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Ghana's Pathway to AI Governance and Its Implications for Africa

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Key Points

- Artificial intelligence (AI) is transforming various sectors, offering the opportunity for economic growth and societal progress in Africa. However, it poses several risks that may disproportionately impact the continent. African countries are developing governance frameworks to navigate these concerns.
- Ghana's 10-year National Artificial Intelligence Strategy emphasizes innovation, talent development and addressing AI-related risks through ethical and regulatory frameworks. It integrates several ethical dimensions to provide a test case for others on the continent.
- African governments must adopt a more human-centric governance approach, invest in local talent and foster inclusive AI development to avoid technological dependency while mitigating AI risks and maximizing its benefits.
- The dominance of AI by major technology companies highlights disparities between the more prosperous and resource-poor African countries. Bridging these gaps is crucial to ensuring that Africa can influence the future trajectory of AI development.

Introduction

AI dominates the global discourse over its contribution to digital transformation. Africa is uniquely positioned to leverage these benefits across several domains. For instance, in Kenya, Nigeria and South Africa, AI-led digital tools in financial technology, traffic regulation, health care and agriculture deliver productive inputs that fill gaps in the context of weaker, fragile and incapacitated states (Gwagwa et al. 2020). At the same time, concerns have been raised about the risks posed by AI technologies, such as privacy breaches, energy consumption, democracy threats, epistemic biases and transparency issues (see, for example, Wall, Saxena and Brown 2021). Critics also point to AI's potential negative geopolitical impacts on Africa, particularly as major powers — including China, the European Union and the United States — compete to establish partnerships within Africa's AI ecosystems, each promoting different standards (Yusuf 2024). With the continent nicknamed the “battleground for geopolitics” (see Mialhe 2018), the competition between these powers frames scholarly debates, policy frameworks, diplomatic events and access to grants and aid.

In the last decade, many African countries have prioritized governing AI by developing policies, strategies and agile governance tools that maximize

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these benefits and reduce associated risks. However, different political and socio-cultural processes influence these governance approaches, including the values, themes and principles embedded into them. For example, while Rwanda's AI strategy emphasizes fostering local innovation and building a knowledge-based economy (Kwarkye 2025), South Africa prioritizes human rights, seeking to address inequality and social justice issues (Rapanyane and Sethole 2020). As the continent continues to debate the appropriate governance frameworks, it must also account for socio-economic contexts, cultural and historical values, and the United Nations Sustainable Development Goals (SDGs) to create a framework that fosters innovation and protects human rights.

This policy brief, therefore, offers a structured examination of AI governance in Africa. It aims to equip policy makers, researchers and AI stakeholders with the necessary guidance to navigate AI governance's complex political, social and economic dimensions. Using Ghana's drafted 10-year National Artificial Intelligence Strategy as a case study, this policy brief contributes critical insights into formulating AI policies that promote innovation, optimize benefits and minimize risks in an increasingly competitive geopolitical landscape.

Context

The field of governing AI lies at the intersection of numerous contradictions. On the one hand, AI's immense potential is pushing the boundaries of possibility, fostering innovation and creativity. This potential is supported by AI's ability to use large data sets in climate mitigation, transportation, medical diagnoses and agriculture as well as, in recent years, to generate academic essays, images and conversations from the briefest of prompts (Gwagwa et al. 2020). On the other hand, as noted earlier, the rapid pace of AI development brings a host of ethical, legal and societal concerns that cannot be overlooked. One such concern relates to the risk of algorithmic bias, where AI systems, often trained on biased data sets, can perpetuate and even amplify societal inequalities, leading to unfair outcomes that may impact Africa (Wall, Saxena and Brown 2021). Additionally, AI's reliance on vast amounts of personal data raises serious privacy and security concerns, as individuals' information

can be exploited or mishandled without proper oversight (Payton and Claypoole 2023).

The rapid pace of technological change, as we see in the context of AI, often outstrips the ability of governance frameworks to adapt to and address many of these risks, leaving governments and regulatory bodies scrambling to catch up and to impose rules on technologies that have been widely adopted (Reuel and Undheim 2024). In Africa, this lag creates a reactive environment where governance frameworks are implemented only after new technologies have become deeply embedded in society, complicating efforts to mitigate some of these risks. Such delays result in unintended consequences, such as adopting AI systems that lack sufficient oversight or ethical safeguards. Moreover, African governments often attempt to impose rules on technologies that have already been rooted in sectors such as finance, health care and manufacturing, which may lead to gaps in accountability and inadequate protection for citizens (Wall, Saxena and Brown 2021). This misalignment between technological innovation and regulatory response underscores the urgent need for more forward-thinking approaches to anticipate and manage AI's impacts on the continent.

