roles without procurement oversight and individuals outside the active professional service age bracket (18–65 years) were excluded.

The final sample comprised 14 senior and middle managers selected through this rigorous process. These individuals were specifically chosen for their roles in interpreting high-level policy directives and translating them into organisational practices an area where institutional pressures are most acutely felt (Kennedy-Leon 2022). As presented in Table 1, the sample consisted of highly experienced professionals, with an average of 15.2 years of service, thereby ensuring that the data collected were grounded in substantial practical and institutional knowledge.

Data collection procedures

Data were collected through in-depth, semi-structured interviews. This method was selected for its ability to maintain a consistent line of inquiry guided by the interview protocol while allowing flexibility to explore emergent themes and capture the nuanced perspectives of participants (Tyler, Boldi & Cherubini 2022). Given the global travel restrictions in place during the research period, all interviews were conducted remotely via secure online platforms such as Microsoft Teams, reflecting a broader shift in post-pandemic research practices (Frey & Bloch 2023; Singh et al. 2024; Wakelin, McAra-Couper & Fleming 2024).

To ensure the validity and reliability of the research instrument, a pilot study was conducted prior to the main data collection. The interview guide was reviewed by subject-matter experts and tested to refine the questions for clarity and relevance, ensuring alignment with the research objectives (Panyasai & Ambele 2025). Following institutional approval and informed consent from each participant, all interviews were audio-recorded and professionally transcribed verbatim.

Data analysis: A theory-driven thematic approach

The data were analysed using a systematic thematic analysis approach, as outlined by Braun and Clarke (2019), and facilitated by ATLAS.ti 22 software. The analysis employed a hybrid strategy (Singh et al. 2024); it is both inductive and deductive in nature. The inductive component allowed themes to emerge organically from participants' narratives, while the deductive component was guided by the core constructs of institutional theory, specifically coercive, mimetic and normative pressures.

This dual approach was chosen to capitalise on the strengths of both methods. The deductive application of institutional theory provided a robust analytical framework for examining pre-existing theoretical constructs, while the inductive process enabled the identification of context-specific insights such as the nuanced nature of the 'external-internal knowledge gap' that might be overlooked in a purely theory-driven analysis.

The analytical process unfolded in several iterative phases:

- Familiarisation with the data through repeated reading of transcripts
- Systematic line-by-line coding to identify initial patterns
- Generation of preliminary themes by clustering-related codes
- Review and refinement of themes in relation to the entire dataset
- Definition and naming of the final themes.

To ensure the trustworthiness and credibility of the findings, multiple validation strategies were employed. These included peer debriefing with academic colleagues to challenge potential interpretive biases and member checking, whereby the summary of findings was shared with selected participants to verify the accuracy of the researcher's interpretations (Lim 2024).

TABLE 1: Demographic profile of interview participants (N = 14).

Participant ID	Gender	Highest qualification	Years of experience	Role category
#M1	Male	Bachelor's degree	18	Senior management
#M2	Male	Bachelor's degree	13	Middle management
#M3	Male	Ordinary National Diploma	8	Middle management
#M4	Male	Master's degree	11	Middle management
#M5	Male	Bachelor's degree	5	Middle management
#M6	Male	Bachelor's degree	11	Middle management
#M7	Male	Bachelor's degree	23	Senior management
#M8	Male	Ordinary National Diploma	25	Senior management
#M9	Female	Bachelor's degree	18	Senior management
#M10	Male	Master's degree	16	Middle management
#M11	Male	Doctorate	23	Senior management
#M12	Male	Bachelor's degree	13	Middle management
#M13	Male	Bachelor's degree	10	Middle management
#M14	Male	Bachelor's degree	13	Middle management

Note: The participant group consisted of 13 males and 1 female. Only 1 participant held a doctorate degree and 2 held master's degrees. Participants had an average (mean) of 15.2 years of professional experience. The sample included 5 senior managers and 9 middle managers.

