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AI Governance and Data Privacy: Comparative Analysis of U.S., EU and African Frameworks

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Abstract

The rapid proliferation of Artificial Intelligence (AI) systems, which are capable of replicating human cognitive functions such as learning, reasoning, perception, and natural language processing, has led to transformative changes across multiple sectors worldwide. While AI continues to enhance operational efficiency in critical domains, including healthcare, finance, education, and transportation, its widespread adoption has also generated significant ethical, legal, and societal challenges. Key concerns include risks of bias and discrimination, lack of transparency in decision-making, threats to privacy and cybersecurity, and the unequal distribution of benefits and risks. As AI technologies become increasingly autonomous and influential, the urgency for robust governance frameworks that ensure accountability, transparency, fairness, and the protection of fundamental rights intensifies. This report examines the evolving global landscape of AI governance, with particular emphasis on the United States under the American Artificial Intelligence Initiative, which prioritizes innovation, standards development, workforce readiness, and the deployment of trustworthy AI. The analysis further explores how AI is reshaping privacy debates in Africa and provides a comprehensive review of current AI policies, regulatory frameworks, and emerging trends across the continent. In this context, the report evaluates governance mechanisms at global, regional, and national levels across key sectors such as financial services, healthcare, security, education, and justice, highlighting both opportunities and challenges associated with AI adoption. Ultimately, it is argued that regulatory responses should be context-specific and grounded in ethical principles.

Keywords: Artificial Intelligence (AI); frameworks; Cybersecurity; Governance; Data

1. Introduction

The proliferation of Artificial Intelligence (AI) systems is characterized by their capacity to emulate human cognitive functions, including learning, reasoning, problem-solving, perception, and natural language processing (Abbate, 2023). This technological advancement has ushered in a paradigm shift across diverse sectors of contemporary society. These advanced computational systems, underpinned by machine learning algorithms and neural network architectures, are rapidly permeating multiple domains of human activity, from healthcare and education to finance and transportation, catalyzing transformative changes in operational paradigms and decision-making processes. The exponential growth and ubiquitous adoption of AI technologies have engendered a dichotomous response within the global community (Alabdulatif, 2024). A palpable enthusiasm for their transformative potential, juxtaposed against growing apprehension regarding their ethical implications and societal ramifications.

The imperative for robust AI governance stems from its pivotal role in safeguarding fundamental rights, promoting equitable outcomes, protecting individual privacy, mitigating inherent biases in AI systems, enhancing digital security protocols, and addressing the evolving dynamics of labor markets in an increasingly AI-driven economic landscape. As

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AI systems become more sophisticated and autonomous in their decision-making capabilities, the potential for unintended consequences and ethical dilemmas increases exponentially, necessitating comprehensive governance frameworks to guide their development and deployment.

The global landscape of AI governance is characterized by diverse approaches reflecting the unique priorities and contextual factors of different regions (Ilcic et al., 2025). The United States has adopted a multifaceted strategy that emphasizes innovation, economic competitiveness, and ethical considerations (Emmanuel Adikwu Ukpoju et al., 2024). As reported by the White House Office of Science and Technology Policy, the American Artificial Intelligence Initiative, launched through Executive Order 13859 in February 2019, marked a significant milestone in U.S. AI policy.

Accordingly, the initiative spotlights a number of key priorities: significant investment in AI research and development; optimizing AI resources; reducing barriers to AI innovation; and developing an AI-ready workforce. Enabling an international environment that supports American AI innovation and the adoption of trustworthy AI systems in Federal Government service and missions (Alhosani & Alhashmi, 2024). The Federal Government has begun to take concrete actions under this initiative, including developing the first-ever strategy for the Federal Government's participation in AI technical standards and releasing the very first comprehensive report on government-wide non-defense spending by the Federal Government in AI R&D.

