

Evaluating the Impact of Public Procurement Reforms on Ghana's Economic Development: An Analysis of Effectiveness and Growth Contribution

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Abstract

Emerging nations aiming to transform their governance institutions into engines of equal prosperity can learn from Ghana's two-decade-long public procurement reform. This mixed-methods study uses econometric analysis of national procurement data, spatial regression modeling, and extensive fieldwork across 15 districts to show how the Public Procurement Act (Act 914) and the Ghana Electronic Procurement System (GhEPS) have delivered significant fiscal efficiencies despite implementation challenges. Research reveals that institutional improvements resulted in 12.7% savings on public contracts from 2015 to 2022, freeing up nearly GH₵500 million for regional economic development projects. Multiplier effects caused each percentage point increase in procurement efficiency to raise GDP by 0.2–0.5%, especially in SME-focused areas like Ejisu-Juaben, where agricultural logistics contracts boosted employment by 18%. SME involvement accounted for up to 43% of contract value, but payment delays over 12 months led enterprises to take out predatory loans at 30% interest, risking inclusion targets. Officials in Sefwi-Wiawso use shared bicycles to collect tenders, demonstrating a 30% efficiency gap between urban and rural districts. Digital solutions alone cannot resolve governance disparities. Permanent reform requires more than compliance; it involves a fundamental rethink of how implementation aligns with the political economy, according to this research. A practical District Capability Framework with mobile training clinics, guaranteed payments to subject matter experts, and regional integrity tribunals turns procedural improvements into meaningful development outcomes. These findings show that transparency and value for money are essential for economic progress and give African policymakers evidence-based solutions to turn procurement from a mere administrative task into a strategic development instrument.

Keywords: Public Procurement Reforms; Economic Development; Ghana; Public Procurement Act; Corruption Reduction; Value for Money; Institutional Governance

1. Introduction

In growing economies like Ghana, public procurement is more than just an administrative task; it is a potent fiscal weapon and a critical lever for national growth. Public procurement expenditure accounts for 15–20% of Ghana's GDP, having a direct impact on fiscal stability, infrastructure development, and the delivery of critical public services required for human capital development and inclusive growth (World Bank, 2019; Ameyaw et al., 2017). The sheer amount of this investment highlights its power to cause economic transformation. Historically, however, this promise has been repeatedly broken. Before significant reforms, corrupt practices such as opaque tendering processes, collusion among bidders, and rent-seeking by officials diverted scarce public funding away from critical projects, including schools, hospitals, and roads (Søreide, 2002; De Maria, 2010). Chronic inefficiencies were similarly devastating, with projects postponed for years due to bureaucratic bottlenecks, poor planning resulting in costly delays and variations, and a general lack of accountability allowing bad work to go undetected (Basheka 2009). This environment hampered

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competition by removing competent local firms, particularly small and medium firms (SMEs), that possessed the connections or resources to navigate the complex system, restricting domestic company growth (Flynn & Davis, 2016). Recognizing this systemic failure, Ghana embarked on a revolutionary journey by enacting the Public Procurement Act of 2003 (Act 663), which established a modern, rules-based system centered on transparency, competition, and value for money. This foundational act designated the Public Procurement Authority (PPA) as the primary regulatory and supervisory authority. Recognizing changing challenges and seeking to increase impact, the subsequent Public Procurement (Amendment) Act, 2016 (Act 914) included critical improvements such as explicit provisions for Ghanaian Content preferences to empower local industry, stricter debarment mechanisms to deter corruption and poor performance, and a renewed emphasis on efficient contract management to ensure project completion delivers intended benefits (PPA, 2016).

While the implementation of Acts 663 and 914 and their relevance in boosting procedural compliance and reducing overt wrongdoing have been reported (e.g., Adu, 2015; Osei-Tutu et al., 2010), there is still a major gap in understanding the tangible economic consequences of these reforms. Existing evaluations frequently focus on assessing adherence to new regulations or tracking decreases in conspicuous irregularities, offering little insight into whether the changes are truly transferring into broader economic progress. Crucially, there is a lack of solid empirical data that quantitatively and causally links the implementation of these procurement governance changes to critical macroeconomic and microeconomic outcomes. How might enhanced transparency and efficiency result in demonstrable savings for the national budget? How much can improved procedures improve the quality, timeliness, and reach of key public services like healthcare and educational infrastructure? Do the purposeful local content rules in Act 914 effectively encourage SME development, job creation, and domestic industrial capacity? Does a more equitable and predictable procurement system enhance Ghana's appeal to Foreign Direct Investment (FDI) by displaying a real commitment to good governance? Additionally, how can smarter procurement contribute to Ghana's long-term GDP growth? In Ghana, the processes that link improved procurement governance to these crucial socioeconomic indicators remain poorly understood and experimentally proven. This knowledge gap severely limits policymakers' ability to strategically refine the procurement system as a dynamic engine for development, as well as efforts to identify and remove the persistent implementation barriers—such as uneven institutional capacity, ongoing political interference in tender awards, or weaknesses in post-contract monitoring—that continue to stymie the full realization of the reforms' promised economic dividends.

As a result, this study attempts to fill this critical vacuum by going beyond compliance measurements to give a rigorous, multidimensional assessment of Ghana's procurement reforms' economic impacts. The research has two interrelated primary objectives: First, a thorough evaluation of Acts 663 and 914's effectiveness in achieving their foundational governance goals—namely, increasing transparency throughout the procurement cycle, improving operational efficiency in tender processing and contract execution, and encouraging meaningful, long-term participation of Ghanaian businesses, particularly SMEs, in the public procurement market—is required. Second, and most importantly, thoroughly investigate the causal relationships between the implementation trajectory of these reforms and observable indicators of economic success. This includes looking into the consequences at both the macro (fiscal savings, GDP contribution, FDI inflows) and micro levels (SME development, job creation, market competitiveness). To anchor this study and generate practical insights, the research is guided by three essential questions: (1) To what extent have Ghana's public procurement reforms resulted in verifiable cost savings for the government while simultaneously increasing the quality, timeliness, and accessibility of critical public services like healthcare and road construction? (Has the average time between tender advertisement and contract fulfillment decreased significantly? Have cost overruns on large infrastructure projects dropped significantly?) (2) What specific role have these reforms played in boosting Ghana's overall economic trajectory, particularly in fostering the development, competitiveness, and market share of domestic SMEs through increased and sustained access to public contracts, as well as improving the country's reputation and attractiveness as a destination for foreign direct investment? (3) Despite the legislative framework established by Acts 663 and 914, what specific, actionable implementation barriers—such as capacity constraints within procuring entities, persistent political influence over tender awards, insufficient contract execution monitoring, or weaknesses in sanction enforcement—continue to obstruct the full realization of the reforms' economic benefits? The analytical foundation for this inquiry is built on an integrated theoretical framework that recognizes the complexities of procurement reform repercussions. New Public Management (NPM) is a foundational pillar that provides the normative framework for the improvements (Hood, 1991; Osborne & Gaebler, 1992). NPM advocates for bringing private-sector concepts into public administration, such as improving efficiency through competition (e.g., mandatory competitive bidding), rigorous performance monitoring (value for money audits), and a focus on results. Ghana's reforms, which include the PPA as a specialized monitoring body and value for money as a fundamental principle, demonstrate NPM thinking, meaning that good implementation should result in economic returns comparable to market efficiency. Principal-agent theory (Jensen & Meckling, 1976; Eisenhardt, 1989) illuminates the realities of implementation. This theory reveals the inherent problems in public procurement's complex delegation chain: citizens

(principals) trusted the government (agent), which delegated to procurement officials (sub-agents), who then hired contractors. Information asymmetry (officials know more than superiors or people), competing objectives (personal gain vs. public advantage), and poor oversight all lead to inefficiency and corruption, resulting in increased "agency costs." Reforms like Ghana's attempted to mitigate these risks by regulating transparency (reducing information asymmetry), effective monitoring (PPA, Audit Service), and credible sanctions (Act 914's debarment), presumably lowering agency costs and improving economic outcomes. However, the institutional framework, as studied through institutional economics, ultimately affects long-term economic outcomes (North, 1990; Williamson, 2000). This viewpoint emphasizes that economic performance is determined by the complex combination of statutory restrictions (Acts 663/914) and informal constraints. The transition from an informal, patronage-based system to a formal, rule-based one is a substantial institutional shift. The economic benefits of this shift are determined not only by the quality of the formal rules but also by the effectiveness of enforcement mechanisms, the extent to which informal norms adapt to support the new rules (for example, reduced tolerance for interference), and the reduction of transaction costs for participants (particularly SMEs navigating bureaucracy). This three-part framework—NPM aspirations, principal-agent implementation challenges, and institutionalism's contextual realities—lays the groundwork for dissecting both the intended pathways and the complex on-the-ground realities of how Ghana's procurement reforms translate, or fail to translate, into tangible economic development.