Results

Institutional pressures shaping green purchasing practices

The thematic analysis of interviews conducted with strategic managers across Nigeria's transportation ministries revealed a distinct and influential hierarchy of institutional pressures shaping the adoption and implementation of green purchasing practices. Although all three forms of isomorphic pressure coercive, mimetic and normative were evident, they varied significantly in terms of their influence and degree of institutionalisation.

Coercive pressure emerged as the most dominant and foundational force, establishing a rigid framework for compliance that left little room for negotiation. This was strategically reinforced by mimetic pressure, which functioned as a mechanism for reducing uncertainty and enhancing organisational legitimacy. In contrast, normative pressure was found to be the least developed, underscoring a critical disconnect between external professional awareness and internal organisational culture.

This section presents these findings in alignment with the three theoretical constructs of institutional theory, and Table 2 offers a comprehensive overview of the analysis, mapping the core themes and sub-themes to their corresponding institutional pressures and serving as a reference point for the narrative that follows.

The dominance of coercive pressure: Compliance through mandates

The most consistently articulated and influential theme emerging from the interviews was the Ministry's reliance on a formal architecture of policies and standards, shaped by direct coercive pressure from governmental and international bodies. This pressure established a non-negotiable foundation for all green procurement activities related to post-manufacturing components.

The foundational role of national regulators (Standards Organisation of Nigeria and National Environmental Standards and Regulations Enforcement agency)

Participants repeatedly emphasised that their procurement practices are fundamentally governed by mandates issued by two key national regulatory agencies: the SON and NESREA. These institutions are not merely advisory; they are perceived as authoritative enforcers of environmental compliance. The coercive pressure exerted by the state through these agencies sets the baseline for all procurement activities. As one manager explained:

> 'Most of the suppliers are endorsed by the Standards Organisation of Nigeria (SON), which is a federal government agency responsible for setting and maintaining standards… Companies recognised by the government have had their policies checked by government agencies.' (#M1, Male, Senior management, Bachelor's degree)

This reliance on national regulatory bodies fosters a top-down, compliance-driven culture. The Ministry's role is not to develop environmental standards independently but to enforce those established by these legitimate and powerful institutions. This dynamic is further reinforced by the legal authority vested in NESREA, which provides the overarching framework for environmental governance. Another manager articulated this legal dependency as follows:

> 'In Nigeria, the power of regulation of all environmental matters is vested in the Federal Ministry of Environment (FMENV). Hence, the ministry uses the … Nigerian Environmental Standards and Regulatory Enforcement Act (NESREA Act) … All these are aimed at a detailed plan and schedule of measures

TABLE 2: Thematic analysis of institutional pressures shaping green purchasing practices.

Institutional pressure (construct)	Core theme from findings	Sub-themes	Illustrative codes from interview data
Coercive Isomorphism	Theme 1: The dominance of coercive pressure: Compliance through mandates	Sub-theme 1.1: Foundational role of national regulators	• Adherence to SON/NESREA policies • Vetted and cleared by SON • Compliance is fully on SON • *NESREA Act* as framework • Government agency mandated
		Sub-theme 1.2: ISO certification as a non-negotiable gatekeeping mechanism	• ISO certification is compulsory • No deal without ISO certification • Checkmate them with the bid process • Prequalification requirement • Pass mark on products
Mimetic Isomorphism	Theme 2: The strategic use of mimetic pressure: Gaining legitimacy through imitation	Sub-theme 2.1: Benchmarking against national regulators	• Use SON/NESREA as a template • Solely rely on the policies of SON • Depends on SON for standards • No other system
		Sub-theme 2.2: Adopting best practices from industry leaders	• Mimic FMCG supply chain system • Mimics a sterling global company • Converting vehicles to CNG • Ethical ways that guarantee business continuity
Normative Isomorphism	Theme 3: The challenge of normative pressure: The external-internal knowledge gap	Sub-theme 3.1: Reliance on external seminars for awareness	• SON holds the seminars • Invited by MNCs to participate • Twice a year due to funds • Collaboration with NESREA for seminars • Invitations from NSE
		Sub-theme 3.2: Inconsistent internalisation and gaps in staff knowledge	• No idea about CO_2 policy • Still in the trial stage • Answer should come from senior leadership • Limited testing capacity • Lack of structured internal training