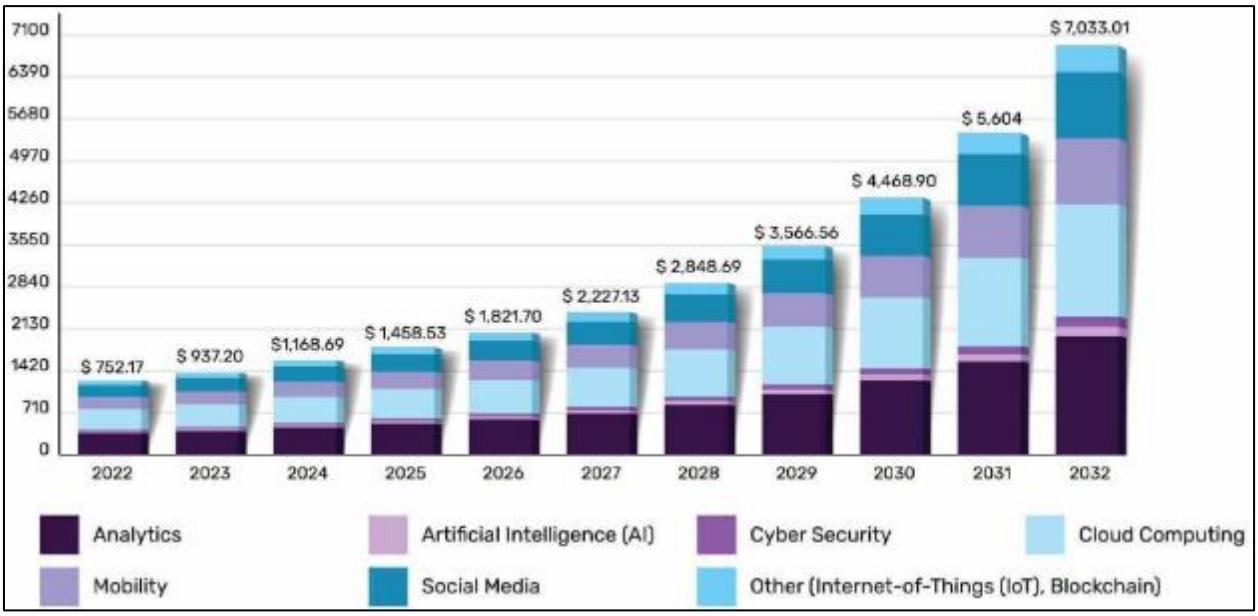

Figure 1 Global AI transformation market size in US billion (2022-2032)

2. Overview of U.S., EU, and African AI/Data Privacy Laws

The European Parliament endorsed the EU's Artificial Intelligence Act on 13 March 2024, a key step toward the first complete legal framework that regulates AI within the EU (Capogrosso et al., 2024). This move underscores the EU's commitment to ensuring that AI technologies are designed and used in a manner that respects the rights of citizens and promotes public safety, while fostering innovation and trust. The Act classifies AI systems according to the risk they pose, introducing strict rules for high-risk applications to prevent damage to health, safety, and fundamental rights (Szostek & Prabucki, 2025). Most importantly, it prohibits certain uses of AI, such as real-time remote biometric identification of individuals in public spaces, testimony to the EU's structured approach in balancing innovation with the public interest.

Across the Atlantic, on October 30, 2023, President Biden issued an Executive Order on AI, addressing safe, secure, and trustworthy development and use of AI (Lubello, n.d.). Unlike the detailed EU legal framework, the Executive Order adopts a principles-based approach, encouraging the responsible development of AI by setting general guidelines with an emphasis on safety, innovation, and ethics. It sets forth priorities to enhance AI safety and security, promote innovation, and protect privacy without going into the specifics of regulation. This represents a more flexible regulatory environment, promoting voluntary compliance and industry-driven standards.

3. Privacy Conversations in Africa via Artificial Intelligence (AI)

These have consequently raised increasing demands for solid privacy protection and more lucid regulations of the use of AI in areas related to finance, health, security, and education (Geraldine O Mbah, 2024). For instance, in the financial services domain, technologies like automated lending, fraud detection, and customer profiling rely on the analysis of vast amounts of personal financial data. Despite their potential to enhance efficiency and accessibility, the employment of these technologies also engenders concerns about issues of transparency, consent, and the misapplication of sensitive information. In discussions on AI in financial privacy, such questions quickly turn into broad concerns about individuals' capabilities to control their data or protect themselves from specific discriminatory uses, such as algorithmic bias. Similarly, AI-powered biometric systems increasingly find applications in many parts of Africa, including those dealing with border controls, law enforcement, and public safety (Singh Dari et al., 2025). While these offer a set of benefits-security and convenience-they also bring forth new privacy risks. For example, there has been some controversy over facial recognition technology in many parts of the world, with concerns about surveillance and the potential misuse by governments or private entities. In Africa, where there are significant gaps in both digital infrastructure and legal protections, the deployment of such technologies often occurs without appropriate safeguards to protect privacy and human rights. Similarly, AI-driven health technologies-diagnostic tools, electronic health records, and predictive health models-rely heavily on personal health data and raise significant privacy concerns, such as unpermitted access to sensitive medical information, inadequacy of mechanisms for data protection, and risk of discrimination based on health data. There is a growing awareness of the requirement for a comprehensive approach to AI governance, of which privacy and data protection form central elements of the discussions (Kumar et al., 2024). National and regional data protection laws are in development, aimed at guaranteeing a regulatory framework for the protection of the privacy of individuals in view of AI and other emerging technologies. However, there remain issues in implementation and enforcement, including those that keep in step with rapid AI innovation and the complexity of cross-border data flows. International efforts at setting guidelines for AI governance are also influencing privacy conversations in Africa, with the likes of the UNESCO Recommendation on the Ethics of Artificial Intelligence, the G7 Hiroshima Process on Generative AI, and the European Union's AI Act setting the stage for national and regional AI governance frameworks on the continent. In effect, there is growing recognition of the need for AI regulations that not only address privacy concerns but also foster ethical AI practices.

4. Regional Comparative Analysis of Key Principles (bias, accountability, transparency)

Different regions in the world have applied various strategies in the governance of AI in a bid to advance innovations and mitigate the potential risks that could emanate from the usage of these technologies. This comparative analysis provides an overview of the European, United States, Canadian, South American, Pacific Asian, Middle East, and Oceania regulatory frameworks on the management of AI systems through their development, deployment, and ethical use.