African countries recognize the need for proactive AI governance to address rapid technological advancements and the ethical, legal and societal challenges they pose. At the regional level, the African Union has established an AI governance framework, as seen in the Continental Artificial Intelligence Strategy, emphasizing the responsible development and deployment of AI technologies (African Union 2024). Additionally, initiatives such as Smart Africa and the Partnership on AI facilitate cross-border collaboration and knowledge sharing to create governance approaches that align AI development with Africa's socioeconomic priorities (Plantinga et al. 2024). At the national level, Benin, Egypt, Mauritius, Morocco, Rwanda, Senegal and Sierra Leone have drafted AI strategies and data protection laws (Musoni 2024) to balance innovation with ethical considerations, ensuring that AI systems do not exacerbate existing inequalities or violate privacy rights. In other parts of the continent, including Kenya, Nigeria and Tanzania, task forces, expert groups and legislative procedures are identifying national priorities.

Despite these efforts, challenges remain in enforcing AI governance across the continent.

Limited resources, infrastructural deficits and regulatory fragmentation hinder the implementation of robust policies that can keep pace with technological change (Israel 2025). There are also growing concerns about the geopolitical implications of Africa's AI approach, particularly as China and the United States keep forging alliances in Africa's AI governance, with each country promoting different standards (Yusuf 2024). Advocates point to a more inclusive and participatory approach to AI governance to address these issues, including fostering multi-stakeholder engagement to develop governance approaches that reflect local contexts and prioritize equitable access to technological benefits (Kwarkye 2025).

Ghana's AI Ecosystem

Ghana is leveraging AI's benefits with AI-led digital tools in agriculture, delivering inputs that support sustainability. For example, in May 2024, it was reported that farmers were adopting AI technologies to detect early infestations, monitor crops and combat challenges such as irregular rainfall and rising temperatures (Kaledzi and Schneider 2024). Additionally, there has been recorded use of AI in improving public health delivery (Mensah 2023), streamlining democratic processes by enhancing information spaces online (Sampene et al. 2022) and building innovative approaches to learning indigenous languages in schools (Galer 2023). Thus, the societal transformation enabled by Ghana's use of AI is eliminating corruption, streamlining democracy and improving the lives of millions of people by designing out human errors and influence.

Additionally, the country's AI ecosystem is increasingly becoming a highly contested environment involving a myriad of actors (Kwarkye 2023). These actors include regional bodies, such as the African Union; foreign governments such as China, the European Union and the United States; non-governmental organizations (NGOs) such as the Future Society Foundation and GIZ FAIR Forward; and multinational corporations such as Google, Microsoft and Meta, each with their own interest and agenda. In notable and well-publicized news, Google inaugurated its first African AI research lab in Ghana's capital, Accra, in 2019 (Adeoye 2019). This move underscores the country's potential as a

hub for AI innovation, at least in Google's view. The inauguration generated considerable excitement and optimism within Ghana's tech community, sparking discussions about the transformative potential of AI in driving economic growth and societal progress. As the country continues to position itself as a player in the techno-economy, Google's presence attests to its potential to lead the continent's technology revolution and harness its power for inclusive development and prosperity.

The nexus of the country's AI ecosystem has been shaped by earlier legislative and policy frameworks, most notably the Data Protection Act (2012), which laid the groundwork for ethical data handling and privacy safeguards (Daigle 2021). This act established the Data Protection Commission, which oversees compliance with data protection principles — an essential foundation for AI governance (Kwarkye 2025). Additionally, Ghana has embraced broader digital transformation initiatives, such as the Digital Ghana Agenda, which prioritizes infrastructure development, digital skills and regulatory reforms to foster an innovation-friendly environment (Demuyakor 2020). These efforts have helped create a structured approach to AI governance, ensuring that AI deployment aligns with national priorities while safeguarding citizens' rights.

The 10-Year National Artificial Intelligence Strategy

In 2022, the government of Ghana, through its Ministry of Communications and Digitalisation (now the Ministry of Communication, Digital Technology and Innovations), created the country's National Artificial Intelligence Strategy with support from Smart Africa, GIZ Fair Forward, The Future Society and key local stakeholders. The country joins a handful of African countries with a strategy that encapsulates AI benefits and minimizes potential risks. As a new entrant to the AI policy world, Ghana is studying the plans of established policy frameworks, analyzing what works and how to capitalize on the functionalities of AI. Being aware of the global power asymmetry that disadvantages

many countries on the continent, Ghana's policy makers draw on frameworks that are satisfactory to all stakeholders. The strategy is built on key pillars that embrace AI's versatility, investments in AI talents and the realization of sustainable economic growth and responsible AI use. These elements make Ghana's approach a compelling model for other countries on the continent and beyond, particularly those seeking to balance innovation with ethical safeguards.