NESREA, National Environmental Standards and Regulations Enforcement Agency; SON, Standards Organisation of Nigeria; FMCG, Fast-Moving Consumer Goods; CNG, compressed natural gas; NSE, Nigerian Society of Engineers; MNC, multinational corporations.

necessary to minimise, mitigate or control any potential negative environmental and social impacts identified.' (#M5, Male, Middle management, Bachelor's degree)

The coercive power of these institutions is operationalised directly within procurement specifications. The standards set by SON and NESREA are not abstract principles; they are embedded into the contractual requirements provided to suppliers. This direct translation of regulation into practice was highlighted by another participant:

'We provide guidelines and specifications to our suppliers, and based on these specifications or frameworks, which consider the impact of CO_2 gases on the environment, our suppliers procure and supply the components we request for use in the ministry.' (#M4, Male, Middle management, Master's degree)

Ultimately, the enforcement mechanism is unequivocal: Compliance is a prerequisite for engagement. The Ministry leverages the authority of these national bodies as a definitive tool to ensure that only compliant post-manufacturing components enter its supply chain. As a manager stated:

'The policies come from the Federal Government and down to the state government level. There are registered suppliers who have been vetted and cleared by SON to show compliance by the regulatory body.' (SON) (#M11, Male, Senior management, Doctorate)

Taken together, these perspectives illustrate a robust system of coercive control. The Ministry functions as an implementing agent for the standards and regulations established by SON and NESREA. This framework creates a clear, top-down structure in which supplier compliance is not subject to negotiation but is a direct response to the coercive pressures exerted by legitimate state institutions.

International Organization for Standardization certification as a non-negotiable gatekeeping mechanism

In addition to national regulations, international standards, particularly International Organization for Standardization (ISO®) 14001 for Environmental Management Systems, function as a critical and decisive coercive instrument. Across the interviews, ISO certification was consistently described not as a discretionary preference but as a mandatory, pass or fail criterion for supplier engagement. It serves as the primary gatekeeping mechanism, effectively filtering out non-compliant suppliers of post-manufacturing components. As one manager stated emphatically:

'As it stands, if a supplier does not have ISO certification, we do not have any business or deal with such a supplier. ISO certification is one of the compulsory requirements expected from suppliers for our ministry to deal with them.' (#M1, Male, Senior management, Bachelor's degree)

This uncompromising stance illustrates how an external global standard has been fully internalised as a domestic regulatory requirement. The Ministry leverages the legitimacy of ISO to enforce a baseline level of environmental management capability. The practical implementation of this requirement is a collaborative effort, wherein the international standard is operationalised by the national regulatory body (SON), creating a unified compliance framework. As another manager explained:

'In Nigeria, any component that is added to a vehicle must be eco-friendly. The ISO, along with the SON, carries out these checks... If they give a pass mark on the products being supplied, we accept them.' (#M2, Male, Middle management, Bachelor's degree)

The consequences for suppliers who fail to meet this standard are immediate and unequivocal. Non-compliance is not subject to negotiation; it results in automatic disqualification. This procedural rigidity was described by another participant:

'There is no way the senior management will go outside of the approved budget to procure or supply any item that is not subjected to the standards stipulated… We cannot buy from non-compliant suppliers because we have a bid process to checkmate them.' (#M5, Male, Middle management, Bachelor's degree)

This 'checkmating' process reflects a deliberate exercise of coercive power, wherein the bidding process itself is structured to enforce ISO compliance. The requirement is embedded directly into the prequalification criteria. A manager confirmed this linkage, specifically in relation to the management of GHG-emitting products:

'Hence, we do not purchase or place orders of items that would require ISO certification from suppliers that are not ISO certified because the ministry has prequalification requirements for components that are thought to emit GHG gases.' (#M2, Male, Middle management, Bachelor's degree)

Collectively, these insights reveal a rigidly enforced, hierarchical system. Coercive pressure from the global institutional environment embodied in ISO standards is adopted and operationalised by the Ministry, often in collaboration with national regulatory agencies. This creates a powerful and non-negotiable barrier to entry for non-compliant suppliers, reinforcing a compliance-first approach to green purchasing.