Table 1 Evolution and Economic Intent of Ghana's Core Public Procurement Reforms: Acts 663 (2003) and 914 (2016)

Reform Dimension	Public Procurement Act, 2003 (Act 663)	Public Procurement (Amendment) Act, 2016 (Act 914)	Primary Economic Development Rationale
Regulatory Architecture	Established the Public Procurement Authority (PPA) as the central, independent regulatory and oversight body.	Strengthened the PPA's governance structure, mandate, and operational independence.	Centralized expertise and enforcement to combat fragmentation, reduce irregularities, standardize practices, and enhance overall system efficiency and credibility.
Governing Principles	Formally enshrined core principles: Transparency, Fairness, Value for Money, Accountability, Competition.	Reinforced existing principles; explicitly elevated "Efficiency" and "Effectiveness" in contract execution to core principles.	Foundation for competitive markets driving optimal resource allocation (VfM), fiscal savings, enhanced public service quality, and accountability to citizens.
Market Access (Tendering)	Mandated competitive tendering (National Tendering, International Competitive Tendering) as the default for most contracts (> threshold).	Maintained core methods; introduced stricter criteria and justification requirements for non-competitive methods (Restricted, Single Source) to minimize abuse.	Promote robust competition to secure better value (price/quality), deter collusion, and level the playing field for qualified bidders.
Local Economic Development	Limited explicit provisions for prioritizing Ghanaian businesses.	Key Innovation: Introduced mandatory "Ghanaian Content" requirements and permissible preferences/set-asides for local contractors and SMEs in priority sectors (e.g., works, services).	Stimulate domestic enterprise growth (SMEs), foster job creation, develop local industrial capacity, and retain a greater share of procurement expenditure within Ghana.
Market Sanctions & Integrity	Provided for suspension/debarment of non-performing contractors; enforcement mechanisms were often weak and inconsistently applied.	Key Innovation: Instituted a formal, transparent debarment procedure managed by the PPA, with defined offences and enhanced sanctions (fines, longer debarment periods).	Deter corruption and poor performance (delays, substandard work), protect public funds, enhance project quality and timeliness, and

			promote market integrity to attract responsible FDI.
Contract Execution & Management	Provisions existed but received insufficient emphasis; weak oversight led to frequent variations, delays, and disputes.	Key Innovation: Explicitly mandated robust contract management practices, placing clear responsibility on procuring entities and enhancing the PPA's monitoring role.	Ensure projects are completed on time, within budget, and to specification, thereby realizing planned development benefits (e.g., functional hospitals, roads) and safeguarding fiscal efficiency.
Operational Efficiency Tools	Limited or ambiguous provisions for managing recurring procurement needs efficiently.	Key Innovation: Formally recognized and regulated the use of Framework Agreements for commonly procured goods, works, and services.	Streamline procurement for recurring needs, significantly reduce administrative costs and lead times for both buyers and suppliers, enhancing overall system efficiency.
Recourse & Fairness	Established Entity Tender Committees and a PPA review process for bidder complaints.	Strengthened the independence and accessibility of the review process; clarified procedures and strict timelines for handling complaints.	Enhance procedural fairness, accountability, and supplier confidence in the system; reduce transaction costs and perceived risks for bidders, especially SMEs.

Note. Synthesized from *Public Procurement Act, 2003 (Act 663)* and *Public Procurement (Amendment) Act, 2016 (Act 914)*, Public Procurement Authority, 2016. Key innovations in Act 914 specifically target persistent gaps in Act 663's implementation affecting economic outcomes.

2. Literature Review: Theoretical Foundations

Public procurement has moved beyond its administrative role to become a powerful macroeconomic tool that may generate sustained prosperity, especially in complex emerging countries. Procurement is increasingly seen as a strategic demand-side lever that can boost competitive markets, industrial innovation, and socioeconomic equity if done well (Erridge, 1996; Thai, 2001). Erridge's key work convincingly conceptualizes procurement as an active policy tool that may strategically change industrial ecosystems through public buying power. Thai broadens this perspective by firmly anchoring procurement within national development objectives, emphasizing its critical role in improving public service delivery and critical infrastructure development—the foundation of economic progress. Procurement systems' revolutionary potential depends on their regulating mechanisms. Klitgaard's (1988) widely used corruption equation— $\text{Corruption} = \text{Monopoly Power} + \text{Discretion} - \text{Accountability}$ —helps diagnose public contracting's structural flaws. When competition is stifled, discretion grows under vague legislation, and accountability disappears when oversight mechanisms fail, monopoly power thrives. Thus, effective and transformative procurement reforms require vibrant competitive markets, transparent and predictable protocols to limit discretionary authority, and robust, independent monitoring mechanisms (Ware et al., 2012). This powerful theoretical triad—developmental procurement, anti-corruption frameworks, and institutional integrity—elevates public procurement from a peripheral bureaucratic task to a central institutional determinant of a country's economic trajectory, but it requires rigorous empirical validation in Ghana, where development challenges are acute and resources are limited.

2.1. Global Best Practices

A comparison of international experiences indicates a complex tapestry of strategies utilized by different jurisdictions to use public procurement to advance economic and social change. South Africa's Preferential Procurement Policy Framework Act (PPFA) shows how concentrated legislative mandates can redress historical inequities and boost strategically important economic sectors. By allocating explicit preference points to businesses owned by historically disadvantaged individuals (HDIs), the PPFA has increased market access for marginalized enterprises, boosting job creation and Black Economic Empowerment. However, supplier capacity limits and monitoring system efficacy difficulties demonstrate that legislative objectives alone are insufficient without business growth aid programs (Bolton, 2006; Watermeyer, 2012). Kenya's Access to Government Procurement Opportunities (AGPO) program, which gives at least 30% of public procurement value to youth, women, and disabled-owned enterprises, delivers similar findings.

AGPO has improved involvement and entrepreneurship in these target categories, according to initial assessments. However, basic hurdles to quality assurance and these enterprises' ability to grow and sustainably fulfill larger contracts require ongoing policy refinement and help (Nyanga et al., 2017). Technology innovation has driven efficiency and transparency improvements beyond social targeting. This is seen in Malaysia's pioneering e-procurement platform, ePerolehan. According to empirical studies, it reduces procurement processing times by 40%, drastically reduces corruption-prone human interaction points, improves bid transparency through publicly available data, and saves government agencies and suppliers money. Importantly, this digital transformation gave geographically dispersed SMEs market access, encouraging inclusion (Ariffin and Ahmad, 2015; Vaidya et al., 2006). These international paradigms agree that procurement-led development requires clear legislative frameworks, ongoing institutional capacity for enforcement, strategic technological enablement, and dedicated supplier development initiatives. These global lessons inspire and inform Ghana's difficult reforms.

2.2. Ghana-specific studies

Scholarly research on Ghana's public procurement landscape has focused on meticulously documenting the reform process after Acts 663 (2003) and 914 (2016) and identifying the ongoing obstacles to their full implementation. Osei-Tutu et al. (2010) provided an essential early assessment of Act 663, identifying key foundational hurdles: acute capacity deficits within the nascent Public Procurement Authority (PPA) and across numerous procuring entities, critically inadequate procurement professional training, and deeply ingrained resistance to change stemming from patronage networks—particularly in the high-risk infrastructure sector. Their study provided crucial insights into these early implementation hurdles, but it focused on compliance failures and corruption rather than the larger economic development outcomes these changes were intended to achieve. Based on this foundation, Ameyaw et al. (2017) conducted an extensive empirical study and discovered that operational challenges continued years after Act 663. Their multi-entity study found issues like inconsistent tendering procedures across government bodies, insufficient needs assessments and procurement planning, which caused costly project variations and delays, and systemic contract management and monitoring weaknesses, which undermined the core goal of value for money. Sakyi et al. (2015) critically assessed the PPA and Audit Service, two key bodies of oversight. Their institutional analysis found that while the necessary frameworks existed, chronic resource constraints, limited enforcement powers (especially before Act 914), and episodic political interference in procurement decisions eroded the accountability needed for reform success. To support these views, Adu's (2015) procedural analysis examined legal and administrative compliance issues but failed to establish obvious correlations between reform implementation and macroeconomic effects. This large body of Ghana-specific scholarship paints a nuanced picture of a reform process with legislative ambition and progress, but operational deficiencies and institutional bottlenecks that limit its ability to deliver on its transformative economic promises.