4.1. European Union

The European Union adopted the Artificial Intelligence Act (AI Act) on 1st August 2024, to promote the uptake of human-centric (Karayigit & Deniz Çelikkaya, 2025) and trustworthy AI while ensuring a high level of protection of health, safety, and fundamental rights of individuals. This Act establishes a comprehensive framework for the development, distribution, and deployment of AI systems within the EU. While the Act is already in force today, its compliance requirements will be rolled out from 2025 to 2030. This will ensure a smooth process for all organizations in the rest of the world that want to provide AI systems in the EU market and comply with its provisions. One of the important elements in the AI Act is that it creates harmonized rules for AI systems before they are placed on the EU market. It ensures that all AI systems, no matter their origin(Cantero Gamito & Marsden, 2024), are designed according to coherent standards and ethical considerations. At the core of the AI Act is a risk-based approach, whereby AI systems fall into specific categories based on the potential risks they create. The Act defines categories such as Prohibited, High-Risk, Limited-Risk, and Low-Risk, in addition to general-purpose AI models. Both the EU and the United States recognize the transformative potential of AI and how essential it is to manage its risks. This leads to the adoption of a risk-based approach, emphasizing that scrutiny and regulation of AI applications labeled as high-risk are necessary because of the impacts such may have on individual rights and safety, but also on societal values.

4.1.1. Rigorous testing and monitoring

Both stress continuous evaluation of AI systems to ensure they are safe, reliable, and perform as intended, from pre-deployment testing to post-market surveillance.

Privacy and data protection

While legal frameworks, the EU embedded the AI Act into the General Data Protection Regulation, while the US has no federal law around privacy, emphasizing the protection of individual information and privacy in AI system development and deployment.

Cybersecurity

Recognizing the vulnerabilities inherent in AI systems, both the European Union and the United States emphasize strong cybersecurity measures as key parts of "security by design" to prevent misuse and external threats. Although their main goals are similar, the methods used by the European Union and the United States to reach these goals differ greatly.

Regulatory frameworks

While the EU's AI Act establishes a comprehensive legal framework that delineates responsibilities, prohibitions, and enforcement mechanisms based on the risk level of AI systems, the Executive Order (EO) in the United States adopts an advisory approach. The EO promotes the application of principles and encourages voluntary industry standards, yet does not impose specific legal obligations (Bennett, 2025). Historically, U.S. technology policy has been shaped at the state level, as states possess the capacity to enact legislation more rapidly than the federal government. In the continued absence of a federal regulatory framework, states will likely remain at the forefront of AI regulation.

Enforcement mechanisms

The European Union has implemented a rigorous enforcement regime that includes the possibility of substantial fines, thereby demonstrating a strong commitment to regulatory compliance (Pohjankoski, 2021). In contrast, the United States approach, which does not specify explicit penalties for noncompliance, depends primarily on the persuasive power of guidelines and the voluntary commitment of industry stakeholders to self-regulation.

Scope and application

The EU AI Act aims to create a consistent regulatory framework for all member states, thereby reducing regulatory fragmentation. In contrast, the United States relies primarily on executive action, which may result in varied interpretations and sector-specific applications due to differing departmental initiatives and priorities.

Table 1 Risk Classification Framework under the EU AI Act and Associated Regulatory Obligations

Risk classification Details	**Risk classification Details**
Prohibited AI Practices	The Act bans an assortment of AI practices, including deploying or using systems that are intentionally manipulative or deceitful, systems used for social scoring that resulted in harmful effects, predictive policing, and the use of real-time biometric identification systems in public places for law enforcement, with exceptions relating to when the use is strictly necessary.
High-Risk	A system is classified as high risk if it is intended for use as a safety component of a product, or as a product itself, covered by EU laws under Annex I of the Act and requires a third-party conformity assessment. Alternatively, a system is considered high risk if it is included in the list provided under Annex III of the Act, subject to specified exceptions. Such systems must comply with mandatory requirements, including technical documentation, recordkeeping, risk management, and human oversight. Additionally, the Act assigns specific responsibilities to actors throughout the system's value chain, including providers, authorized representatives, importers, distributors, and deployers.
Limited Risk	Such systems, including chatbots, pose a risk of deception. To address this, the Act establishes transparency requirements to ensure that individuals are aware when they are interacting with an AI system.
Low Risk	AI systems classified as minimal risk, including spam filters, are not subject to mandatory obligations under the Act.

General Purpose AI Models (GPAI)	The Act differentiates between GPAI models that present systemic risks and those that do not. A model is designated as presenting systemic risk if it possesses high-impact capabilities or if the commission determines so according to the criteria outlined in Annex XIII.

4.2. North America

In North America, multiple layers of governance, including federal frameworks and provincial or state-level legislation, play a significant role in AI safety and governance. These regulatory structures aim to promote innovation while ensuring that AI technologies are developed and implemented ethically, safely, and with respect for individual rights.

4.3. United States of America

The United States of America (USA) employs a multifaceted, though limited, approach to AI governance. This includes federal executive actions, legislative measures, non-binding frameworks, and state-level initiatives. The overarching strategy seeks to promote innovation while ensuring the safe and ethical deployment of AI technologies across diverse sectors.