The 10-year strategy embraces the technology's versatility, focusing on several sectors of the economy. By prioritizing multiple focal points, the 10-year strategy encompasses a diverse array of areas, comprising eight pillars, including long-term machine learning research, swift adoption of AI across public and private sectors, considerations for the future of work and measures to prevent biases. Thus, Ghana believes that technological advancements across different sectors will help to address various challenges that target developmental priorities, such as the UN's SDGs. This strategic focus underscores the country's commitment to fostering a sustainable approach to AI development and deployment, ensuring its benefits are equitably distributed.

The realization of sustainable growth through AI hinges on more than just its implementation; it necessitates concurrent investments in various critical areas. The draft strategy notes that for AI to catalyze the desired growth trajectory, it must be accompanied by robust investments in talent development, support for burgeoning start-ups and the cultivation of specialized skills. It also notes that while technology infrastructure may deter AI development, the problem might be exacerbated by bottlenecks in accessing funds and high interest rates on loans for AI entrepreneurs that may stifle innovation. The country is fostering an environment that will enable innovative AI solutions through tax exemptions, start-up capital and seed-funding initiatives inscribed into the strategy. In addition, the National Innovation Challenge, hosted by the National Entrepreneurship and Innovation Program, offers funding and training support for young entrepreneurs to build innovative AI solutions (Kwarkye 2025).

Ghana wants to jump to the latest technologies as an alternative path to economic growth. By embracing AI through technological leapfrogging, the country is adopting cutting-edge solutions to drive innovation and development across

various sectors. For instance, AI technologies could be used for early disease detection and diagnostics, particularly in rural areas where access to specialized health-care professionals is limited. Additionally, AI presents opportunities to strengthen Ghana's position in the global technology landscape by attracting investment and fostering a culture of entrepreneurship. The country hopes to leverage this transformative technology to unlock new opportunities and drive sustainable growth for its rapidly expanding population through strategic investments in AI research, education and infrastructural development embedded in the strategy.

Ghana on AI Risks

A vital component of the 10-year strategy is the exploration of ethical frameworks that connect to societal norms and values, with a focus on ethical imperatives central to shaping techno-policy directions. Integrating social and moral perspectives, the strategy examines various ethical theories, addressing how they can be applied to the challenges posed by AI systems. For example, it draws on Ghana's 2012 Data Protection Act (Act 843) to protect individual privacy and personal data, as well as to process personal information. Thus, the strategy fosters responsible innovation and a culture of ethical awareness and accountability within Ghana.

It also mirrors strategies from other countries by establishing an oversight institution known as the Responsible AI (RAI) Office. With its operational framework being established within a year of the policy adoption and drawing inspiration from similar offices in Egypt, Singapore and the United Kingdom, the RAI Office will develop comprehensive frameworks ensuring ethical AI designs are characterized by fairness, transparency, accountability, privacy, data protection and respect for human rights. The RAI Office will work closely with various public and private sectors and the growing number of AI stakeholders in the country by actively engaging with and fostering a culture of ethical AI development. The office will stand as a cornerstone in Ghana's commitment to navigating the complex landscape of AI with integrity and foresight. However, the strategy lacks sufficient details on the office's

structure, resources and enforcement powers, creating uncertainty about its effectiveness (see Israel 2025). Without a clearly defined structure and authority to enforce AI regulations, there is a risk that the initiative may not achieve its intended impact on AI risks in Ghana.

At the core of this policy brief is seeking out Ghana's model for defining the ethical boundaries that embody its approach to AI risks. Throughout the analysis, the author found that Ghana's ethical approach underscores the agency wielded by stakeholders from the European Union in establishing moral standards as a blueprint that Ghana can adopt. Without a robust AI industry, the European Union has established itself as a regulator and guardian of human rights, privacy and individual autonomy (Bradford 2020). It has sought to integrate and guide AI technologies and legal frameworks in line with these values to the fullest extent, referred to as the "Brussels Effect" (ibid.). Reflecting a form of this "Brussels effect," Ghana's strategy takes cues from successful approaches observed in the European Union to ensure alignment with global best practices. Known generally for its human-centred AI, Ghana is mindful of AI innovations' impact on individuals and communities as imperative for cultivating an ethical framework within the techno-landscape. However, despite this human-centric approach, Ghana deviates slightly from Brussels' standards. Before tackling global ethical issues, the country would address immediate concerns, such as accessibility and inclusivity, and challenges in sectors such as agriculture, a significant part of Ghana's economy.