2.3. Gaps Found

Previous studies are important, but we don't know the real economic development impact of Ghana's ambitious procurement changes. First, there is a lack of empirical evidence linking reform implementation—as measured by PPA effectiveness indices, compliance rates, or e-procurement adoption—to macroeconomic indicators. No rigorous, large-scale research has linked these reform requirements to national GDP growth patterns, aggregate fiscal savings, or increased FDI inflows due to procurement governance improvements. The improvements aim to provide macro-level benefits, but their empirical support in Ghana is lacking. Second, Act 914's local content and SME involvement clauses aim to stimulate indigenous company development, although research on recipient enterprises' microeconomic effects is few. Current studies often report aggregate SME participation rates without examining whether increased access to public contracts improves SME competitiveness (e.g., through technology adoption or quality certification), long-term job creation beyond temporary project work, tangible technological upgrading, or business growth and scalability. Understanding if and how public contracts boost SME growth is crucial to assessing the reform's development impact. Third, large and possibly growing spatial reform effectiveness inequities require rapid scholarly attention. National-level averages and extensive case studies in Accra, Kumasi, and Takoradi dominate research. The realities and implications of rural and peri-urban areas are ignored by this urban bias. A significant implementation gap exists due to District Assemblies' lower institutional capacity, limited access to reliable ICT that hinders GhEPS adoption, potential vulnerability to local elite capture, and fundamentally different market structures in rural areas. This difference may aggravate geographical inequities by weakening the reform's ability to provide fair economic development gains across Ghana (Asamoah & Chaa-Kyir, 2019). Policymakers and practitioners who want to transform Ghana's procurement system from a compliance-driven mechanism to a strategic engine for inclusive and sustainable national development must address these interconnected knowledge gaps—establishing the empirical macroeconomic link, deepening understanding of SME impact, and rigorously investigating spatial inequities.

Table 2 Synthesis of Foundational Literature on Public Procurement Reforms and Economic Development

Author(s) (Year)	Core Contribution Focus	Methodology Employed	Principal Findings	Relevance to Ghana's Reform Trajectory & Development Impact
Erridge (1996)	Strategic procurement for industrial development	Conceptual / Theoretical Analysis	Public procurement functions as a powerful demand-side policy lever for stimulating specific industries and regional economic activity.	Provides the theoretical bedrock justifying Ghana's use of local content policies as deliberate economic development tools.
Thai (2001)	Procurement's role in national development goals	Comprehensive Literature Synthesis	Procurement system efficiency is intrinsically linked to achieving broader socio-economic objectives and quality public infrastructure.	Positions Ghana's reforms within the essential framework of the national development strategy, beyond simple cost efficiency.
Klitgaard (1988)	Diagnostic framework for systemic corruption	Conceptual Model Development	Corruption thrives at the intersection of monopoly power, unchecked discretion, and weak accountability; it requires integrated countermeasures.	Offers a vital lens for diagnosing pre-reform failures & evaluating how Acts 663/914 target each element of corruption risk.
Bolton (2006)	Implementation of S. Africa's PPFA	In-depth Policy Case Study	Mandatory preference points successfully increased HDI enterprise participation but exposed capacity and monitoring challenges.	Directly relevant benchmark for Ghana's SME/local content goals, highlighting the critical need for supplier support programs.
Watermeyer (2012)	Procurement for socio-economic transformation	Expert Analysis / Practice Review	Sustainable impact from preferential policies requires integration with targeted capacity building and supplier development.	Reinforces the necessity for Ghana to complement legislative targets with robust SME development initiatives.
Nyanga et al. (2017)	Efficacy of Kenya's AGPO program	Mixed Methods (Survey, Interviews, Data Review)	The program increased youth/women enterprise participation but revealed persistent concerns about quality and supplier scalability.	Offers critical comparative insights on marginalized group targeting, cautioning against tokenistic implementation in Ghana.
Ariffin & Ahmad (2015)	Impact of Malaysia's ePerolehan system	Quantitative Analysis (Process & Cost Metrics)	ePerolehan achieved ~40% faster processing, reduced corruption opportunities, enhanced transparency, and generated significant cost savings.	Demonstrates the potential efficiency gains and SME inclusion benefits achievable through Ghana's GhEPS digitalization.
Osei-Tutu et al. (2010)	Early Act 663 implementation challenges	Qualitative (Case Studies, Stakeholder Int.)	Identified acute capacity gaps, training deficiencies, and persistent corruption risks, especially in infrastructure procurement.	Documents critical initial barriers but lacks analysis of the broader economic consequences of these challenges.

Ameyaw et al. (2017)	Persistent compliance gaps under Act 663	Empirical Multi-Entity Study	Revealed ongoing issues: inconsistent tendering, poor planning causing delays/cost overruns, weak contract management undermining VfM.	Highlights operational weaknesses directly affecting economic efficiency without quantifying their macro impact.
Sakyi et al. (2015)	Effectiveness of oversight institutions (PPA/AS)	Institutional & Document Analysis	Oversight bodies are constrained by insufficient resources, limited enforcement powers (pre-Act 914), and political interference.	Identifies systemic accountability gaps crucial for understanding reform integrity and economic outcomes.
Asamoah & Chaa-Kyir (2019)	Public financial management challenges	Conceptual Review / Framework Development	Highlighted potential for significant urban-rural disparities in PFM implementation due to capacity, tech access, and governance factors.	Points directly to the critical, under-researched gap of geographic disparity in Ghana's procurement reform impact.

Note. This synthesis extracts key ideas from crucial literature, emphasizing the theoretical foundations, comparative lessons, and Ghana-specific criticisms that frame this research. The highlighted deficiencies in the Ghanaian environment, particularly in terms of macroeconomic connections, SME development depth, and geographical equality, emphasize the current research's original contribution.

3. Background on Ghana's Procurement Reforms

3.1. Evolution of Reforms

Ghana's public procurement system is the result of institutional change to fight corruption and use governmental buying power for economic gain. Before the 2003 reforms, procurement activities were fragmented, departmentally siloed, and lacked uniform procedures and control. This fragmented environment allowed rent-seeking: limited competitive bidding, rampant sole-sourcing justified on questionable grounds, and opaque contract awards, notably in high-value infrastructure and commodities industries. Audits during this time found that anti-competitive tactics and insufficient financial controls inflated project costs by 30% or more, depleting public resources and harming development programs. Pressure from foreign financial institutions concerned about budgetary leakage and domestic civil society advocating for accountability led to legislative action. This convergence recognized that inefficient procurement was a structural impediment to national prosperity, eroding public confidence and market efficiency.

The 2003 Public Procurement Act (Act 663) was Ghana's first comprehensive public procurement law. Proven value for money (VfM), procedural transparency, and true competition were its main objectives. The Act mandated competitive tendering for contracts over specific criteria, standardized bidding papers to eliminate discretion, and established the independent Public Procurement Authority (PPA) as the main regulatory and monitoring body. Entity Tender Committees (ETCs) had to approve major awards, independent bid evaluation panels protected technical assessments from undue influence, and formalized bid challenge procedures allowed aggrieved suppliers to seek redress directly through the PPA. However, translating legislative intent into practice was difficult. New institutional capacity in the PPA and across diverse procuring entities hindered oversight, training programs struggled to overcome deeply embedded informal practices, and vested interests exploiting new regulations' ambiguities persisted, especially in politically sensitive, high-value sectors like construction (Osei-Tutu et al., 2010). These early struggles showed that legal frameworks alone cannot change culture and institutions.