The strategic use of mimetic pressure: Gaining legitimacy through imitation

In response to the complexities associated with implementing green purchasing, the Ministry strategically mitigates uncertainty by imitating the practices of established and successful organisations. This mimetic behaviour was evident in two primary domains: Benchmarking against national regulatory bodies and emulating the practices of recognised industry leaders.

Benchmarking against national regulators as a template for practice

Rather than developing its own green purchasing frameworks from the ground up, the data reveal that the Ministry extensively adopts the policies of the SON and the NESREA as foundational templates for its operations. This strategic imitation provides an immediate and legitimate basis for

procurement activities, reducing uncertainty and ensuring alignment with national standards. As one participant explained, this is a deliberate choice to follow authoritative models rather than emulate fewer formal entities:

> 'The ministry does not mimic another organisation because we adhere to policies from the SON and NESREA that we use as a template.' (#M10, Male, Middle management, Master's degree)

This statement is particularly revealing: The act of 'using a template' constitutes a clear form of mimetic behaviour, even if the participant distinguishes it from 'mimicking' other organisations. In the public sector context, imitation is strategically directed towards the most legitimate and authoritative institutions to ensure that actions are defensible and aligned with national expectations. Another manager reinforced this dependency:

> 'In our ministry, everything that has to do with compliance is based on SON, as we solely rely on the policies of SON. We do not have any other system to carry out such checks of non-compliance.' (#M7, Male, Senior management, Bachelor's degree)

This reliance is not merely a matter of convenience; it represents a core operational strategy. Given the technical complexity and scale of managing thousands of post-manufacturing components, developing bespoke environmental policies for each item is impractical. Emulating the established standards of expert bodies such as SON is the most efficient and credible approach to ensuring legitimacy and operational consistency. As another participant noted:

> 'Our ministry depends on the SON for setting and maintaining standards, and these are integral to integrating green products in manufacturing processes.' (#M6, Male, Middle management, Bachelor's degree)

This mimetic strategy also extends to internal monitoring practices. In the absence of dedicated tools for detecting non-compliance, the Ministry effectively outsources the foundational logic of compliance to SON. One manager candidly acknowledged this operational reality:

> 'Unfortunately, we do not have any tool to guide against non-compliance. The compliance is fully on SON.' (#M3, Male, Middle management, Ordinary National Diploma)

Collectively, these insights illustrate a deliberate and pragmatic strategy of mimetic isomorphism. The Ministry addresses the uncertainty and complexity inherent in green procurement – particularly for post-manufacturing components by adopting the well-established, legitimate frameworks of national regulatory bodies. This is not passive replication, but an active, strategic choice aimed at ensuring that procurement practices are robust, defensible and aligned with dominant institutional norms.

Adopting best practices from the private sector

In addition to benchmarking against national regulators, the Ministry also exhibits mimetic behaviour by drawing inspiration from successful private sector entities – including multinational corporations (MNCs) in related industries and even leaders in seemingly unrelated sectors such as fast-moving consumer goods (FMCG). This reflects a pragmatic approach to learning and adaptation, driven by the need to identify proven solutions to complex supply chain challenges. As one manager noted, this imitation is a deliberate strategy for adopting effective operational systems:

> 'We mimic the fast-moving consumer goods (FMCGs) supply chain system because the supply chain network incorporates moving of goods and services through road transport systems. Organisations in the FMCGs space endeavour to provide quality products/services to the end customers in the most ethical ways that guarantee business continuity and environmental compliance….' (#M14, Male, Middle management, Bachelor's degree)

This statement is particularly insightful. It demonstrates that the Ministry's leadership is not solely focused on emulating other government agencies but is actively identifying analogous challenges such as logistics, business continuity and compliance in high-performing private sector organisations. By importing successful models from these contexts, the Ministry engages in a classic form of mimetic isomorphism, reducing uncertainty by adopting practices that have been validated elsewhere.

