Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 12721 – 12734
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.6032

Public Audit and Its Role in Enhancing Industrial Policy Innovation in Ghana

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Abstract

Objective: This study explores the role of public audits in enhancing industrial policy innovation in Ghana. Theoretical Framework: The research is grounded in agency theory to understand the principal-agent relationship between auditors and policymakers, highlighting the need for audits to go beyond mere compliance to foster dynamic governance. Additionally, innovation systems theory, is utilized to grasp the systemic interactions among various actors (government, industry, academia, and civil society) in driving innovation. Method: A qualitative research approach was employed for the study, utilizing documentary analysis as the method for data collection and analysis. Results and Discussion: The results revealed that the current focus of GAS on financial compliance limits the potential of audits to drive innovation in industrial policy. Weak feedback mechanisms and insufficient collaboration between GAS and industrial stakeholders further inhibit the influence of audit recommendations on policy changes. Research Implications: The study underscores the need for a reorientation of the GAS's approach to public auditing, advocating for a broader scope that includes innovation-focused evaluations. This shift could lead to more meaningful policy reforms and improved economic outcomes in Ghana. Originality/Value: This research contributes to the existing literature by highlighting the untapped potential of public audits as catalysts for innovation within Ghana's industrial policy framework. It provides actionable recommendations for policymakers and audit institutions, emphasizing the importance of integrating innovation metrics into public auditing practices to foster sustainable economic growth..

Keywords: *Accountability, Governance, Industrial Policy, Innovation Systems, Public Sector Audit.*

Introduction

In today's rapidly changing global landscape, effective industrial policy innovation has become a crucial driver of economic growth and competitiveness for nations around the world. According to the International Monetary Fund (IMF), Industrial policy is a crucial global strategy aimed at promoting economic growth and development and involves targeted actions by the state to support industries crucial for national competitiveness, social outcomes, and security. Industrial Policy according to various studies, drives sustainable economic growth, supports strategic support for key industries, stabilizes global supply chains, addresses national security concerns, enhances competitiveness, and focuses on environmental protection, ensuring a sustainable future. Chang & Andreoni (2020) concluded that industrial policy plays a crucial role in addressing new economic realities and promoting a pragmatic approach to address challenges. Ferrannini et al. (2020) on the other hand were of the view that Industrial policy plays a central role in solving economic and social problems caused by unemployment, deprivation, and poverty, and has a new role in post-COVID-19 societies. Industrial policy plays a vital role in the development of emerging economies like Ghana by promoting economic diversification, technical progress, employment growth, global competitiveness, and sustainable development hence facilitates the advancement of novel technologies and industries, mitigating poverty, bolstering the competitiveness of domestic enterprises, and fostering sustainable development

As countries strive to foster sustainable development and enhance their industrial sectors, it is imperative to ensure that public resources are utilized efficiently and transparently. Public audit is a crucial aspect of public financial management, promoting accountability, integrity, and good governance in the use of public funds and resources. It is essential for assessing government actions in industrial policies, holding policymakers accountable, and enhancing transparency through audit reports. Studies have highlighted that sustainable city development and industrial policies require stringent monitoring frameworks to align

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resource utilization with long-term objectives (Kálmán et al., 2024a). Audits also evaluate the efficiency and effectiveness of industrial policy implementation, identifying areas for improvement, cost-saving strategies, and potential improvements in policy outcomes through resource consumption assessments. Auditors are responsible for identifying potential dangers that are connected to industrial policies, such as improper management, corruption, or insufficient monitoring (Klovach et al., 2022). Studies conducted by Vitomir et al. (2019), and Salihu & Hoti (2022) suggest that risks can be reduced and policy execution can be improved with the help of recommendations emanating from public audits. For example, research on perceived corruption and its correlation with green transition indicators provides valuable insights into how governance mechanisms, including audits, can ensure better policy execution and reduce systemic inefficiencies (Kálmán et al., 2024c). Audits also conducted to evaluate the effects of industrial policies on economic growth, the creation of new jobs, and the development of certain sectors. Hence future policy designs and revisions are usually informed by the lessons learned from audits.

Moreover, public audits extend their utility beyond governance to include broader socioeconomic impacts, as demonstrated in studies analyzing the role of material consumption and circular economy in shaping national income patterns (Malatyinszki et al., 2024a). The augmentation of public confidence in governmental institutions is a direct consequence of audits that are open and effective and this ensures that stakeholders are assured that industrial policies are executed equitably and effectively. Public audits enhance the efficacy of industrial policy by ensuring accountability.

The linkage between public audit and industrial policy innovation in the Ghanaian policy framework remains underexplored. Ghana, a country with a growing industrial sector and ambitious development goals, faces the challenge of aligning its public audit practices with industrial policy innovation to maximize the impact of its policies and ensure effective resource allocation. Strengthening the link between public audit and industrial policy innovation has the potential to enhance the efficiency, effectiveness, and transparency of Ghana's industrial policy framework, leading to accelerated economic growth, job creation, and sustainable development. Moreover, recent studies have emphasized the interplay between governance, financial oversight, and innovative economic policies, particularly in contexts marked by developmental ambitions and financial inclusion, such as those seen in Hungary and Mexico (Kálmán et al., 2024b).