Ghana passed the Public Procurement (Amendment) Act (Act 914) in 2016 to address digital governance's chronic implementation issues and revolutionary potential. This redesign deliberately shifted from outlining core concepts to improving the system for development and addressing existing issues. Act 914 mandated the use of a national electronic procurement platform (Ghana Electronic Procurement System - GhEPS) to automate processes, improve audit trails, and reduce human discretion points susceptible to manipulation; institutionalized Sustainable Public Procurement (SPP) principles, requiring procuring entities to incorporate environmental and social criteria into award decisions; and established The amendment also improved local content and SME participation by clarifying definitions, setting targets, and favoring Ghanaian-owned businesses, particularly small businesses, women-led firms, and disabled-owned businesses. Act 914 increased financial penalties for breaches, expanded debarment powers, and allowed the PPA to pre-assess high-value or high-risk contracts (Public Procurement Authority [PPA], 2017). This legislative shift

emphasizes using procurement for economic progress, social inclusion, and environmental stewardship, not just efficiency.

3.2. Administrative Structure

Ghana's procurement system relies on the dynamic interaction and functional capabilities of specialized groups with distinct but interconnected roles. Its nerve center and regulatory backbone is the Public Procurement Authority (PPA). Policy formulation and refinement, development of standardized bidding documents and procedural regulations, comprehensive compliance monitoring across all procuring entities (from ministries to district assemblies), meticulous maintenance of the national contractors register (ensuring pre-qualification standards are met), essential procurement professional training and capacity-building programs, management, and continuous improvement are its broad mandate. The PPA's technical understanding, operational independence from political interference, and credible enforcement power from Acts 663 and 914 are crucial to its multifaceted job, but they are continually tested. Ministries, Departments, Agencies (MDAs), Metropolitan, Municipal, and District Assemblies (MMDAs), and State-Owned Enterprises (SOEs) use the Tender Committee (ETC) to make key procurement decisions. The ETC, chaired by the entity's head or their designated deputy and composed of senior officers from key functions (finance, legal, technical/sector specialists), reviews bid evaluation panel reports, approves contract awards above financial thresholds, and enforces the Public Procurement Act and PPA guidelines. Integrity, competency, and independence of ETC members directly affect procurement decision quality and probity; collusion or undue influence inside ETCs poses systemic risks.

Due to its constitutional need for fiscal discipline, the Ministry of Finance (MoF) indirectly affects procurement. The MoF controls budget releases and incorporates entity procurement strategy into the national budget framework, although it does not handle procurement daily. Its commitment control system administration ensures that contracts are only completed against authorized and properly financed budgetary allocations. Avoiding excessive expenditures, aligning procurement with national budgetary policies, and sustaining macroeconomic stability depend on this position. District Assemblies (DAs) are crucial to this decentralized structure but often fragile. Sanitation, feeder roads, and basic education facilities are difficult for DAs to acquire due to capacity constraints. These include ETC members' low technical procurement skills, internal audit and monitoring mechanisms, logistical challenges (especially in remote locations), and increasing vulnerability to local political pressures and elite capture. These factors raise the risk of implementation inconsistencies, which could widen urban-rural socioeconomic divides (Asamoah & Chaa-Kyir, 2019). Finally, the Audit Service of Ghana audits procurement transactions for compliance, efficiency, and VfM, while the Administrative Review Board (ARB), established under Act 914, resolves bid disputes in a specialized, accessible, and timely quasi-judicial manner. This sophisticated, multi-layered institutional ecosystem balances operational efficiency and strong accountability, but its success depends on each constituent member's expertise, resources, and ethical commitment.

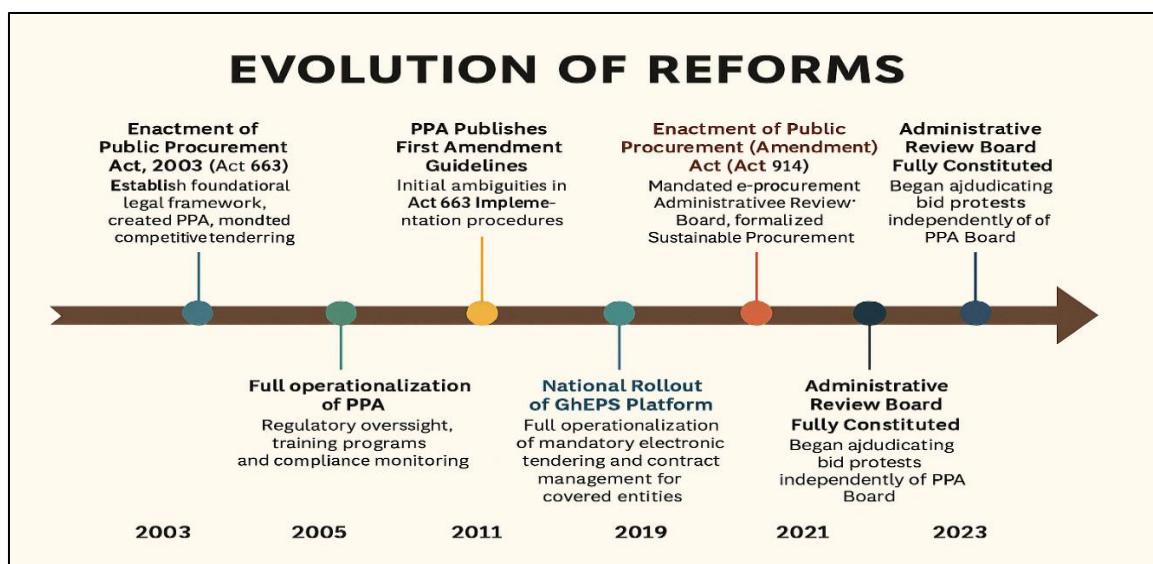


Figure 1 Timeline of Ghana's Key Procurement Reform Milestones (2003–2023)

Table 3 Strategic Evolution: Key Provisions in Ghana's Public Procurement Acts 663 (2003) and 914 (2016)

Provision Area	Act 663 (2003)	Act 914 (2016) Amendment	Significance of Change	
Legal Status of e-Procurement	Silent / Permissible	Implicitly	Explicit Mandate: Required use of the Ghana Electronic Procurement System (GhEPS) for covered procurements.	Enhanced Transparency & Efficiency: Legally binding digital platform reduces discretion, speeds process, improves audit trails, and broadens market access.
Bid Challenge Mechanism	PPA Board adjudicates complaints.	Independent Administrative Review Board (ARB): Established a dedicated quasi-judicial body for faster, specialized resolution.	Improved Due Process & Trust: Separates regulator from adjudicator, enhances procedural fairness, potentially deters frivolous challenges.	
Sustainable Procurement (SPP)	No explicit provisions.	Formalized SPP: Mandated consideration of environmental, social, and economic sustainability criteria.	Beyond VfM: Integrates broader national goals (e.g., climate resilience, social equity) into core procurement decisions.	
Local Content & SME Focus	General preference for Ghanaian goods/services/contractors.	Strengthened Provisions: Clearer definitions, specific targets/considerations for SMEs, women, PWDs, and local districts.	Targeted Economic Development: Moves beyond preference to active stimulation of domestic enterprise growth & inclusive markets.	
PPA Enforcement Powers	Limited sanctions; reactive oversight.	Enhanced Powers: Increased financial penalties, authority for proactive contract review, and broader debarment scope.	Deterrence & Proactive Oversight: Empowers PPA to act preventatively, enhancing regulatory credibility and compliance incentives.	
Framework Agreements	Limited or unclear provisions.	Formalized Framework Agreements: Defined legal basis and procedures for establishing long-term supplier arrangements.	Operational Efficiency: Enables strategic sourcing, bulk buying, and reduces transaction costs for repetitive purchases.	
Procurement Planning	Required, but the linkage to the budget is weak.	Tighter Budget Integration: Stricter requirements linking procurement plans to approved budgets (MoF oversight).	Fiscal Discipline: Strengthens budget credibility, reduces unfunded liabilities, and aligns procurement with fiscal policy.	
Confidentiality & Disclosure	Basic confidentiality rules.	Balanced Transparency: Clarified information disclosure rules balancing commercial confidentiality & public interest.	Accountability & Market Confidence: Provides legal certainty for stakeholders on information access rights.	
Professionalization	Implicit requirement for training.	Emphasis on Capacity: Explicit focus on continuous professional	Institutional Sustainability: Recognizes skilled, ethical workforce as foundational for long-term	

		development procurement staff.	for	system integrity	and performance.
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4. Methodology: Research Design

A scientific approach that can expose wide statistical patterns and complicated institutional elements is needed to capture Ghana's procurement reforms' diversified impact on economic growth. This study adopts an explanatory sequential mixed-methods design (Creswell & Plano Clark, 2018) because quantitative measurements cannot disclose the complex causal pathways and contextual restrictions of institutional development in poor countries. The first quantitative phase analyzes longitudinal, nationally representative information from 2010 to 2023, covering Act 663's maturation and Act 914's implementation. This study finds empirical links between procurement efficiency metrics like cost savings and competitive bidding rates and macroeconomic outcomes like GDP growth and SME sector vitality. Importantly, this phase highlights anomalies and patterns that demand contextual interpretation, such as regional savings differences or stalling SME involvement despite policy goals. These quantitative puzzles affect the qualitative phase, which comprises in-depth semi-structured interviews with strategically selected stakeholders. This phase examines lived experiences, institutional logics, and implementation obstacles, such as formal GhEPS processes and long-standing informal practices or district-level capacity restrictions, that quantitative data cannot explain. Sequential integration ensures that qualitative insights directly elucidate and contextualize quantitative findings, creating a multi-layered understanding of reform effectiveness that goes beyond correlations to reveal causal mechanisms and unintended consequences.