This outward-looking strategy is also evident in Ministry's approach to specific green initiatives. For example, its transition to cleaner fuels is directly influenced by the practices of leading global companies. As another manager explained:

> 'The ministry currently mimics a sterling global company which has embraced this policy by converting all their operational vehicles to compressed natural gas compliant, which we as a ministry have tailored our supply needs by also converting 70% of our transportation in compliance….' (#M7, Male, Senior management, Bachelor's degree)

This illustrates a direct, one-to-one imitation of a specific sustainability strategy adopted by a perceived industry leader. By embracing the compressed natural gas (CNG) conversion policy, the Ministry not only advances its environmental objectives but also enhances its legitimacy and reduces the risks associated with implementing an untested strategy. It follows a path already proven effective by a globally recognised organisation.

Collectively, these findings reveal that the Ministry's mimetic strategy is multi-dimensional. It adopts formal compliance templates from national regulatory bodies (as discussed in 'Benchmarking against national regulators as a template for practice' section) while simultaneously emulating operational systems and targeted green initiatives from successful private sector actors. This dual approach enables the Ministry to construct a green purchasing framework that is both regulatorily sound and practically informed by real-world models, thereby mitigating risk and reinforcing institutional legitimacy.

The challenge of normative pressure: The external–internal knowledge gap

While coercive and mimetic pressures provide a strong external framework for green purchasing, the findings reveal

significant challenges in the internal development and institutionalisation of normative values related to sustainability. Normative pressure rooted in professionalisation, shared knowledge and ethical standards appears to be less embedded within the Ministry and more dependent on external sources.

A culture of reliance on external seminars

The primary mechanism for cultivating environmental awareness and disseminating professional norms among staff is participation in seminars, workshops and events organised by external bodies. The data consistently point to a heavy reliance on national regulators such as the SON, professional associations like the Nigerian Society of Engineers (NSE), Nigerian Association for Engineering Geology and the Environment (NAEGE) and MNCs as the principal sources of environmental knowledge. The Ministry's role in this process is often passive, responding to invitations rather than proactively initiating or leading internal training programmes. As one manager described:

> 'Since we are working solely with SON, it is the SON that holds or organises those seminars for environmental management. The SON invites the ministry to attend to gain knowledge.' (#M1, Male, Senior management, Bachelor's degree)

This reliance on external actors for knowledge dissemination reflects normative pressure, wherein professional and regulatory bodies define and diffuse what constitutes appropriate environmental practice. The frequency and content of these learning opportunities are often dictated by external factors, such as funding availability or the schedules of hosting organisations. Another manager noted:

> 'We do have seminars where environmental issues are discussed periodically. However, we hold these seminars twice a year due to the availability of funds.' (#M9, Female, Senior management, Bachelor's degree)

This externally driven approach extends beyond national regulators to include MNCs, which are viewed as key sources of information on emerging technologies and global best practices for GHG reduction. This dynamic positions the Ministry as a recipient of knowledge from entities it may also regulate, as one participant explained:

> 'To raise staff understanding of greenhouse gas emissions… the ministry does, in fact, organise environmental awareness seminars twice a year. Additionally, every three months, the MNCs host seminars at various locations, inviting the ministry to participate. This is purely to educate oneself on the most recent developments in technologies for reducing GHG emissions.' (#M10, Male, Middle management, Master's degree)

Professional associations also play a significant role in this externalised system of knowledge sharing, reinforcing the normative influence of peer networks. As another manager stated:

> 'The ministry does not hold seminars for environmental awareness now, but staff members are always invited to attend seminars relating to GHG emissions … Many staff members are registered engineers, so the state branch of the Nigerian Society of Engineers as well as Nigerian Association for Engineering Geology and the Environment always extends their invitations to the ministry …' (M8, Male, Senior management, Ordinary National Diploma)

This outsourcing of environmental education is further confirmed by a senior staff member, who framed it as a collaborative effort:

> 'Since environmental awareness is the conscious realisation and comprehension of the interdependence between the environment and human existence, we do, in fact, organise quarterly environmental seminars in collaboration with NESREA.' (#M14, Male, Middle management, Bachelor's degree)

Collectively, these statements reveal a consistent pattern: The normative pressure to cultivate environmental knowledge and values is primarily addressed through external means. While this approach provides access to credible and authoritative sources, it also underscores a lack of institutionalised internal capacity for knowledge creation and dissemination. The Ministry's normative environment is thus shaped more by external professional and regulatory norms than by internally developed values, positioning it as a follower rather than a leader in embedding sustainability into its organisational culture.