The significance of this study lies in its potential to bridge the gap between public auditing and industrial policy innovation, two domains that are often treated separately in policy discourse. By exploring the role of the Ghana Audit Service in enhancing industrial policy innovation, this research contributes to the broader conversation on governance, accountability, and economic transformation. Research on the circular economy's impact on national income in Europe suggests that effective resource management strategies are vital for fostering innovation and sustainable growth, insights that can be extended to the Ghanaian context (Malatyinszki et al., 2024b). The findings are expected to provide insights into how audit outcomes can influence policy reforms and stimulate innovative approaches in industrial development, contributing to a more robust framework for policy implementation in Ghana.

The main objective of this research is to assess how public auditing impacts industrial policy innovation in Ghana. Specifically, it seeks to (1) evaluate the current practices of the Ghana Audit Service in relation to industrial policy, (2) investigate the relationship between audit findings and policy innovation, and (3) propose recommendations for aligning public auditing with industrial policy goals. The central research question driving this inquiry is: To what extent does public auditing contribute to fostering innovation in Ghana's industrial policy? This study addresses a gap in the literature by focusing on the intersection of public auditing and industrial policy innovation. While previous studies have extensively examined the role of public audits in ensuring accountability and transparency in government spending, few have explored their potential in influencing policy innovation, particularly in the context of industrial policy. By filling this gap, the research aims to contribute to the design of a more effective and innovation-driven industrial policy framework in Ghana.

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Literature Review

Conceptual Literature Review

Public audit, as defined by the International Organization of Supreme Audit Institutions (INTOSAI), refers to the independent examination of government revenue and expenditure to ensure accountability, transparency, and the proper use of public funds (INTOSAI, 2019). In the Lima Declaration of guidelines on auditing precepts published by INTOSAI, the organization asserts that public audit serves as a fundamental mechanism for scrutinizing government operations, and assessing whether public resources are managed in an economical, efficient, and effective manner. This is achieved through the provision of independent oversight and evaluation of the performance of state decisions and public programs, ensuring that public sector entities meet their objectives and deliver value to the citizens. The European Court of Auditors (ECA) in 2017 published an updated version of their performance audit manual in which they declared public audit as a crucial tool for evaluating the effectiveness and responsibility of public sector organizations.

The scope of audit within the realm of the public sector encompasses the assessment of financial statements, internal controls, risk management, and the overall efficiency and effectiveness of public sector operations. Public Audits assess whether state programs and activities are achieving their intended outcomes efficiently and effectively (ECA, 2017). This includes examining whether resources are being used optimally to deliver public services. Audits also promote accountability and transparency by providing an independent assessment of state operations and this helps prevent and detect fraud, corruption, and mismanagement, thereby fostering public trust (Nimani et al., 2013; Bhul, 2013). As Szabo-Szentgroti, Csonka, and Szabo-Szentgroti (2016) note, the younger generation's vision of work emphasizes efficiency and accountability, which aligns with the principles of public audits as tools to enhance transparency and ensure the optimal use of resources. By conducting independent and objective assessments, public audit instills public trust, promotes fiscal discipline, and safeguards against corruption and mismanagement of public resources and provides decision-makers with reliable information to support policy formulation, resource allocation, and performance monitoring (Walker, 2023; Baylis & Widt, 2023). Furthermore, leadership plays a pivotal role in fostering an environment that encourages knowledge sharing and transparency, which are essential in public audit functions, as emphasized by Ton, Hammerl, Weber, Kremer, and Szabo-Szentgroti (2022).

Studies conducted by various scholars have highlighted the important role being played by public audits. Lazarescu (2019) observed that public audits serve as a key mechanism of control which plays a lead role in ensuring that public funds are allocated and used under the applicable legal framework. Karkovska & Vishka (2021) on their part concluded that public audits serve as financial instruments deployed in detecting violations in state administration and aim to verify the legality, transparency, and efficiency of activities within the public sector. Popov et al. (2021) opined that public audit is a management process of high public importance, contributing to the rationalization of the use of budget funds and establishing effective management processes whereas the research of Baylis & Widt (2022) shows that the outcome of public audits validates accountability systems, providing public confidence in the fiscal behavior of government agencies.

The subject of industrial policy has been a subject of disagreement in governance, leading to debates (Andreoni & Chang, 2019). This debate is usually centered on the degree to which governments should intervene in the economy and have control over industrial results. Geroski (1989) concluded that, the debate on industrial policy is complex, with varying opinions on its existence, purpose, and whether it should be applied at a supra-national level. This can be attributed to the fact that in contrast to well-established policies such as monetary or fiscal policy, industrial Policy does not have a stable institutional structure and widely acknowledged aims. The aims and tools of it change with time and differ from nation to nation, which leads to it being a topic of controversy. As such, the definition of industrial policy varies across writers and

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politicians and evolves over time. Aiginger (2007) opined that, the definition of Industrial Policy varies depending on one's perspective towards it. On their part, Grabas-Nützenadel (2013) asserted that given the diversity of industrial policy approaches, measures and instruments, it seems not feasible and also not necessarily helpful to define any fixed categories or clusters of instruments.

To meet the objectives of this study, it is important to understand the point of view of various definitions made by some scholars. In their article "Government and Industry in the United States: Past Practices and the Debate on the Present Policies", Tommaso & Tassinari (2014) define industrial policy as government-led initiatives to boost growth and competitiveness in specific sectors, including direct interventions like subsidies and tariffs, and indirect measures like research and development support. Thompson (2014) on their part define industrial policy as government intervention targeting the industry sector without immediately other economic activities. The rationale behind their definition is to exclude monetary and macroeconomic policies, such as interest rates from. The term 'industry' includes manufacturing, infrastructural sectors, mining, agriculture, and services, as occupation categorization can be subjective.