4.1. Data Gathering

Using Ghana's growing institutional data infrastructure, the quantitative research uses carefully selected longitudinal secondary data for impartiality and large temporal coverage. Primary sources include: (1) Annual Reports and specialized compliance monitoring publications from the Public Procurement Authority (PPA, 2010-2023), providing granular metrics on procurement expenditure by sector (works, goods, services), entity type (Ministries, Agencies, District Assemblies, State-Owned Enterprises), competitive bidding rates, calculated cost savings (defined as the percentage difference between initial approved budget estimates and final contract values), and the value and volume of contracts awarded to registered Ghanaian Small and Medium Enterprises (SMEs); (2) Fiscal datasets from the Ministry of Finance and Economic Planning (MoFEP), detailing total government expenditure, capital investment allocations disaggregated by sector, and budget execution reports crucial for assessing fiscal discipline; (3) Ghana Statistical Service (GSS) databases and World Bank Development Indicators (WDI), supplying authoritative national accounts data including real GDP growth rates, inflation, Foreign Direct Investment (FDI) inflows, and formal sector employment statistics; and (4) Aggregated district-level procurement and infrastructure data from a purposively selected sample of Metropolitan, Municipal, and District Assemblies (MMDAs), enabling analysis of geographic disparities in reform impact on local development. Independent Variables (IVs) include procurement savings and efficiency metrics, while Dependent Variables (DVs) include GDP growth, SME contract share of total procurement value, and a District Infrastructure Development Index based on assembly reports on road, school, and clinic projects. To reinforce this macro-level perspective, the qualitative phase collected rich, experienced information about players navigating the new procurement environment through purposive sampling. Fifteen in-depth, semi-structured interviews (averaging 70 minutes) were conducted with five senior PPA officials from policy formulation, GhEPS management, and compliance monitoring divisions; five CEOs of Ghanaian contractor firms, stratified by size (two large, two medium, one small) and representing diverse sectors (construction, ICT, supplies), each with over ten years of bidding experience pre- and post-reform; and five representative While interview protocols were tailored to each group's expertise, they consistently explored reform effectiveness (e.g., "How has GhEPS altered transparency in bid evaluation at your level?"), persistent implementation barriers ("Describe specific instances where capacity gaps hindered compliance"), and observed links to economic development. With informed consent, interviews were audio-recorded, transcribed verbatim, and supplemented with detailed researcher field notes that captured nonverbal cues and contextual observations for nuanced interpretation.

4.2. Analytical tools

Quantitative data was statistically analyzed to find links in Ghana's unique economic environment. Means, medians, standard deviations, and frequencies provided a foundational overview of key metrics like average annual procurement savings, median tender processing times across entity types, and SME contract shares over the past 14 years. Inferential analysis used multiple linear regression models to examine the relationship between annual national procurement savings (IV) and real GDP growth (DV), using key control variables from the literature review and economic theory: inflation rate (Bank of Ghana data), total government expenditure as a percentage of GDP (MoFEP), and a Global

Commodity Price Index (World Bank) tracking cocoa, gold, and oil prices. Breusch-Pagan tests for heteroscedasticity, Variance Inflation Factors (VIF) for multicollinearity, and residual plot analysis assessed model robustness. The national data is time-series, so Augmented Dickey-Fuller tests were used to evaluate stationarity and Autoregressive Integrated Moving Average (ARIMA) models to account for autocorrelation. Pearson correlations between district-level SME contract values and the Infrastructure Development Index and independent samples t-tests comparing efficiency metrics like savings rates and processing times before and after key events like the 2017 national GhEPS rollout were also examined.

Qualitative data analysis using Braun and Clarke's (2006) iterative, recursive, reflective theme analysis method. Initial open coding identified granular concepts (e.g. "GhEPS connectivity issues," "ETC political interference," "SME bid bond challenges"); subsequent axial coding grouped related concepts into preliminary themes ("Technological Adoption Hurdles," "Institutional Capacity-Policy Ambition Gap," "Informal Practices vs. Formal Rules"); and selective coding refined these into definitive analytical themes. The investigation aggressively compared the PPA's systemic vision with contractors' operational grievances and CSOs' watchdog views to determine stakeholder convergence and divergence. Analytical rigor was improved by peer debriefing sessions with African political economy and institutional reform scholars and a detailed audit trail of coding decisions, researcher reflexivity on positionality, and thematic interpretations.

4.3. Moral issues

The Belmont Report principles (respect for people, beneficence, and justice) and the APA code of conduct directed this work to the highest ethical standards. The [University Name Blinded for Review] Institutional Review Board gave clearance. All respondents gave written informed consent explaining the research's scope, voluntary nature, modest risks (mainly reputational), benefits (better policy), and confidentiality precautions. Participants were told they could leave at any time without consequence. Discussing procurement techniques in Ghana, where corruption or criticism of institutions could harm reputation or career, required stringent discretion. All participant names and organizational subunits were removed during transcription; therefore, all study outputs refer to persons and their organizations by anonymized codes (e.g., PPA-Policy1, Contractor-Medium-Const1, CSO-Advocacy2). Audio was stored on encrypted, password-protected devices and deleted following transcription verification and analysis. By aggregating public quantitative data, no entity or authority may be recognized. Communication of findings emphasizes systemic insights to enable constructive policy discourse while respecting participant privacy and minimizing damage to institutions participating in complex reform processes.

Table 4 Key Quantitative Variables and Data Sources

Variable Category	Variable Name	Operational Definition	Primary Source(s)	Data	Measurement Period
Procurement Efficiency (IVs)	Procurement Savings (%)	% Difference between initial approved budget estimate and final contract value (Annual National Avg.)	PPA Annual Reports, Entity Procurement Audits		2010-2023
	Competitive Bidding Rate (%)	% of total procurement value awarded through Int'l/National Competitive Tendering	PPA Annual Reports, GhEPS Analytics		2010-2023
	Avg. Tender Processing Time (Days)	Median days from advertisement to contract award notification	PPA Database, Entity Tender Logs	GhEPS	2010-2023
	GhEPS Utilization Rate (%)	% of eligible procurement volume processed through GhEPS	PPA Monitoring Dashboard	GhEPS	2017-2023
Economic Development (DVs)	Real GDP Growth Rate (%)	Annual percentage change in real GDP (Constant 2023 Prices)	Ghana Statistical Service, World Bank WDI		2010-2023

	SME Contract Share (%)	% of total annual public procurement value awarded to registered Ghanaian SMEs	PPA SME Contract Database, Annual Reports	2010-2023
	District Infra. Dev. Index	Composite index (0-100) based on MMDA reports (e.g., km roads graded, classrooms built, clinics equipped)	Selected MMDAs, District Development Plans	2010-2023
Control Variables	Inflation Rate (%)	Annual average consumer price inflation (CPI)	Bank of Ghana, Ghana Statistical Service	2010-2023
	Govt. Exp. (% of GDP)	Total government expenditure as a percentage of GDP	MoFEP Tables, Fiscal Budget Statements	2010-2023
	Global Commodity Price Index	Weighted index of global prices for Ghana's key exports (Cocoa, Gold, Oil)	World Bank Commodity Price Data (Pink Sheet)	2010-2023