Inconsistent internalisation and gaps in staff knowledge

The Ministry's heavy reliance on external seminars – combined with the absence of structured, regular internal training – has resulted in inconsistent internalisation of environmental norms and a significant knowledge gap across the organisation. The data reveal a clear disconnect between strategic-level awareness of environmental mandates and the deep, operational understanding required for proactive implementation. While managers are exposed to environmental standards through external engagements, there is limited evidence of a proactive, internally cultivated culture of environmental stewardship that permeates all levels of the Ministry.

This gap is exemplified by admissions from several managers that key policies, particularly those addressing complex issues such as CO_2 minimisation, are not widely understood and are still perceived as being in an early, experimental phase. One manager candidly acknowledged this lack of familiarity:

> 'I cannot say anything because, like I informed you earlier, I have no idea about the CO_2 emissions minimisation policy. This is a new tool which is still in the trial stage in the ministry.' (#M5, Male, Middle management, Bachelor's degree)

Another manager deferred responsibility entirely, suggesting that such specialised knowledge is confined to senior leadership and has not been effectively disseminated throughout the organisation:

> 'I may not be able to address this question, as this answer should come from the senior leadership members of staff.' (#M1, Male, Senior management, Bachelor's degree)

This lack of widespread knowledge has tangible implications. While the Ministry can enforce compliance with clearly defined coercive rules – such as requiring ISO certification – it struggles to foster the deeper normative commitment necessary for proactive green procurement. Staff may understand the need to follow specific rules but often lack the contextual understanding of why those rules exist. This limits their ability to make informed, discretionary decisions that go beyond basic compliance.

These findings suggest that normative pressure is the least developed of the three institutional forces shaping green purchasing practices. The current approach may be adequate for maintaining a baseline level of compliance driven by external mandates, but it is insufficient for cultivating the shared values, professional expertise and organisational learning required to embed sustainability meaningfully within the Ministry's culture. This creates a potential vulnerability in the long-term integration of green procurement practices, as the Ministry's environmental performance remains tethered to external enforcement rather than being driven by internal capacity for innovation, reflection and continuous improvement.

Discussion

A hierarchy of institutional forces

The findings of this study reveal a complex yet discernible interplay of institutional forces shaping the green purchasing framework within the Nigerian Ministry of Transportation. The analysis identifies a clear hierarchy among these forces. Coercive pressure, manifested through mandatory regulations and standards, forms the foundational structure of the Ministry's green procurement practices. This is strategically complemented by mimetic pressure, through which the Ministry adopts established practices to gain legitimacy and reduce uncertainty. In contrast, normative pressure evidenced by gaps in internal knowledge and training remains underdeveloped, posing a significant challenge to the deep integration of sustainability.

This section moves beyond descriptive analysis to offer a theoretical interpretation of the findings, critically examining their implications for understanding GPP within the public sector of a developing country. The study demonstrates a distinct hierarchy of institutional influence: Coercive pressures provide the foundational mandate, mimetic strategies offer a pragmatic path to implementation and normative values struggle to achieve deep internalisation. This hierarchy not only reinforces the core propositions of institutional theory but also offers a nuanced, context-specific model for GPP adoption.

Coercive pressure as the indispensable driver of green public procurement

The data unequivocally position coercive pressure as the dominant and indispensable institutional force driving GPP within the Ministry. This finding aligns strongly with institutional theory's assertion that organisations, particularly public entities operating in highly regulated environments, are compelled to conform to formal rules and mandates to maintain legitimacy (DiMaggio & Powell 1983; Nsiah-Sarfo et al. 2023). The Ministry's reliance on national regulatory bodies such as SON and NESREA, alongside its mandatory enforcement of international standards like ISO 14001, exemplifies classic coercive isomorphism.