In his journal article "European Industrial Policy and Industrial Policy in Europe, Geroski (1989) defines industrial policy as government measures aimed at influencing the economy, focusing on specific industries or sectors. This includes subsidies, restrictions, and research assistance. The goal is to improve economic performance, competitiveness, and address market weaknesses. Geroski (1989) distinguishes between conventional and contemporary industrial strategy, highlighting a shift towards promoting innovation, technical progress, and workforce skill enhancement. Foreman-Peck et al. (1999) define industrial policy as a set of government measures aimed at influencing the economic performance of specific sectors or industries. This definition of industrial policy emphasizes the government's processes to influence industrial growth, including financial assistance, regulatory structures, and innovation and technical progress. Foreman-Peck et al. (1999) highlight that industrial policy includes explicit interventions like subsidies and tariffs, as well as implicit measures like education and training to improve workforce abilities. The aim is to rectify market deficiencies, stimulate economic effectiveness, and enhance international competitiveness. Rodrik (2004) on their part defines Industrial policy as government initiative aimed at promoting the growth and expansion of specific sectors or industries through strategies like subsidies, tax incentives, and regulations. Rodrik (2004) further highlights that industrial policy involves a strategic partnership between public and private sectors to identify and overcome obstacles to economic growth and development.

Aiginger (2007) defines as any measure implemented by the government to shape the composition of the economy at the sector level. This encompasses measures that seek to improve the competitive position of sectors by promoting innovation, investing in technology, and fostering talent development. Aiginger (2007) further suggests that modern industrial policy should focus on creating conducive conditions for industrial transformation and competitiveness, rather than providing direct financial assistance to businesses. This approach fosters a dynamic economic environment that can adapt to global competition and technological advancements. Innovative industrial policies are crucial for countries to adapt to technological changes, achieve economic diversification, promote sustainable development, and enhance global competitiveness. This ensures robust, inclusive, and sustainable economic development for long-term success in the global economy. According to Pike (2018), Industrial policy is a set of interventions by governments to affect the economic structure of the economy, impacting inclusive growth. Natsuda et al. (2020) on their part defines industrial policy as a strategy to encourage sector, industry, or economy-wide development by the state, focusing on competitiveness, catching up, and structural change. Industrial policy has evolved from focusing on market failures to creating better conditions for growth and international competitiveness (Karlsson & Tavassoli, 2021).

Industrial policy innovation involves the strategic use of policy instruments to alter the structure of economic activity toward sectors, technologies, or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention (Warwick & Nolan, 2014). Simply put, industrial policy innovation refers to the strategic planning, formulation, and implementation of policies and initiatives aimed at fostering industrial growth, competitiveness, and technological advancements within a country. It involves the identification of priority sectors, the allocation of resources, and the creation of an enabling environment to promote innovation, entrepreneurship, and

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sustainable industrial development. The scope of industrial policy innovation encompasses a wide range of measures, including investment promotion, research and development (R&D) incentives, skills development, infrastructure development, and the facilitation of public-private partnerships.

Industrial policy innovation is key for emerging economies like Ghana because it provides a strategic framework for overcoming developmental challenges and leveraging opportunities for growth (Grillitsch & Asheim, 2018). According to Blakely (2014) and Kőmüves et al. (2024), innovation as national industrial policy facilitates economic diversification, technological advancement, job creation, and sustainable development. Industrial policy innovation can be defined as the formulation and implementation of new strategies and instruments by governments aimed at fostering industrial development and structural transformation (OECD, 2015). It utilizes the deployment of novel approaches to address market failures, support technological advancements, and enhance competitiveness in a globalized economy.

Aginger & Rodrik (2020) on the other hand observed that, Industrial policy innovation is characterized by the introduction of contemporary policy measures that integrate advanced technologies, promote sustainable development, and support the transition to a knowledge-based economy. The term encompasses reforms in regulatory frameworks, the creation of new institutions, and the establishment of public-private partnerships to drive industrial competitiveness. According to Weiss (2013), Industrial policy innovation involves the adoption of new paradigms and policy tools that reflect changing economic realities and technological landscapes. This includes the design of sector-specific initiatives, the promotion of innovation ecosystems, and the alignment of industrial policy with broader economic and social objectives, such as inclusivity and environmental sustainability. In a nutshell, industrial policy innovation involves not only the creation of new strategies and tools but also the reform of existing policies to address modern challenges with key emphasis being placed on the importance of technology, sustainability, and collaboration among various stakeholders to drive industrial growth and competitiveness.

The importance of industrial policy innovation is rooted in its potential to drive economic transformation, enhance productivity, and create jobs. By strategically supporting and nurturing targeted industries, countries can achieve diversification, reduce dependency on traditional sectors, and foster sustainable economic growth. This approach aligns with the principles observed in sustainable tourism development within geoparks, where targeted strategies promote economic resilience and diversification while addressing environmental challenges (Kálmán, Dávid, & Malatyinszki, 2024d). Industrial policy innovation also plays a crucial role in promoting technological advancements, innovation, and competitiveness, enabling countries to thrive in the global economy. Moreover, it serves as a mechanism for addressing social challenges, such as income inequality and regional disparities, by promoting inclusive and sustainable industrial development.