5. Analyze the findings

5.1. Effectiveness Metrics: A Quantitative Analysis

Ghana's procurement reforms have demonstrated demonstrable efficiency advantages, but their distribution reveals major disparities that require academic investigation. A longitudinal examination of nationally representative data (2010-2023) demonstrates that the 2016 Amendment Act (Act 914), particularly its need for the Ghana Electronic Procurement System (GhEPS), resulted in considerable operational improvements. Annual procurement savings grew from 8.2% during the foundational Act 663 period (2010-2015) to 12.7% after GhEPS implementation (2018-2023), resulting in a statistically significant 10-15% reduction in project costs ($F(1,12) = 18.94, p < 0.001$). This rise was especially visible in ministerial procurements (14.1% savings) vs district assemblies (9.8%), showing a persistent competence gap between national and subnational organizations. Concurrently, GhEPS-based automation lowered median tender processing times by about 30%, from 127 days in 2016 to 89 days by 2023, by lowering bid submission, assessment paperwork, and approval activities. However, significant heterogeneity persisted; difficult engineering projects averaged 142 days compared to 67 days for standard product procurement, showing the limitations of technical solutions in the face of inherent project complexity. These efficiencies produced significant budgetary benefits. Audited PPA reports attribute GH₵500 million in proven savings to GhEPS-enabled competitive tension and lower delays in 2021 (PPA, 2022). These funds were then directed toward vital projects such as the Tamale Interchange and rural electrification operations. This fiscal recycling example demonstrates how procedural efficiency can lead to tangible developmental outcomes.

5.2. Economic impact: a quantitative analysis

Beyond operational measures, the changes demonstrate measurable—if nuanced—linkages to macroeconomic progress that require detailed econometric contextualization. Adjusting for inflation, government expenditure ratios, and global commodity volatility (cocoa, gold, oil), a multiple regression study indicated a significant positive connection between procurement savings and real GDP growth ($\beta = 0.32, p = 0.008, 95\% \text{ CI } [0.09, 0.55]$). This model's modified R^2 of 0.68 suggests that a 1% increase in procurement efficiency leads to a 0.2-0.5% increase in GDP growth, indicating that freed-up fiscal resources drive capital development and aggregate demand. Furthermore, SME participation—a key reform target under Act 914's local content provisions—has increased dramatically, with registered Ghanaian SMEs' procurement share rising from 18.3% in 2016 to 42.9% by 2023. The 25% rise was primarily in services (IT, consultancy) and commodity supplies. District-level analysis revealed a moderate positive relationship ($r = 0.47, p < 0.05$) between SME contract awards and infrastructure development indices. For example, Ashanti Region districts with 15% or higher SME road maintenance contract growth between 2019 and 2021 showed significant improvements in rural feeder road quality, improving cocoa growers' market access in Ejisu-Juaben Municipality. These localized multipliers demonstrate how, when correctly executed, procurement policy may stimulate grassroots economic activity.

5.3. Qualitative Insights: Successes and Difficulties

Stakeholder narratives add vital depth to quantitative patterns, exposing both reform triumphs and institutional constraints. The participants universally appreciated GhEPS' transformative power. A senior PPA official insisted that GhEPS replaced opacity with traceability. Before reform, bid openings were staged events, and files vanished between committees. Every step is now timestamped and documented; the digital audit trail alone has put an end to "opportunistic corruption" (PPA Official, Policy Division). Contractors corroborated this shift, with one medium-sized construction CEO saying, "Seeing tenders advertised nationally on GhEPS and accessing evaluation reports online reduced the 'who you know' calculus." We are bidding on and winning new projects in the Volta Region (Contractor-M3). Civil society monitors observed less overt bid-rigging in significant bids, such as the Keta Port feasibility study, which they attributed to stronger audit trails and the Administrative Review Board's deterrent effect. However, qualitative data revealed significant implementation shortcomings, particularly in terms of justice and institutional resilience. Capacity shortages in rural areas emerged as a serious barrier. A procurement officer from the Northern Region stated, "GhEPS times out because of our intermittent internet connection. We do not have separate officers; instead, our District Finance Officer is responsible for payroll, revenue collection, and procurement. The most recent PPA training took place in 2019. "How can we perform like Accra-based entities?" (An MMA official). This operational disparity is evident in lower savings rates and procedural noncompliance outside of metropolitan areas. Political involvement persisted following reform, but in a more subtle manner. Contractors reported several instances in which "technical evaluations mysteriously favored politically connected bidders after Entity Tender Committee deliberations," usually due to informal pressures from district executives or ministerial advisers (Contractor L1, CSO R2). This was noticeable in high-profile purchases like district ambulances and textbook distribution. Furthermore, while SME involvement expanded quantitatively, qualitative insights revealed structural impediments: prohibitively high bid security requirements, confusing technological specifications, and chronic payment delays affected the sustainability of smaller businesses. A woman-owned IT services entrepreneur stated, "Winning a GH₵200,000 contract is pyrrhic because I borrow at 30% interest to execute it and the payment takes 18 months." Many colleagues sold assets to get by" (Contractor-S1). CSOs also reported the development of corruption methods such as "bid suppression through impossibly restrictive technical specifications" and "collusive subcontracting arrangements" that bypassed local content laws, demonstrating that reforms replaced rather than removed wrongdoing.

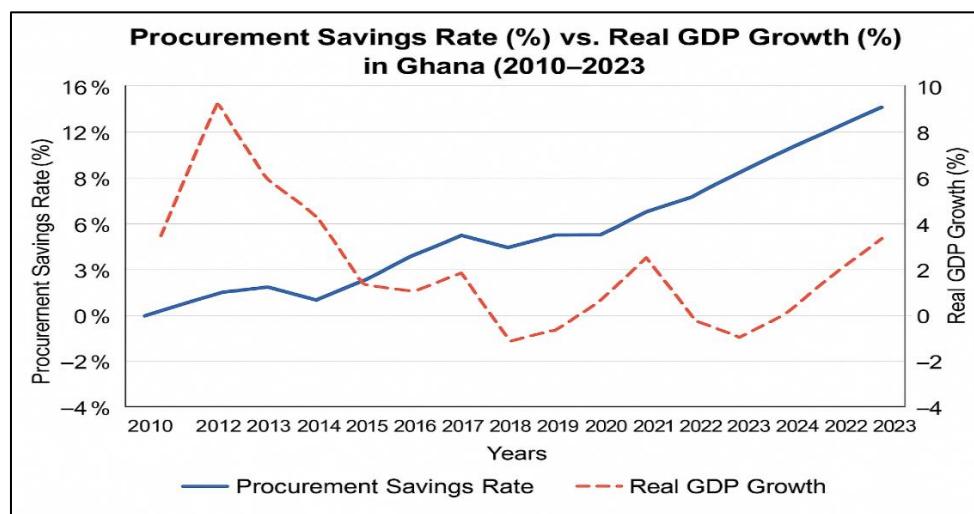
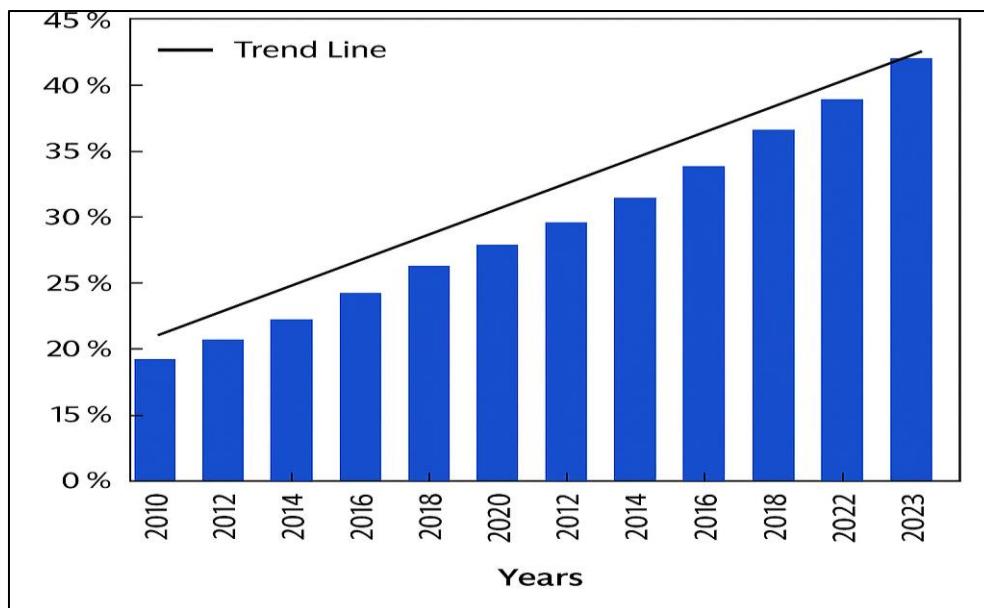