In October 2023, President Joe Biden issued the Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. This directive establishes new standards for AI safety and security, protects privacy, advances equity and civil rights, and promotes innovation and competition. It requires federal agencies to develop guidelines to prevent the misuse of AI technologies and encourages collaboration among government, industry, and academia to address AI-related challenges.

Several significant legislative initiatives have been introduced to establish a comprehensive framework for AI safety in the United States. These efforts aim to regulate AI and provide guidelines for its responsible development and deployment.

Table 2 Key U.S Artificial Intelligence related Legislation and Proposed Regulatory Measures

Legislation	**Details**
The AI Training Act	The Office of Personnel Management is mandated to establish artificial intelligence training programs for federal employees, emphasizing AI literacy, comprehension of AI applications, limitations, and ethical considerations.
The National AI Initiative Act of 2020	The initiative coordinates a national strategy for artificial intelligence research and development across federal agencies, establishing the National AI Initiative to maintain U.S. leadership in this field.
The AI in Government Act	The initiative seeks to advance the application of artificial intelligence in federal agencies and improve public services through the establishment of the AI Centre of Excellence within the General Services Administration.
The AI Consent Act 66 (draft legislation)	The proposed bill aims to safeguard consumer privacy by mandating that companies obtain explicit user consent prior to utilizing artificial intelligence for processing personal data.
The Algorithmic Accountability Act 67 (draft legislation).	The proposed legislation mandates that companies conduct impact assessments for high-risk AI systems to mitigate bias and discrimination.
The No Fakes Act of 2023 (draft legislation)	This Act aims to address the proliferation of deep fakes by prohibiting the unauthorized creation or distribution of digital replicas of individuals.

In addition to federal actions, several states have adopted their own AI regulations to address localized concerns. Some notable examples include:

Table 3 Comparative Summary of Emerging U.S. State AI Governance Frameworks

Legislation	Details
The Colorado AI Act	Among other things, this legislation would require developers of high-risk AI systems to take reasonable precautions to avoid algorithmic discrimination, and mandate risk management practices, impact assessments, and consumer notification processes starting May 17, 2024.
New York State's AI Bill	This bill would help make AI systems deployed within the state more transparent and accountable, thereby protecting New Yorkers from various risks associated with AI by advancing the core tenets of safety, transparency, data privacy, and protection against algorithmic discrimination. The bill would grant individuals the right to opt out of automated systems, receive an understanding of AI-driven decisions, and demand human interaction where it is so warranted.
The California AI Transparency Act	The law, which takes effect in 2024, obligates providers of generative AI systems to disclose when content is AI-generated, mandates the availability of public detection tools, and requires clear disclosures in AI-generated content by January 2026. The key provisions are as follows: • AI Detection Tools: Providers must offer publicly accessible, cost-free AI detection tools that enable users to determine whether content was generated or manipulated by the provider's generative AI system. • Manifest Disclosures: Users must be able to include clear and conspicuous disclosures in AI-generated content, providing notice of its artificial nature in a manner understandable to a reasonable person. • Latent Disclosures: When feasible, AI-generated Content should contain embedded information regarding its provenance, either directly or through a link to a permanent website, to ensure transparency about the content's creation process. • License Revocation: Providers who become aware that third-party modifications have disabled required disclosures in licensed generative AI systems must revoke the license within 96 hours. Licensees are then required to cease using the system upon revocation.

4.4. Canada

Canada has introduced significant AI legislation to guide the ethical and safe development of AI technologies:

4.4.1. Artificial Intelligence and Data Act (AIDA)

In June 2022, Canada proposed the Artificial Intelligence and Data Act (AIDA) 80 through Bill C-27, the Digital Charter Implementation Act. The Act would set a legal framework for the responsible design, development, deployment, and operation of AI systems in Canada. Its key objectives were to make sure that AI systems deployed in Canada are safe, non-discriminatory, and aligned with human rights expectations. This requires organizations to take measures necessary to identify, assess, and mitigate risks that may affect health, safety, and security. It prohibits any reckless or malicious use of an AI system that would likely cause serious harm to individuals or their interests, thus protecting citizens from any artificial intelligence-induced risk. To ensure this, the Act grants the Minister of Innovation, Science, and Industry powers to oversee and enforce AIDA in order to ensure compliance with set standards.

4.4.2. Voluntary Code of Conduct

Along with AIDA, Canada launched a Voluntary Code of Conduct on the Responsible Development and Management of Advanced Generative AI Systems in September 2023. This code outlines voluntary commitments whereby organizations demonstrate responsible development and management of generative AI technologies.

4.4.3. Directive on Automated Decision-Making

Moreover, the Canadian government has released a Directive on Automated Decision-Making applicable to federal institutions. This directive encompasses guidelines necessary to make sure that automated decision systems are being employed in a way that is compatible with the basic principles of transparency, accountability, legality, and procedural fairness in administrative law.

4.5. South America

South American countries are increasingly recognizing the potential of artificial intelligence to drive economic growth and foster social development (Del Pozo et al., 2020). This recognition is evident in legislative initiatives and national strategies that prioritize data protection, ethical frameworks, and multi-stakeholder collaboration.