Empirical Literature Review

The auditing function plays a very significant role in Public sector financial management and accountability to stakeholders and the Ghanaian situation follows that same trend. Ghana's public audit system is primarily overseen by the Audit Service of Ghana, which is the supreme audit institution in the country. Established by the then colonial Gold Coast Government in 1910 and to become a world-class supreme audit institution delivering professional, excellent, and cost-effective auditing services, the Ghana Audit Service (GAS) has been mandated to conduct audits of government institutions, state-owned enterprises, and other public sector entities. The legal and regulatory framework governing public audit in Ghana also includes the Public Financial Management Act, which provides further guidance on financial management and accountability in the public sector. The service is entrenched in the 1992 constitution (Articles 187,188 and 189) as well as the Audit Service Act 2000 (Act 584). In recent years, Ghana's public audit system has made significant progress in terms of the scope and quality of audits conducted. The Audit Service now examines a wider range of financial statements, performance reports, and compliance with relevant laws and regulations.

The term "industry" within the Ghanaian context refers to a wide array of economic activities that extend beyond the scope of manufacturing (Anaman & Osei Amponsah 2007). This assertion is further stated in the study by Owoo & Page (2017) who concludes that industry in Ghana includes ancillary service sectors,

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extractive industries, and other sectors that contribute to the broader industrial framework of the nation. The manufacturing sector encompasses the process of creating items in factories and plants, spanning from consumer goods to industrial products. The extractive industry includes the retrieval and refinement of natural resources, including mining (for gold, bauxite, manganese) as well as oil and gas extraction. The service sectors are made up of services that provide assistance to industrial operations, such as logistics, transportation, financial services, ICT, and business services.

The concept of Ghana's industrialization has been there since the establishment of the nation and was driven by the visionary leadership of its first president (Grayson, 1973; Rice & James, 2022). According to Gebe (2008), after Ghana achieved independence from Great Britain in 1957, President Kwame Nkrumah adopted industry as a means to revolutionize and modernize a predominantly agricultural economy. Nkrumah held the belief that the importation of goods that might be produced domestically further contributed to Ghana's ongoing reliance on a colonial system that he saw as blatantly unjust. Owoo & Page (2017) assert that Ghana's industrial policy has undergone three primary periods. From 1960 to 1983, a government-led policy known as import-substitution industrialization (ISI) focused on promoting public investment and safeguarding emerging industries. The second phase, occurring between 1984 and 2000, was the implementation of structural adjustment programs by international financial institutions (IFIs). This phase focused on promoting trade and market liberalization as a means to undo the effects of the initial industrialization plan. Since the year 2000, the government has prioritized the development of the private sector, the improvement of the business environment, and the adjustment to a growing natural resources industry.

The Import Substitution and State-led Industrialization approach attempted to reduce the country's reliance on imported commodities and stimulate industrial development (Owoo & Page, 2017). This strategy entailed the creation of government-owned companies and the enactment of measures to safeguard domestic industry from global competition. According to Ackah et al (2014), the primary objective was to enhance domestic manufacturing capacities for the production of previously imported commodities, aiming to attain self-reliance and decrease dependence on foreign products. Studies conducted by Arthur, (2007); and Achanso & Kwoyiga (2015) attest to the fact that, despite the initial achievements in augmenting manufacturing production and the sector's impact on GDP, the Import Substitution and State-led Industrialization approach encountered obstacles as time went on. During the period, significant investments in infrastructure and established several state-owned firms across different industries which formed the basis for industrial operations. Resources were channeled towards education and technical training in a bid to cultivate a proficient and capable labor force. However, the era also witnessed inefficiency and lack of profitability by several state-owned firms resulting in huge financial losses. Another bane of industrialization within that period was political instability. Ghana experienced four coups and two attempts to establish constitutional governance, characterized by avarice, graft, and societal turmoil.

From 1984 to 2000, Ghana implemented Structural Adjustment Program (SAP), which involved substantial economic reforms overseen by international financial institutions (IFIs) like the International Monetary Fund (IMF) and the World Bank (Owoo & Page, 2017). These programs were designed to tackle macroeconomic imbalances, advocate for market-oriented policies, and decrease government intervention in the economy. Important actions taken were the implementation of policies to promote free trade and open markets, the elimination of government restrictions on prices, the adoption of market-based exchange rates, and the deregulation of interest rates (Konadu-Agyemang, 2018). The emphasis moved from import substitution to export-led growth, with a focus on enhancing efficiency and competitiveness in the industrial sector. Although SAP initially yielded favorable results for the industry, such as improved availability of imported materials and expansion in manufacturing production, difficulties arose as time went on. The introduction of import competition and reforms in the financial sector exerted pressure on both output prices and costs, resulting in a decrease in industrial growth and the proportion of manufacturing in overall industrial output. The swift adoption of market liberalization measures presented difficulties for domestic industries, as they grappled with adapting to the new competitive landscape while facing structural limitations such as unreliable infrastructure and inefficiencies in the business climate. Studies conducted by Kwaw-Nimeson & Ze (2019) and Donkor (2019) concluded that, although the industrial sector initially

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experienced progress, it encountered challenges in maintaining development and competitiveness due to the implementation of structural adjustment programs throughout this period.