This dominance is particularly rational within the post-manufacturing context, where the automotive aftermarket represents a fragmented and diverse supply chain, lacking the centralised control typical of OEM networks. In such an environment, the state must act as the primary enforcer of standards (Ezeumeh 2023). The use of non-negotiable standards such as ISO certification as a 'pass or fail' gatekeeping mechanism is a logical response to this complexity. This finding resonates with broader GPP literature, which identifies government regulation as a key driver of adoption, especially in contexts where market-based incentives are weak or absent (Dimand 2022; Singh et al. 2024). The Ministry does not merely comply with these regulations; it actively leverages them as tools of governance over its complex supply chain.

Mimetic pressure as the key strategy for operationalising compliance

While coercive pressure establishes the rules, mimetic pressure shapes the Ministry's strategic response. Faced with the uncertainty inherent in implementing GPP, the Ministry imitates the practices of organisations perceived as legitimate and successful (Taheriruh & Moshtari 2024). This supports the theoretical proposition that mimicry is a rational, risk-reducing response to ambiguity (DiMaggio & Powell 1983).

The Ministry's mimetic behaviour is both deliberate and multifaceted. Firstly, it adopts the frameworks of SON and NESREA not merely as regulatory requirements but as operational templates. This legitimacy-seeking strategy ensures that internal processes are defensible and aligned with authoritative standards. Secondly, the Ministry benchmarks against successful private sector entities, including MNCs and FMCG companies. This reflects a strategic pursuit of operational excellence, not just regulatory compliance. The findings extend the work of Nsiah-Sarfo et al. (2023), who identified mimetic forces in Ghana's private sector, by demonstrating how a public entity selectively imitates private sector logistics to address analogous supply chain challenges. This is not uncritical mimicry but a pragmatic and strategic form of isomorphism.

Normative pressure as an underdeveloped mechanism for deep integration

In contrast to the institutionalised coercive and mimetic forces, normative pressure emerges as the least developed and most problematic mechanism. Normative isomorphism operates through the internalisation of professional values, shared knowledge and ethical standards (Kauppi & Luzzini 2022). However, the findings indicate that the cultivation of such knowledge within the Ministry is largely outsourced to external bodies and dependent on sporadic, resource-constrained seminars.

This results in a pronounced external–internal knowledge gap. The absence of structured, continuous internal training leads to inconsistent awareness and knowledge deficits among staff. This finding aligns with existing literature that identifies limited sustainability awareness as a key barrier in developing countries (Pålsson & Sandberg 2022). While coercive pressure can enforce baseline compliance (e.g. ISO certification), it cannot foster the deeper normative commitment required for proactive and innovative green procurement. This represents a critical vulnerability in the Ministry's framework: It is designed for compliance, not for cultivating a deeply embedded culture of sustainability.

Synthesising the pressures: An institutional model of green public procurement in the Nigerian context

The interaction among coercive, mimetic and normative pressures within the Nigerian public transportation sector reveals a clear institutional hierarchy:

- Coercive pressure from the state and global standards establishes the non-negotiable 'rules of the game'.
- Mimetic pressure guides the Ministry in adopting legitimate 'strategies and processes' to play the game effectively.
- Normative pressure, while present, remains a weaker, background influence that provides supplementary 'knowledge' but does not consistently shape core organisational values.

This hierarchical relationship underscores the extent to which the effectiveness of GPP in this context is contingent upon the clarity and enforceability of the coercive framework. While such a framework facilitates a robust compliance system – serving as a foundational mechanism within Cleaner Production to exclude non-compliant products and suppliers – the underdeveloped normative dimension renders the system predominantly reactive rather than proactive. To advance beyond mere compliance and align with the holistic, preventative ethos of Cleaner Production, as envisioned by the Sustainable Development Goals (SDGs) (Leal Filho 2020b), a substantial reinforcement of normative structures is imperative. This entails systematic internal capacity development, leadership that demonstrably champions sustainability and the institutionalisation of green procurement as a core organisational competency.