4.6. Comparison between the EU and the US

Differences between the European Union and United States approaches to AI regulation reflect deeper philosophical and practical distinctions in governance, legal tradition, and attitudes toward technology regulation. The European Union employs a structured, comprehensive approach, while the United States favors a flexible, principles-based strategy (Gande et al., 2024). Each model represents a vision for balancing innovation with societal values. Despite these contrasts, both regions share a commitment to ensuring that AI serves the public good, respects human rights, and fosters trust and safety in technology. The Transatlantic Trade and Technology Council serves as a critical forum for dialogue and cooperation, bridging divides across the Atlantic. However, its future remains uncertain due to potential shifts in policy direction following the upcoming U.S. elections (Goodell et al., 2020). AI governance must be considered within a global context. International initiatives, particularly those led by the Organization for Economic Co-operation and Development and the Group of Seven—including the Hiroshima AI Process initiated under Japan's G7 presidency in 2023—play essential roles in developing a coordinated global approach to AI governance. Additionally, the United Nations General Assembly recently adopted the first global resolution on artificial intelligence, underscoring a universal commitment to responsible AI development and governance(Vercelli, 2024). As AI technologies continue to evolve, ongoing dialogue among global powers will be essential to achieving a cohesive, responsible, and adaptive regulatory landscape. Companies must remain agile and informed within this evolving regulatory environment, treating compliance as a strategic imperative for innovation and leadership in a responsible AI ecosystem.

5. AI Governance in Africa: Policies, Frameworks, and Emerging Trends

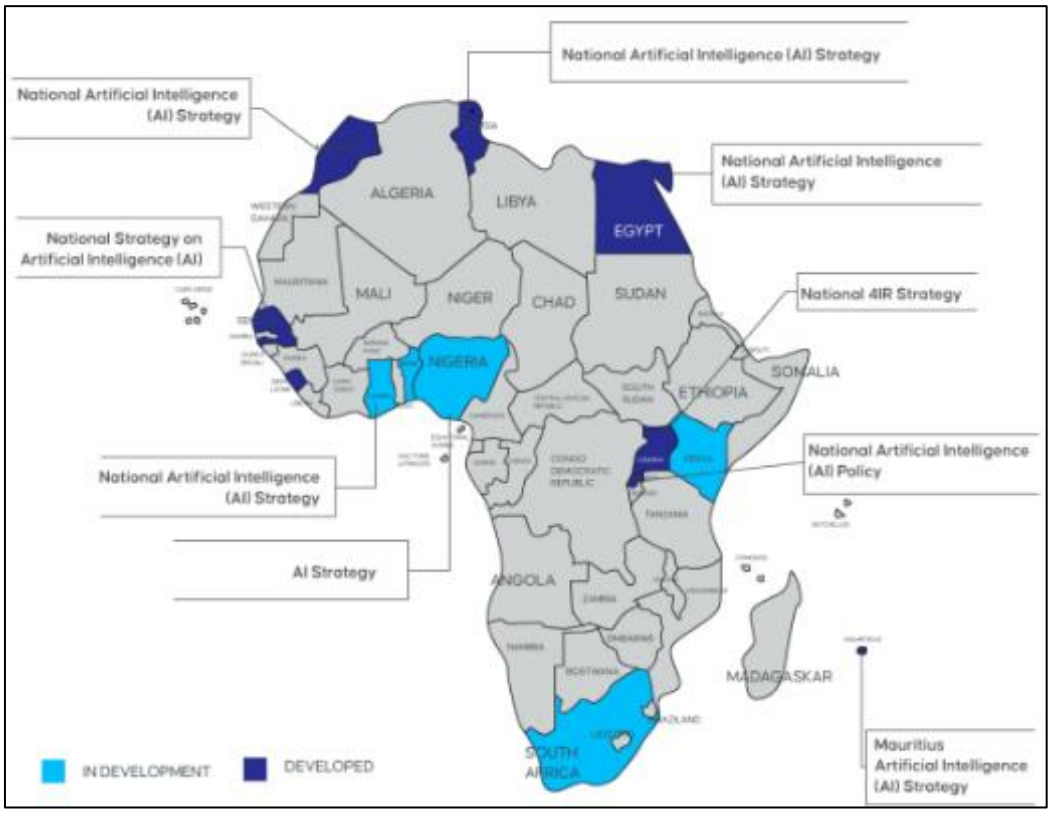

Figure 2 Map of National Artificial Intelligence (AI) Strategies Across Africa (Gwagwa et al., 2020)

Africa holds a distinctive position within the global artificial intelligence (AI) landscape, characterized by extensive cultural diversity, dynamic social changes, and unique economic challenges (Lainjo, 2023). As AI is increasingly adopted to address critical issues in sectors including agriculture, healthcare, education, and financial services, the continent remains heavily dependent on technologies developed externally. This dependence on foreign AI systems frequently

results in challenges such as algorithmic bias, misalignment with local values, and inconsistencies in data governance, which in turn heighten privacy and ethical concerns.