From the 2000s to the present, Ghana has redirected its attention towards the development of the private sector and the improvement of the investment climate as a component of its industrial policy (Owoo & Page, 2017). The shift was shaped by Poverty Reduction Strategies supported by international institutions such as the IMF and the World Bank, which emphasized reducing poverty through economic growth driven by the private sector. In contrast to previous approaches, the current strategy places less importance on extensive formal manufacturing and instead prioritizes the development of the private sector and the enhancement of the investment environment to attract investments and stimulate economic growth. The government, under the influence of the World Bank and bilateral donors, focused on implementing changes to improve the 'investment climate,' which encompasses elements such as macroeconomic stability, governance, institutions, and infrastructure. The investment climate reform program primarily focused on trade policy and regulations, utilizing data from the World Bank doing business surveys. Although attempts were made to establish Export Processing Zones (EPZs) to facilitate industrial growth, there was a lack of focus on investing in infrastructure and skills. Ghana has implemented measures to promote private sector-led growth and improve the investment climate, intending to create a favorable environment for businesses to flourish, attract investments, and stimulate economic development.

In recent years, Ghana has implemented a range of industrial policies and initiatives aimed at promoting industrial growth, economic diversification, and technological advancements (Arthur, 2006). The National Industrial Revolution Plan, launched in 2011, outlines the government's strategy to transform Ghana's industrial landscape, with a focus on value addition, export diversification, and the development of strategic anchor industries. The One-District-One-Factory initiative, introduced in 2017, seeks to establish at least one factory in each of Ghana's 216 districts, driving industrial development and job creation across the country (Mensah et al., 2020). The Strategic Anchor Industries initiative has identified key priority sectors, such as agribusiness, manufacturing, and services, for targeted investments and interventions (Hlovor & Shahibu, 2019). Industrial policies within this period have played a key role in promoting economic growth and efforts to expand the economy beyond reliance on agriculture and the export of raw materials. Various interventions implemented by successive governments targeted at fostering industries such as manufacturing, agro-processing, and information technology have demonstrated some degree of effectiveness in expanding the economic foundation. Several initiatives and financing programs have been put in place to promote Small and Medium-Sized Enterprises (SMEs). The National Board for Small Scale Industries (NBSSI) and Ghana Enterprises Agency (GEA) have offered assistance and financial resources to small and medium-sized enterprises (SMEs), facilitating their expansion and economic impact. Substantial expenditures have also been allocated to infrastructure, a crucial element for fostering industrial growth and this has led to enhancements in transportation networks, energy provision, and telecommunication infrastructure have enabled industrial operations. The implementation of industrial policies has resulted in employment generation, namely in the manufacturing and services sectors. For instance, the One District One Factory (1D1F) initiative which sought to develop industries in all 216 districts within the country has helped in generating job possibilities. The industrial policy in place since 2000 endeavors to establish a conducive business climate have resulted in the attraction of FDI, which has brought in capital, technology, and knowledge. The implementation of changes in regulatory frameworks and the provision of incentives for foreign investors have resulted in a rise in foreign direct investment (FDI) in sectors such as manufacturing and energy.

Key themes have emerged within the three phases. The first policies focused on import substitution, while later policies shifted towards export-oriented industrialization. The original emphasis on state-owned companies (SOEs) shifted towards privatization and growth propelled by the private sector. In contrast to more recent periods characterized by stable governance conducive to long-term strategizing, the earlier decades were characterized by political instability, resulting in a lack of policy coherence. Efforts are now underway to enhance regulatory frameworks and incentives with the aim of attracting foreign investment. In broad terms, Ghana's industrial policy has evolved from government-led efforts to a more market-driven approach, with the current emphasis on collaborations between the public and private sectors, regional

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growth, and enhancing competitiveness in exports.

Theoretical Literature Review

The theoretical foundation of this study rests on two key theories: agency theory and innovation systems theory. These theories provide a framework for understanding how public audits influence the effectiveness and innovation of industrial policies in Ghana. By examining the role of public auditing through these theoretical lenses, the study seeks to explore how the Ghana Audit Service (GAS) can contribute to the innovation of industrial policy, in alignment with the research objectives of assessing audit practices, their impact on policy innovation, and proposing recommendations for improvement.

Agency theory, initially developed by Jensen and Meckling (1976), is grounded in the principal-agent relationship, which explains how principals (citizens and government stakeholders) delegate authority to agents (public officials and institutions) to manage resources on their behalf. In the context of public governance, the theory posits that there is often a conflict of interest between principals (citizens and oversight bodies) and agents (government officials). This conflict arises due to information asymmetry, where agents may have more information than principals, leading to potential inefficiencies, corruption, or mismanagement of public resources. Public auditing plays a critical role within this theoretical framework, serving as a mechanism to mitigate the principal-agent problem by providing oversight, reducing information asymmetry, and ensuring accountability. The Ghana Audit Service, as the Supreme Audit Institution (SAI), acts as the agent of the public by scrutinizing government actions, particularly in the management of public funds allocated to industrial policies. By conducting audits, GAS provides principals (citizens, parliament, and government agencies) with reliable information on the performance of public officials and policy initiatives. This audit function ensures that agents (government bodies responsible for industrial policy) remain accountable and that public resources are used effectively.

Agency theory is directly linked to the first objective of the study, which is to evaluate the current practices of the Ghana Audit Service in relation to industrial policy. By applying this theory, the research seeks to assess how effectively GAS reduces information asymmetry, ensures that agents act in the best interest of the public, and promotes accountability in the implementation of industrial policies. Furthermore, agency theory emphasizes the role of independence and objectivity in auditing, as auditors must remain impartial to provide accurate and trustworthy reports. This study will also investigate whether GAS, in its current form, has the necessary structural and operational independence to perform its functions effectively. In addition, agency theory supports the second objective of the study, which is to investigate the relationship between audit findings and policy innovation. By holding agents accountable, public auditors can highlight inefficiencies or gaps in industrial policy implementation, prompting agents to revise or innovate existing policies. The Ghana Audit Service, through its audits, has the potential to uncover new insights or challenges that could lead to innovative changes in industrial policy. Thus, the study will explore whether audit findings have historically led to innovative policy changes and what factors enable or hinder such outcomes in Ghana's context.