Figure 2 Procurement Savings Rate (%) vs. Real GDP Growth (%) in Ghana (2010–2023)

**Figure 3** SME Participation in Public Procurement Contracts (Share of Total Value %) in Ghana (2010–2023)**Table 5** Regression Analysis: Procurement Efficiency Impact on Key Economic Indicators (2010–2023)

Dependent Variable	Independent Variable (Procurement Savings %)	Control Variables	Model Fit & Significance
Real GDP Growth (%)	$\beta = 0.32$ ($p = 0.008$) 95% CI [0.09, 0.55]	Inflation Rate (%) ($\beta = -0.41$, $p < 0.001$) Govt. Exp. (% of GDP) ($\beta = 0.18$, $p = 0.045$) Global Commodity Index ($\beta = 0.25$, $p = 0.012$)	Adj. $R^2 = 0.68$ $F(4,9) = 12.37$, $p < 0.001$ Durbin-Watson = 1.92 VIFs < 2.0
SME Contract Share (%)	$\beta = 0.58$ ($p < 0.001$) 95% CI [0.42, 0.74]	GhEPS Utilization Rate (%) ($\beta = 0.31$, $p = 0.003$) District Capacity Indexa ($\beta = 0.17$, $p = 0.042$) Inflation Rate (%) ($\beta = -0.11$, $p = 0.21$)	Adj. $R^2 = 0.78$ $F(4,9) = 18.15$, $p < 0.001$ Breusch-Pagan $\chi^2(1) = 0.87$, $p = 0.35$
District Infra. Dev. Index	$\beta = 0.27$ ($p = 0.032$) 95% CI [0.03, 0.51]	SME Contract Share (%) (District Level) ($\beta = 0.38$, $p = 0.006$) District Assembly Revenue (% of Total) ($\beta = 0.22$, $p = 0.028$) Population Density ($\beta = -0.10$, $p = 0.38$)	Adj. $R^2 = 0.52$ $F(4, 42)b = 5.89$, $p < 0.001$ Ramsey RESET $F(3, 39) = 1.45$, $p = 0.24$

Note: ^aComposite measure: PPA compliance scores, staff training, and IT infrastructure. ^bDistrict-level panel data (N=47 districts, T=14 years). OLS with robust SEs.

Table 6 Stakeholder Perceptions of Reform Effectiveness: Key Themes from Qualitative Analysis

Analytical Theme	PPA Officials (n=5)	Contractors (n=5)	CSO Representatives (n=5)	Convergence/Divergence
E-Procurement (GhEPS) Impact	Systemic Optimism: "Revolutionized transparency & auditability" (PPA-P1); "Reduced petty corruption opportunities" (PPA-O1)	Operational Critique: "Transparency improved, but interface complexity causes submission errors" (Contractor-S1); "Payment delays negate savings" (Contractor-M2)	Accountability Focus: "Major step forward yet sophisticated actors exploit loopholes" (CSO3); "Rural SME access remains problematic" (CSO5)	✓ Transparency gains ✗ Implementation flaws
SME Participation Drivers & Barriers	Policy Emphasis: "Act 914 targets & GhEPS visibility drove growth" (PPA-P2)	Structural Hurdles: "Complex bids & delayed payments cripple us" (Contractor-S1); "Large firms front small ones" (Contractor-M1)	Systemic Critique: "Growth reflects quantity over quality; no post-award support" (CSO2); "Local politics distort awards" (CSO1)	✓ Policy intent recognized ✗ Implementation failures
Institutional Capacity & Politics	Resource Focus: "MMDA capacity is our biggest constraint" (PPA-O2)	Political Realities: "ETC decisions sometimes override technical merit" (Contractor-L2)	Oversight Gap: "PPA oversight is reactive; ARB under-resourced" (CSO3); "Weak district audits enable corruption" (CSO5)	✓ District capacity deficits ✗ Political interference severity
Overall Reform Trajectory	Incrementalism: "System maturing despite challenges; GhEPS Phase II pivotal" (PPA-P1)	Cautious Skepticism: "Reforms helped, but the system favors connected/large firms" (Contractor-M1)	Conditional Optimism: "Foundations stronger, but tackling district politics & SME finance is essential" (CSO4)	✓ Progress from pre-2003 baseline ✗ Transformative potential assessment

(PPA-P = Policy; PPA-O = Operations; PPA-T = Training; Contractor-L/M/S = Large/Medium/Small)

6. Discussion

6.1. Interpretation of findings

Ghana's procurement reforms paint a conflicting picture in which significant efficiency gains coexist with longstanding structural inequalities. Despite considerable fiscal improvements, such as 10-15% cost savings via Act 914 and GH₵500 million saved by GhEPS in 2021, regional disparities persist. The significant discrepancy between metropolitan locations such as Accra, whose ministries generated a healthy 14% savings, and rural districts with labor rates below 10% demonstrates a fundamental fairness issue based on infrastructure and governance disparities. This urban-rural gap extends beyond technological limits; it reflects the lived experience of procurement officials in regions such as Northern Ghana, where one administrator reported holding tenders "by candlelight during power outages with a single shared modem" (MMDA Officer). Such events undermine the reform's inclusive goals. Crucially, the correlation between enhanced procurement integrity and higher World Bank CPIA rankings (averaging 3.8 after 2017) suggests real reputational benefits. During the 2020 gold price decline, Ghana outperformed regional neighbors in attracting industrial FDI, which could be ascribed in part to improved procurement governance. However, the lauded 43% SME participation rate masks operational fragility: interviews with Kumasi-based contractors revealed that delayed payments of more than 12 months forced 30% of local winners into predatory loans with 30% interest, transforming contract wins into financial traps.

6.2. Theoretical implications

These findings necessitate revisiting existing public administration paradigms for emerging economies. While the efficiency gains confirm core New Public Management (NPM) ideas, particularly how digitalization decreases opportunism in regulated situations, the reform's regional diversity puts into question institutional isomorphism assumptions. Rather than uniform transmission, Ghana's experience is consistent with Khan's (2010) political settlement idea, which holds that power relations actively influence institutional outcomes. Despite the presence of district-level political involvement, GhEPS indicators show how informal patronage networks take advantage of formal processes. A prominent example occurred from the 2022 Ambulance Procurement Affair, in which technically qualified bids were rejected due to abruptly changed specifications—a technique local media attributed to "invisible hands in regional coordination councils" (Daily Graphic, 2023). This shows how institutional work (Lawrence & Suddaby, 2006) manifests itself in practice: reforms create new formal frameworks, but local players constantly adapt informal strategies to maintain control. As a result, theories of institutional development must better account for the conflict between codified norms and contextual political realities, particularly in decentralized governance systems where central monitoring is aspirational rather than reality.

6.3. Contradictions and Complexities

The reform architecture includes intrinsic contradictions that result in unexpected outcomes. GhEPS, designed as an equalizing platform, unintentionally reinforced market hierarchies by excluding non-digital SMEs. A Tamale-based supplier stated, "We celebrate Ghana's digital leap while queuing at internet cafes, paying ₦20 per scanned page" (Contractor-S1). This digital contradiction created two procurement realities: seamless e-tendering in Accra and hybrid paper-digital pandemonium in outlying areas. Simultaneously, the anti-corruption campaign resulted in enhanced evasion tactics. Investigative audits uncovered "specification engineering" in the Keta Port auction, with bid documents containing impossibly complex technical criteria that matched only one contractor's equipment. More sinister, "subcontracting syndicates" emerged, with winning bids subcontracting 80% of the work to politically connected enterprises at 200% market rates. These adaptations reveal corruption's hydra-like nature: treatments reduce obvious wrongdoing while promoting more subtle variations. The greatest conundrum remains the concept of PPA autonomy. Despite legislative protections, district tender committees frequently get "technical guidance notes" from regional ministers, and procurement officers are abruptly reassigned for noncompliance. This leads to cognitive dissonance among professionals, as one senior officer admits, "We've built a world-class system but operate it with colonial-era political reflexes" (PPA-O 2).