Besides, the deployment of AI raises critical issues, such as adequate informed consent, transparency of algorithms, and accountability of developers and deployers (Radanliev et al., 2024). Challenges remain constant across national approaches to governance, including resource limitations, infrastructure constraints, and a need for greater technical expertise. According to the Global and Continental AI Governance Trends report, most African countries face significant challenges in implementing comprehensive AI governance frameworks, particularly in funding and institutional capacity. Infrastructure development remains a critical concern; for many countries, it is difficult to provide the technological backbone for AI implementation. According to the International Telecommunication Union, Africa still records the highest fixed Internet costs in the world, with broadband Internet services accounting for 14.8% of the monthly gross national income per capita, compared to a global average of 2.9%. Alive to the challenges and opportunities of AI, the continent has made efforts to regulate the adoption and use of AI. Future directions in African AI governance show promising trends toward increased regional cooperation and harmonized standards (Cihon et al., 2019). Many countries are moving toward more structured approaches to AI governance, with emphasis on ethical considerations and protection of human rights. The African Union's Digital Transformation Strategy 2020-2030 provides a continental framework that supports these national efforts while calling on member states to develop comprehensive AI strategies that focus on local context and needs. While we look to universal/global AI standards, we must ensure those principles are tailored to our local contexts while remaining relevant globally. The African Union (AU) has taken a proactive role in shaping AI governance across the continent (Cihon et al., 2019). In July 2024, the AU Executive Council endorsed the Continental AI Strategy during its 45th Ordinary Session in Accra, Ghana. This strategy emphasizes Africa's commitment to an Africa-centric, development-focused approach to AI, which promotes ethical, responsible, and equitable practices. Meant to increase regional and global cooperation and position Africa as a leader in inclusive and responsible AI development, the Continental AI Strategy calls for shared national approaches among AU Member States to navigate AI-driven change. The strategy recognizes the opportunity of AI to accelerate economic growth, introduce new sectors, catalyze innovation, create new employment opportunities, and preserve Africa's cultural heritage. With the principles of ethics, inclusion and diversity, human rights and human dignity, people's well-being, peace, and prosperity, the strategy has prioritized the development and adaptation of AI systems to the African context. It emphasizes a multi-tier governance approach, inspired by ethical principles, democratic values, and human rights, to minimize risks as much as possible, ensuring security, transparency, and accountability. The landscape of AI governance across Africa is complex, with countries adopting different regulatory approaches and policy measures based on their current technological development stages and national priorities. African countries have increasingly recognized the need for structured approaches to AI governance, though the ways it is being implemented vary greatly across regions (Walter, 2024). This variety reflects both the challenges and opportunities facing African nations as they aim to harness AI's potential while ensuring responsible, ethical development.

5.1. East Africa

East Africa is emerging as a significant center for AI governance (Ayana et al., 2024). Although the region's AI landscape remains nascent, countries are progressively adopting Generative AI tools and considering regulatory frameworks. As the fastest-growing region in Africa, with a growth rate of 4.7 percent in 2024 and a projected increase to 5.7 percent in 2025-26, East Africa is well positioned to lead the continent's AI development.

Generative AI tools such as ChatGPT, Gemini, and Perplexity AI are increasingly being adopted in Uganda (Mukunya et al., 2025). The Ugandan government has established a National AI Task Force to develop a comprehensive report to guide the country's AI strategy. Similar initiatives are underway in neighboring countries, including Rwanda, Kenya, and Tanzania, which are also advancing their AI policy and regulatory frameworks. Rwanda has emerged as a regional leader by launching a comprehensive National Artificial Intelligence Policy aligned with Vision 2050 and the Smart Rwanda Master Plan. This policy underscores Rwanda's ambition to become an African innovation hub and a Centre of Excellence in AI. The policy addresses six key areas: AI literacy, infrastructure, data strategy, sectoral adoption, legal frameworks, and ethical considerations, providing a robust foundation for AI development in the region. A distinctive feature of Rwanda's approach is its commitment to fostering a trusted data ecosystem, which is essential for effective and responsible AI systems. Kenya's approach to AI governance is more pragmatic, emphasizing immediate, practical applications while preparing for broader regulatory frameworks. The launch of Kenya's National AI Strategy in April 2024 represents a significant milestone in establishing a governance framework for responsible AI adoption (Mutambara, 2025). Kenya has prioritized sector-specific challenges, particularly the regulation of AI-driven disinformation, which is a growing concern in the context of social media (Kenedy, n.d.). The establishment of task forces, such as the Media Council of Kenya's task force on Data and AI Guidelines, demonstrates a targeted and responsive approach to AI regulation. The Kenyan government has also implemented measures to address the misuse