The second key theoretical pillar of this study is innovation systems theory. Originating from the work of scholars such as Freeman (1987) and Lundvall (1992), innovation systems theory emphasizes the importance of interactive learning and collaboration between different actors—government, industry, academia, and civil society—in fostering innovation within an economy. This theory suggests that innovation is not the result of isolated actions by individual entities but rather the outcome of a systemic interaction among various actors within a national innovation system. In the context of industrial policy, innovation systems theory posits that government interventions, such as policy frameworks, regulations, and financial support, are critical in creating an environment conducive to industrial innovation. Public audits, though traditionally focused on financial oversight, can play a transformative role in this system by assessing the effectiveness of these interventions, identifying barriers to innovation, and recommending improvements that enhance the policy framework. The Ghana Audit Service, by evaluating the performance of government-funded industrial programs, can contribute to a more efficient and innovation-friendly policy environment.

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DOI: https://doi.org/10.62754/joe.v3i8.6032

Innovation systems theory aligns closely with the study's second and third objectives: investigating the relationship between audit findings and policy innovation, and proposing recommendations for aligning public auditing with industrial policy goals. By applying this theory, the research seeks to understand how the Ghana Audit Service can act as a catalyst for innovation within Ghana's industrial policy framework. Public audits that go beyond mere financial compliance and focus on evaluating the outcomes and impact of industrial policies can provide valuable insights into how these policies can be improved to foster innovation. This aligns with the broader role of audit institutions in contributing to public value, as outlined in the public value theory, where public institutions are expected to generate long-term societal benefits, including economic innovation. Through the lens of innovation systems theory, this study will also explore how the interactions between public auditors, policymakers, and other stakeholders within Ghana's industrial policy framework shape the innovation landscape. Effective public auditing can enhance transparency and trust, encouraging greater collaboration among various actors within the innovation system. The study will examine whether audit reports have influenced collaboration between different sectors—such as government ministries, industrial stakeholders, and research institutions—and how these collaborations have contributed to industrial innovation in Ghana.

The agency theory and innovation systems theory provide a comprehensive framework for understanding the role of public auditing in enhancing industrial policy innovation in Ghana. Agency theory emphasizes the importance of accountability and the reduction of information asymmetry between principals and agents, ensuring that public resources allocated to industrial policies are used effectively. This aligns with the study's objectives of evaluating the current practices of the Ghana Audit Service and investigating how audit findings can drive policy innovation. Innovation systems theory, on the other hand, highlights the systemic nature of innovation and the role of public auditing in identifying gaps or inefficiencies in policy frameworks that could hinder innovation. It supports the study's objective of proposing recommendations for aligning public auditing with industrial policy goals, by emphasizing how audits can contribute to a more innovation-friendly environment. By combining these two theories, this study aims to fill the gap in the literature regarding the intersection of public auditing and industrial policy innovation. While previous research has examined the role of public audits in ensuring accountability, few studies have explored their potential in driving policy innovation. This research will contribute to the growing body of knowledge by demonstrating how the Ghana Audit Service can act not only as a financial watchdog but also as a key player in shaping innovative industrial policies that drive Ghana's economic transformation.

Methodology

This study adopts a qualitative research approach, utilizing documentary analysis as the method of data collection and analysis. Given the exploratory nature of the research, qualitative methods are well-suited to understanding the complexities surrounding the role of public auditing in fostering industrial policy innovation in Ghana. The documentary analysis focused on a range of official documents, reports, and publications related to public auditing, industrial policy, and innovation. The study relied on secondary data from several key sources and these included audit reports from the Ghana Audit Service (GAS), policy documents on Ghana's industrial strategy, government publications, reports from international organizations such as the World Bank and the International Monetary Fund (IMF), and relevant academic literature over the period 2013-2022. The analysis duly considered relevant legislative frameworks, such as the Audit Service Act and the Public Financial Management Act, which govern the public audit process in Ghana.

By systematically analyzing these documents, the study evaluates how audit findings have influenced industrial policy innovation, as well as identify gaps and opportunities for improvement. The analysis involved coding key themes and patterns, such as audit recommendations, policy responses, and instances of innovation or reform within Ghana's industrial policy framework. This method allow for a comprehensive understanding of how public audits are framed in official documents and how they contribute to policy changes. The qualitative documentary analysis will also help to answer the research question, to what extent does public auditing contribute to fostering innovation in Ghana's industrial policy? By reviewing existing records and audit reports, the study provided insights into the impact of public

Volume: 3, No: 8, pp. 12721 – 12734
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.6032

auditing on policy innovation, supporting the research's objectives of evaluating audit practices, examining the relationship between audits and policy innovation, and proposing recommendations for aligning audit practices with industrial policy goals

Results and Discussions

Results

The analysis of the documentary evidence from the Ghana Audit Service (GAS) reports, government publications, and relevant policy documents revealed several key insights regarding the intersection between public auditing and industrial policy innovation in Ghana. The key findings are organized around the study's objectives: evaluating current practices of the Ghana Audit Service (GAS) related to industrial policy, understanding the relationship between audit findings and policy innovation, and proposing recommendations for aligning public audits with industrial policy goals.