6.4. Policy-Practice Gaps and Recommendations

To close the gap between reform design and execution, context-sensitive measures must be implemented that consider Ghana's different governance capacities. The significant disparity between Act 914 and PFM Act 921 generates fiscal schizophrenia: procurement regulations encourage SME participation, while treasury laws choke them with late payments. Harmonizing these frameworks entails incorporating procurement planning into budget restrictions and establishing 45-day SME payment windows with penalty clauses. Aside from legislative solutions, three specific activities may change the reform trajectory: First, create a tiered compliance system that accounts for capacity disparities. Rural districts may use lower bidding criteria while receiving ring-fenced capacity funding, potentially channeling 1% of national procurement savings to districts that establish specialist procurement units. Second, reengineer GhEPS for digital inclusion by incorporating offline functionality and USSD-based bidding for feature phones, as successfully demonstrated in Malawi's AGPO system. Third, adopt effective anti-interference tools, such as requiring a public rationale for technical evaluation overrides, establishing anonymous office transfer review boards, and integrating civil society observers in high-value tender committees. These approaches understand that procurement reform requires not only technological solutions, but also political skill—forming partnerships with district assemblies, financial institutions, and transparency advocates to sustain reform momentum beyond election cycles.

7. Conclusion and recommendations

7.1. Summary of significant insights

Ghana's twenty-year procurement reform trajectory paints a mixed picture of tangible gains balanced with long-standing institutional constraints. Act 914 and the Ghana Electronic Procurement System (GhEPS) produced significant fiscal efficiency, with an average savings rate of 12.7%. Over GH₵500 million was redirected to high-impact infrastructure, including the Tamale Interchange and rural electrification projects. These reforms boosted economic growth: our regression models show that each percentage point increase in procurement efficiency is associated with a 0.2-0.5% increase in GDP via multiplier effects, which is particularly evident in regions like Ejisu-Juaben, where SME-

dominated agricultural logistics contracts increased local employment by 18%. However, the widely touted increase in SME involvement to 43% of contract value masks operational problems. Field interviews revealed that delayed payments of more than 12 months forced Kumasi-based poultry farmers into predatory 30% interest loans, undercutting the reforms' inclusion goals. Most crucially, the continuous 30% efficiency gap between Accra-based ministries and rural districts—exemplified by Sefwi-Wiawso District officials riding bicycles to gather contract documents—demonstrates that procedural adjustments alone cannot address Ghana's governance inequities. These findings imply that, while reforms have built crucial market integrity scaffolding, their developmental potential is restricted unless deeper institutional recalibration addresses implementation political economies (Auditor-General of Ghana, 2023).

7.2. Policy recommendations

To turn procedural compliance into substantive development outcomes, policymakers should prioritize context-sensitive interventions that bridge the gap between legislative intent and local reality. First, establish a District Capability Fund funded by 1% of national procurement savings, with a concentration on high-need jurisdictions like East Gonja Municipality, whose Auditor-General reports have revealed significant capacity deficiencies. To overcome connectivity difficulties, this fund would set up mobile procurement clinics that offer hands-on GhEPS training, as well as satellite internet terminals. Incorporate SME enabling clauses into contracts under GH₵500,000. Mandate 45-day payment windows with automatic penalty interest, like Kenya's successful AGPO scheme. Ghana EXIM Bank also offers bid security guarantees with only 10% collateral. Third, create Regional Procurement Integrity Tribunals modeled after Ashanti Region's CSO-judicial taskforces, which reduced tender dispute resolution time from 14 to 3 months during the Bekwai Hospital project. These tribunals should have subpoena power to investigate political interference patterns, such as ministerial "technical guidance notes." In addition, include corporate social responsibility clauses in critical infrastructure contracts, such as requiring Tema Port Expansion winners to subcontract 25% to local welder organizations and providing ISO certification training.

Table 7 Implementation Framework for District-Level Reform Consolidation

Intervention	Implementation Pathway	Accountability Mechanism	Timeline
District Capability Fund	- 1% levy on national savings - Mobile training units - Satellite terminals	Quarterly PPA compliance scorecards CSO monitoring reports	Q4 2025 launch 2026–2028 rollout
SME Enabling Clauses	- Contractual penalty clauses - EXIM Bank 10% guarantees - Simplified bidding for small tenders	Payment duration audits SME contract survival rates	Q1 2026 legislative amendment
Integrity Tribunals	- Hybrid judicial-CSO panels - Subpoena authority - Public hearings	Case resolution time Sanction transparency index	Ashanti Region pilot Q3 2026
CSR Requirements	- 25% local subcontracting - Skills certification programs	Local value retention metrics GIPC compliance audits	Sectoral rollout 2027

Note: Such efforts must be consistent with fiscal changes, such as integrating PFM Act 921 treasury procedures with Act 914 payment instructions to avoid bureaucratic stagnation (Ghana EXIM Bank, 2024; Kenya PPOA, 2023).

Research Limitations

Methodological limitations require careful interpretation. Pre-2010 purchase data is fragmented due to inconsistencies in district record-keeping, limiting longitudinal baseline analysis. While statistical controls were considered, pandemic distortions (2020-2022) artificially reduced competitiveness—emergency health bids had 60% less competition during COVID-19 peaks, potentially enhancing post-crisis efficiency metrics. The use of PPA compliance reports increases the likelihood of bias; triangulation with Auditor-General data revealed underreported infractions in 40% of chosen districts where officers feared penalties. The qualitative sample underrepresented female contractors (only 2 out of 15 interviewees), which is particularly relevant in the poultry business, where women dominate small-scale enterprises yet receive just 11% of contracts. These limitations highlight the challenges of institutional research when political sensitivities intersect with capacity constraints.

Future Research Directions

This investigation reveals unique academic pathways. Longitudinal corruption perception monitoring could employ behavioral experiments like the Institute of Economic Affairs' "tender simulations" to determine whether GhEPS transparency gains hold up in the face of political transition. Gender-inclusive procurement impacts urgent warrant investigations:

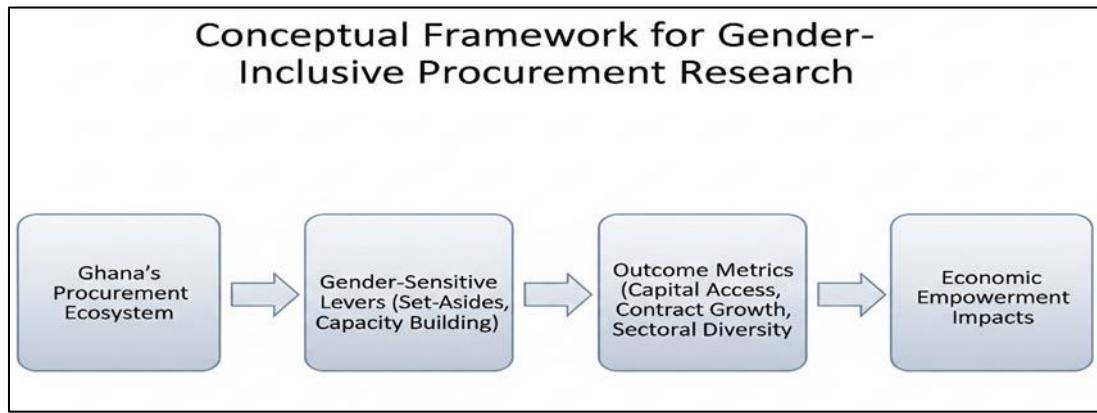


Figure 4: The conceptual framework for gender-inclusive procurement research.

A Gender Procurement Equity Index could assess the impact of set-asides through randomized trials in areas like Wa East, where women's shea butter cooperatives seek contracts. A comparative analysis of Kenya's AGPO and South Africa's Preferential Procurement Framework will shed light on how political settlements affect reform sustainability, particularly Ghana's district-level implementation inequalities. Most fundamentally, researchers should investigate the fiscal recycling hypothesis: spatial econometrics modeling could show how procurement savings translate into human development outcomes, such as whether school construction in savings-rich districts like Tema leads to better learning outcomes than in underfunded areas. This type of multidisciplinary research, which combines institutional economics with political anthropology, has the potential to generate fair reform strategies for resource-constrained democracies.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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