of AI-driven tools that threaten democracy, as highlighted by President William Ruto's announcement of new regulatory measures to prevent such misuse. These initiatives are part of broader efforts to enhance public participation, improve governance, and increase service delivery through technological innovation. Key drivers of AI growth in East Africa include rapid digital transformation, with Kenya leading in digital maturity according to the Global System for Mobile Communications (GSMA) (Rwigema, n.d.). The expansion of e-payment and fintech solutions further accelerates digital adoption. For instance, the widespread use of M-Pesa in Kenya has increased financial inclusion to over 80 percent in the past decade, according to the Central Bank of Kenya (CBK). On the regulatory front, existing electronic laws provide a foundation for software business regulation and technological advancement. The growth of data centers, cloud infrastructure, and significant foreign direct investment is also expected to drive regional development. The $1 billion initiative by Microsoft and G42 includes AI model development in Swahili, an AI Innovation Lab, connectivity investments, and secure cloud services in partnership with Kenya, which are expected to enhance computing power and support AI scalability across the region. Despite these positive developments, AI adoption in East Africa faces significant legal and regulatory challenges. Inadequate AI infrastructure, including limited access to AI-optimized hardware and high-speed networks, restricts widespread adoption. This challenge is compounded by an outdated education system. The increase in digital taxes, such as VAT and digital service taxes on electronic services, raises costs and slows digital inclusion. Additionally, restrictive measures like internet and mobile money shutdowns, particularly during elections, negatively impact economies and undermine investor confidence. Without strategic interventions, AI-driven technological convergence could intensify disruptions across sectors such as communications, banking, health, and education. While East Africa is positioned for AI expansion, the pace and scale of development will depend on both domestic and global factors, including increased global AI investment and national regulatory strategies.

5.2. West Africa

West African countries are adopting an AI governance approach that emphasizes an Africa-centric framework, focusing on the development of local solutions, data sovereignty, ethical standards, and collaboration among governments, academia, and the private sector. The region is addressing the risks and inequalities associated with AI by building capacity through education and training, aiming to leverage AI for economic development. West Africa demonstrates significant leadership in AI governance, with Nigeria recognized as a continental pioneer (Kanu et al., n.d.). Nigeria initiated its efforts with the establishment of the National Centre for Artificial Intelligence and Robotics in November 2020, the first dedicated AI center in Africa. This was followed by the drafting of the National AI Policy in March 2023 through a consultative process involving multiple agencies, industries, and academic institutions. The policy outlines measures to position Nigeria as a leader in AI governance and innovation in Africa. The most recent milestone occurred in August 2024, when the draft National AI Strategy was published for public participation, enabling stakeholders to contribute to the development of Nigeria's AI regulatory framework.

The Ghana national AI strategy prioritizes ethical considerations, digital literacy, and capacity building (Israel, 2025). In partnership with the Mozilla Foundation, Ghana has developed AI ethics guidelines that inform the country's approach to AI development. The Digital Ghana Agenda, which includes AI as a core component, emphasizes education and training to prepare citizens for emerging AI technologies. Public-private partnerships are central to Ghana's strategy, facilitating collaboration with international technology companies and academic institutions to advance AI research and development (Akomea-Frimpong et al., 2023). In Benin, the National Strategy for Artificial Intelligence and Big Data (SNIAM), led by the Ministry of Digital and Digitalization (MDD), aims to position the country as a significant player in AI and big data by 2027. Officially adopted by the Council of Ministers on 18 January 2023, this strategy focuses on technological solutions tailored to national needs, particularly in sectors such as education, health, agriculture, the living environment, and tourism. Similarly, Senegal and Sierra Leone have approved national AI strategies, reflecting their commitment to leveraging AI for economic growth, innovation, and improved public services (Adebayo Olusegun Aderibigbe et al., 2023). Across West Africa, countries are advancing AI governance through an Africa-centric approach that emphasizes local solutions, data sovereignty, ethical standards, and cross-sector collaboration. Nigeria leads with the National Centre for AI and Robotics (NCAIR) and its National AI Strategy (NAIS) (Effoduh, 2021), while Ghana integrates AI into its Digital Ghana Agenda, focusing on ethics and capacity building. Benin’s SNIAM and the strategies of Senegal and Sierra Leone prioritize key sectors such as health and education, underscoring the region’s dedication to harnessing AI for innovation, economic development, and enhanced public services.

5.3. North Africa

Although the digital divide between the Global North and South remains significant, advancements in artificial intelligence (AI) within North African countries have yet to fully address the expectations and challenges of the AI revolution (Arakpogun et al., 2021). Insufficient investment in data structuring and governance across state institutions, businesses, and society is evident in the region (Kuzio et al., 2022). Similar to other Global South countries, North African

nations face persistent challenges related to data accessibility, infrastructure, and human capital. Nevertheless, these countries possess considerable potential to overcome such barriers, supported by vibrant innovation ecosystems, a technologically adept youth population, dynamic startup environments, and an AI-focused diaspora committed to development. For example, Egypt's National AI Strategy, launched in 2020, was designed to enhance sectors such as healthcare, agriculture, and transportation, while also addressing ethical and regulatory challenges associated with AI technologies. The second edition of the National Artificial Intelligence Strategy 2025–2030, presented by President Abdel Fattah El-Sisi, reaffirms Egypt's commitment to leveraging AI for innovation, economic growth, and improved living standards. The strategy aims to position Egypt as a leading AI hub in the MENA region and to increase the ICT sector's contribution to GDP to 7.7 percent by 2030. It is structured around six pillars: governance, infrastructure, technology, data, ecosystem, and talent. The plan also sets ambitious targets, including the establishment of over 250 AI companies and the training of 30,000 AI professionals by 2030. Similarly, Morocco has prioritized AI on its national development agenda, emphasizing innovation and the responsible deployment of AI technologies that respect human rights and ethical standards. Morocco has introduced comprehensive policies to integrate AI into its industrial and economic strategies, with careful consideration of the social and ethical implications. The country demonstrates particular strength in connectivity, data access, cybersecurity, and personal data protection, all of which are foundational to a robust AI ecosystem. While Tunisia lacks specific AI regulations, it has initiated several AI-related projects, most notably the establishment of its first public institute specializing in artificial intelligence at the University of Tunis, set to commence operations in September 2024. North African countries are at the threshold of significant AI development (Oubibi et al., 2022). Despite ongoing challenges in infrastructure, data availability, and governance, the region has demonstrated strong political will for AI-driven transformation. Egypt, Morocco, and Tunisia are leveraging their expanding innovation ecosystems, youthful populations, and growing pools of AI talent to position themselves as regional leaders. Egypt's ambitious AI strategy, Morocco's structured integration of AI, and Tunisia's newly established AI institute collectively illustrate a broader regional commitment to harnessing AI for economic and social advancement.