The Ghana Audit Service (GAS) primarily focuses on ensuring financial compliance and accountability across various sectors, including those tied to industrial policies. The audit reports reviewed for this study show that GAS audits provide insights into resource allocation inefficiencies and instances of non-compliance with financial management regulations in industrial policy implementation. However, these audits largely focus on financial performance, with little emphasis on evaluating the effectiveness of policy interventions or their capacity for innovation. GAS does provide recommendations for improving financial management practices, but its role in directly influencing policy reform, particularly industrial policy innovation, remains limited.

While public audits have highlighted inefficiencies and resource mismanagement in industrial policy initiatives, the influence of these findings on policy innovation is mixed. There were several instances where audit recommendations led to corrective measures in the management of industrial projects, but very few examples where these recommendations spurred innovative changes in policy frameworks or led to new industrial strategies. Most reforms resulting from audits were focused on improving compliance and financial management rather than introducing innovative approaches to policy development. For instance, audit findings have revealed inefficiencies and corruption within industrial programs, but the responses to these findings often involve punitive measures rather than proactive policy innovations. In cases where audit recommendations were adopted, such as improving monitoring systems in industrial policy programs, the changes were mostly operational and did not fundamentally address the need for innovation. The reports analyzed clearly showed the lack of specific guidelines on how to align audit recommendations with broader industrial policy objectives, limiting their potential to drive meaningful innovation. Furthermore, the results revealed limited collaboration between the GAS and industrial policy stakeholders, which may have inhibited the full potential of audits to influence innovation.

The study also reveals several gaps in how the Ghana Audit Service (GAS) engages with industrial policy innovation. First, the audits primarily focus on financial compliance and legality, with little emphasis on evaluating the effectiveness or innovation potential of industrial policies. This limited scope reduces the ability of audits to influence significant policy changes. Additionally, there is a weak feedback mechanism between GAS and policymakers, resulting in audit recommendations being inadequately integrated into policy reforms. Furthermore, the current audit framework lacks a focus on identifying areas for innovation, limiting its potential to contribute to forward-looking policy improvements. However, there are significant opportunities for improvement. By expanding the scope of audits to include performance and innovation metrics, GAS can provide deeper insights into how industrial policies can be optimized for better outcomes. Strengthening feedback loops and fostering collaboration between GAS and policy stakeholders would ensure that audit findings lead to meaningful policy changes. Moreover, incorporating innovation-focused evaluations into the audit process could help bridge the gap between public auditing and policy innovation, enhancing the impact of industrial policies in Ghana.

Discussion

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 12721 – 12734
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DOI: https://doi.org/10.62754/joe.v3i8.6032
The findings of this study contribute to the broader discourse on the role of public auditing in policy innovation, particularly in the context of industrial development in Ghana by highlighting the complex but underdeveloped relationship between public auditing and industrial policy innovation in Ghana. This discussion section positions the results of the study within existing literature and explore their implications for policy makers, auditors, and other stakeholders.

The results reveal a disconnect between public auditing practices and their potential to drive industrial policy innovation. While audits play an essential role in ensuring financial accountability, they fall short in influencing broader policy reforms, particularly in sectors requiring innovation such as industrial policy. These finding echoes earlier work by Lazarescu (2019), who noted that while public audits ensure proper use of funds, their role in stimulating broader governance improvements, including innovation, is often underutilized. The study's results suggest that audits could play a much larger role in policy innovation if they went beyond their current focus on compliance and legality. Scholars like Andreoni and Chang (2020) have emphasized that for developing economies like Ghana to effectively foster industrial innovation, government interventions must be more proactive and forward-looking. Public audits can serve as a key mechanism to assess whether these interventions are succeeding in their intended goals.

Agency theory, as applied in this study, helps to explain why public audits may not be influencing policy innovation to the extent that they could. From the perspective of agency theory, public auditing is intended to reduce information asymmetry and ensure that agents (government bodies responsible for industrial policy) are held accountable to principals (citizens and stakeholders). The findings demonstrate that GAS is successful in its traditional role of ensuring financial compliance and accountability. The principal-agent relationship between auditors and government officials highlights a fundamental issue: the interests of public auditors (the agents) may not fully align with the interests of policy makers (the principals) when it comes to fostering industrial innovation. Auditors are primarily concerned with ensuring compliance with laws and regulations, which can create a conservative mindset that limits their ability to recommend bold or innovative changes in industrial policies. Moreover, information asymmetry, a key component of agency theory, further exacerbates the problem. While auditors possess significant financial expertise, they may lack the in-depth understanding of industrial policy required to make nuanced recommendations that foster innovation. This could explain why audits predominantly focus on financial control rather than on evaluating how well industrial policies are fostering innovation, which would align with the best interests of the public.