Interpreting Ghana's Pathway to Regulating AI

How do we interpret Ghana's focus on technology leapfrogging, investments in various critical areas and reducing AI risks? We must return to the late 1990s and early 2000s when the country experienced exciting political, economic and social transformations (Amankwah-Amoah 2016). Once plagued by information scarcity and military coups, Ghana has become a relatively stable democracy in a region marked by instability and political violence. Simultaneously, the rise of the internet, wireless technologies and digital initiatives have

considerably broadened information access and communication channels, with a burgeoning digital sector attracting substantial foreign investments. Over the past decade, private investments have fuelled the expansion of digital platforms in Ghana, with mobile and digital usage surpassing 10 percent annual growth, far exceeding the regional average for Sub-Saharan Africa (Begazo, Blimpo and Dutz 2023).

With growing economic, democratic and digital advancements, the country is well positioned to emerge as a regional leader in AI and related technologies, such as high-speed broadband and computational data storage. The country's sustained economic growth has provided a strong foundation for investment and development in these cutting-edge fields. As Ghana continues to foster an environment conducive to technological innovation, it stands to capitalize on its economic prosperity by venturing into AI-driven solutions. By harnessing its resources and talent pool, Ghana can meet the growing demand for advanced technological solutions within its borders and establish itself as a strong influence in shaping the techno-landscape of the region.

Lessons for Other African Countries

What can other countries learn from Ghana's approach? The author does not in any way assert that Ghana's approach represents the optimal strategy; however, drawing on insights described above, this brief recommends that policy makers, AI developers and stakeholders navigating AI governance reflect on the following:

- **African policy makers should prioritize a human-centric approach to AI governance that targets AI's many potential risks and puts individual well-being at the centre of AI governance:** This approach emphasizes ethical safeguards, data protection and privacy while ensuring that AI development addresses social justice and inequality issues (van Berkel et al. 2022). These safeguards should include ethical standards to prevent algorithmic biases and protect civil liberties, promoting equitable and beneficial systems to all societal sectors.
- **African governments should focus on developing local AI talent and innovation ecosystems by providing AI entrepreneurs with tax incentives, start-up capital, grants and training:** As Africa's population is estimated to double to nearly 2.4 billion by the middle of the century, with roughly half of that population under 25 years old (Groth and May 2017), such initiatives could help meet this growth by harnessing the continent's youthful and entrepreneurial skills, thus bridging the technological divide and accelerating AI adoption.
- **Policy makers should develop ethical guidelines and regulatory frameworks as seen in the European Union¹ to govern AI use, ensuring fairness, transparency, accountability and data privacy:** These frameworks may include the creation of dedicated institutions, such as Ghana's proposed RAI Office, to oversee AI risks. These institutions should be empowered to ensure that AI systems are designed and implemented responsibly, adhering to national laws and international best practices. They should be mandated to work across sectors by engaging stakeholders, including governments, businesses, communities and individuals, to foster ethical awareness and ensure compliance with data protection and human rights standards.
- **Policy makers should focus on sector-specific AI applications to address pressing challenges:** For example, AI can be used in agriculture for crop monitoring and pest detection, in health care for disease diagnostics and in education for personalized learning and indigenous language preservation. Additionally, AI can enhance governance by improving public service delivery, reducing corruption and streamlining administrative processes.
- **Finally, policy makers must ensure that AI regulations are inclusive and consider the voices of local stakeholders:** These voices should include public-private partnerships involving multinational corporations (for example, Google, Microsoft) and NGOs that provide funding, technical expertise and infrastructure support to accelerate AI

¹ See <https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines/1.html>.

adoption. These partnerships could help African countries become active participants in shaping the global AI landscape.

Conclusion

Ghana's approach to AI governance offers valuable insights for Africa and beyond as it navigates the complex interplay of technological innovation and ethical considerations. By prioritizing human-centric frameworks, local talent development and sector-specific applications, Ghana's strategy provides a model for balancing AI's potential with the need for responsible deployment. The country's commitment to fostering ethical AI, enhancing public service delivery and addressing pressing societal challenges such as agriculture and health care sets an important precedent for other countries. However, Africa must invest in inclusive, forward-thinking regulatory frameworks for sustainable AI governance, empowering local stakeholders and ensuring alignment with international best practices, to mitigate AI risks while maximizing its benefits for the continent's growth and development.

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