5.4. Southern Africa

The Southern African Development Community (SADC), Regional Economic Community (REC) member states, particularly Namibia and South Africa, have taken steps toward fulfilling their commitment to developing AI policies and regulations to mitigate high-risk AI use, as outlined in the Windhoek Statement on AI. South Africa led these efforts by implementing recommendations from AI and 4IR experts, including establishing an AI Institute and investing in human capital. The Department of Communications and Digital Technologies established the AI Expert Advisory Council and launched the Artificial Intelligence Institute of South Africa (AIISA) (Pouris, 2025). South Africa collaborated with the Smart Africa Alliance to develop the Smart Africa Blueprint on AI, which influenced the country's AI strategy(Maleka & Maidi, 2024). The country's approach is particularly noteworthy for its emphasis on research and development, as evidenced by the establishment of the WEF Affiliated AI Centre, focusing on AI Ethics, and the Centre for Artificial Intelligence Research (CAIR). Additionally, policymakers prioritized finalizing the draft Cloud and Data Policy and developing a clear national AI policy. Meanwhile, Namibia engaged in discussions with UNESCO to implement the UNESCO Recommendation on AI, a project led by the Ministry of Higher Education, Training, and Innovation, in tandem with the UN agency. Beyond these countries, Zambia also made strides in AI development by launching its National AI Strategy in collaboration with the Tony Blair Institute for Global Change and other international partners. The strategy aims to accelerate digital transformation, create new job opportunities, enhance public service efficiency, and boost economic growth through AI-driven innovation. Similarly, Zimbabwe advanced its AI agenda by completing the National Artificial Intelligence (AI) Policy Framework, a key step in its broader efforts to drive digital transformation and position AI as a catalyst for economic and technological development. Tanzania has developed the 2022 Policy Framework for Artificial Intelligence in the Health Sector, offering a structured approach to integrating AI into healthcare. The framework defines key processes, technologies, and stakeholder roles to enhance AI-driven health outcomes. The Ministry of ICT is working on an AI Policy that reflects policymakers' broader concerns about the implications of unregulated AI technologies for ethics, society, and the economy. This call for regulation was further amplified in the high-profile session led by Minister Nape of the Ministry of ICT in 2024. The progress made by SADC member states in this area highlights growing recognition of AI's transformative potential across several sectors. South Africa's leadership in AI policy, research, and institutional investments has indeed set a precedent for other countries in the region. Namibia, Zambia, and Zimbabwe's efforts also highlight a commitment to structured AI governance in line with global best practices. Tanzania's sector-specific approach to AI also emphasizes the varied strategies countries have adopted to integrate AI into their national development agendas. But the effective implementation of these strategies depends on sustained political will, investments in AI infrastructure, and local talent. With AI continuing to reshape the global economy, African nations will need to engage in deeper collaboration, share best practices, and refine policies across the continent to ensure that AI-driven growth is ethical, inclusive, and beneficial to all.

6. Conclusion

In addition to economic implications, artificial intelligence presents several risks, including bias and discrimination resulting from unrepresentative datasets, limited explainability in decision-making processes, and unequal access to AI technologies. Further challenges arise from AI-powered surveillance, misuse of personal data, and cybersecurity vulnerabilities, all of which contribute to significant privacy concerns. As AI systems become more advanced, implementing measures to ensure accountability, transparency, and fairness in their deployment is essential. These escalating risks have led to regulatory responses in most countries, with governments and regional bodies introducing laws, frameworks, and guidelines to balance innovation with ethical and legal safeguards. In response, various countries and regional organizations have established governance mechanisms for AI that reflect both local legal traditions and global ethical principles. This report analyzes the AI governance frameworks of these countries, providing insight into global, regional, and national approaches to AI regulation. The analysis begins by exploring the intersection of AI and privacy, with particular attention to how AI is transforming privacy discussions in Africa. It then reviews global AI governance frameworks, identifies key international standards and best practices, and examines the regulatory landscape across the African continent. The report assesses the current state of AI policies, frameworks, and emerging trends in Africa, focusing on key sectors such as financial services, health, security and surveillance, education and research, and the administration of justice.

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