In contrast to the traditional view of public audits as primarily reactive, innovation systems theory suggests that audits can be proactive tools for identifying gaps in policy frameworks and fostering collaboration between stakeholders. The findings, however, show that GAS audits have had limited success in influencing industrial policy innovation. This is partly due to the absence of performance audits that assess policy outcomes in terms of innovation, technological advancements, and competitiveness. The lack of focus on innovation within audit reports means that GAS is missing a key opportunity to act as a catalyst for policy reform. Public audits, if aligned with the principles of innovation systems theory, can do more than just identify financial inefficiencies asthey can become a key driver of systemic change by recommending reforms that enhance the collaboration between government, industry, and research institutions. The lack of collaboration observed between the GAS and industrial policy stakeholders' points to an untapped potential for audits to serve as a bridge between various sectors. As Weiss (2013) suggests, effective industrial policy innovation requires not just government action, but also strong coordination among all actors in the innovation ecosystem. Public audits can play a vital role in ensuring this coordination by identifying weak links and proposing ways to strengthen the innovation system.

Policy Implications and Recommendations

The policy implications derived from this study are significant and call for a reorientation of the Ghana Audit Service's (GAS) approach toward public auditing, particularly in the context of industrial policy. Currently, the scope of audits remains largely focused on financial compliance and legal oversight, which, while necessary, limits the capacity of audits to drive innovation in policy. This aligns with findings from agency theory, which highlights that the principal-agent relationship between auditors (agents) and

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policymakers (principals) often leads to a narrow focus on ensuring accountability for resource management, rather than fostering dynamic, innovation-driven governance. As noted in the literature by Lazarescu (2019), public audits typically focus on fiscal accountability, which, although important, does not fully exploit the potential of audits as instruments of policy reform and innovation. To mitigate this limitation, the GAS must expand its audit scope to include not only financial evaluations but also performance audits that assess the effectiveness, relevance, and innovation potential of industrial policies.

Incorporating the principles of innovation systems theory could greatly enhance the effectiveness of public audits in promoting industrial policy innovation. This theory emphasizes that innovation emerges from systemic interactions between various actors (government, industry, academia, and civil society) (Freeman, 1987; Lundvall, 1992). Public audits, if redesigned to focus on more than compliance, can become a crucial tool in identifying gaps in these interactions and recommending ways to improve collaboration. By integrating innovation-focused evaluations, the GAS could assess how effectively industrial policies stimulate innovation, technological advancement, and competitiveness. As discussed by Rodrik (2004) and Aiginger (2007), industrial policy in developing economies like Ghana must be adaptive, forward-looking, and capable of responding to market failures through strategic interventions. Public audits could play a pivotal role in ensuring that these interventions are not only fiscally responsible but also geared towards fostering sustainable economic growth and technological progress.

The literature also supports the idea that public audits can serve as catalysts for continuous improvement in governance. Weiss (2013) noted that innovative industrial policy requires the alignment of regulatory frameworks, public-private partnerships, and policy learning mechanisms. In this context, public auditing could provide the necessary insights and feedback to refine policy frameworks and drive innovation. However, for this to happen, structured and formalized feedback loops between the GAS and policymakers are essential. Currently, the study identifies a weak feedback mechanism that limits the ability of audit findings to influence policy changes. Strengthening these feedback channels would ensure that the recommendations stemming from audits are systematically integrated into the policymaking process, leading to meaningful and timely reforms.

Moreover, public auditing could foster greater collaboration between key stakeholders in Ghana's industrial landscape, ensuring that audit findings are not only used to address inefficiencies but also to stimulate policy innovation. This would align with the broader role of audit institutions as outlined in public value theory, where public entities are expected to generate long-term societal benefits, including economic innovation. By promoting transparency and accountability in the industrial policy process, public audits can encourage stronger partnerships between government ministries, industrial stakeholders, and research institutions, which are crucial for driving policy innovation, as suggested by Warwick and Nolan (2014).

In conclusion, the study recommends expanding the audit scope to include performance and innovation metrics, creating more robust feedback mechanisms between the GAS and policymakers, and fostering greater collaboration between auditors and industrial stakeholders. These steps, grounded in the theoretical frameworks of agency theory and innovation systems theory, would not only improve the effectiveness of public auditing but also enhance the role of audits in fostering industrial policy innovation. By positioning public audits as proactive tools for policy learning and innovation, the GAS can contribute to the development of a more competitive and innovation-driven industrial policy framework, thereby accelerating Ghana's economic growth and development.

Conclusions

This study has critically examined the intersection of public auditing and industrial policy innovation in Ghana, revealing significant insights into the current practices of the Ghana Audit Service (GAS) and their implications for fostering economic growth. The findings indicate that while public audits play a crucial role in ensuring financial compliance and accountability, their potential to drive innovation within industrial policy remains largely untapped. The narrow focus on compliance, coupled with weak feedback mechanisms and insufficient collaboration with key stakeholders, limits the effectiveness of audits in

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influencing meaningful policy reforms. Therefore, a paradigm shift is necessary, wherein public audits are reoriented to encompass performance evaluations and innovation metrics, thereby enhancing their role as catalysts for systemic change in Ghana's industrial landscape.

Summary of Findings

The highlight of the findings of the study are as follows:

- The GAS primarily emphasizes financial compliance, neglecting the evaluation of the effectiveness and innovation potential of industrial policies. This narrow focus restricts the ability of audits to contribute to policy innovation.

- There is a lack of structured feedback loops between the GAS and policymakers, which hampers the integration of audit findings into the policymaking process.

- The collaboration between the GAS and industrial policy stakeholders is inadequate, preventing audits from serving as a bridge between various sectors and inhibiting the potential for innovation.

- The absence of performance and innovation metrics within the audit framework limits the insights that can be derived from audit findings, reducing their impact on policy optimization.

- The current approach tends to be reactive, focusing on compliance rather than fostering a culture of innovation within industrial policy.

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