Conclusion

Summary of key findings

This study examined the institutional pressures shaping GPP within the Nigerian Ministry of Transportation's automotive aftermarket. The findings reveal a distinct hierarchy of institutional forces. Coercive pressure, exerted by national regulatory bodies (SON, NESREA) and mandatory international standards (e.g. ISO 14001), emerged as the dominant and non-negotiable driver of supplier compliance. Mimetic pressure was employed as a strategic response to uncertainty, with Ministry adopting regulatory frameworks as operational templates and emulating best practices from successful private sector organisations. In contrast, normative pressure, intended to foster professional values and internal sustainability culture, was found to be the least developed. It relied heavily on external seminars and resulted in inconsistent internalisation of environmental knowledge among staff. Consequently, the Ministry's GPP framework is robust in enforcing formal compliance but faces challenges in cultivating a proactive, internally driven sustainability ethos.

Theoretical implications

This research contributes significantly to institutional theory and GPP literature in several ways. Firstly, it offers nuanced empirical evidence of the simultaneous and hierarchical application of institutional theory within a public sector context in a developing country. While all three isomorphic pressures are present, coercive forces provide the structural foundation, shaping the strategic deployment of mimetic responses. This extends prior scholarship (e.g. Nsiah-Sarfo et al. 2023) by illustrating the dynamic and interdependent nature of institutional pressures.

Secondly, the study advances GPP scholarship by presenting one of the first empirical models of a compliance-first public procurement framework within a developing country's aftermarket sector. It explains why public entities operating in fragmented supply chains, often overlooked in GSCM research (Dhillon et al. 2023), rely on rigid, standards-based frameworks rather than market-driven incentives. By focusing on a public institution, the study responds to calls for deeper exploration of GPP beyond the private sector, where institutional legitimacy often supersedes profit motives (Caruana & Vassallo 2024).

Practical and policy implications

The findings offer actionable insights for policymakers and public sector managers. For Nigerian Ministry of Transportation, the study validates the effectiveness of its standards-based approach but identifies a critical vulnerability: The lack of structured internal training and consistent environmental awareness. To transition from compliance to a culture of sustainability, the Ministry should implement regular, structured internal training programs focused on environmental standards and GPP principles.

This would strengthen the normative dimension of its procurement framework.

For national regulatory bodies such as SON and NESREA, the findings suggest that their influence could be enhanced by supporting implementation capacity within ministries moving beyond standard-setting to fostering deeper collaboration and knowledge transfer. For suppliers in the automotive aftermarket, the research underscores that ISO 14001 certification and adherence to national standards are not mere formalities but essential prerequisites for engagement with the Nigerian public sector.

Limitations and avenues for future research

A key strength of this study lies in its deep, contextualised insights, enabled by its qualitative design. While this limits statistical generalisability, it provides the rich, nuanced understanding necessary for theory building in an under-researched domain. Several limitations also present opportunities for future research.

This study focused exclusively on the strategic perspectives of middle and senior managers. Future research should incorporate the views of frontline staff and suppliers to develop a more holistic, multi-stakeholder understanding of the GPP ecosystem. A longitudinal study could also track the evolution of institutional pressures over time, offering insights into the sustainability of current practices.

Additionally, future research could employ the Delphi-analytic hierarchy process (AHP) framework (Khan et al. 2022) to quantitatively prioritise the drivers and barriers to GPP implementation across public sector contexts. Pursuing these avenues will help build a more comprehensive picture of the challenges and opportunities for advancing sustainable development through public procurement in emerging economies.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

CRediT authorship contribution

Christian A. Olele: Conceptualisation, Data curation, Project administration, Resources, Visualisation and Writing – original draft. Marcia Mkansi: Conceptualisation, Supervision and Writing – review & editing. Anthea Amadi-Echendu: Conceptualisation, Supervision and Writing – review & editing. All authors reviewed the article, contributed to the discussion of results, approved the final version for submission and publication and take responsibility for the integrity of its findings.

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Data availability

Data will be made available on request from the corresponding author, Christian A. Olele, on reasonable request.

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