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Al for Inclusive Development in Africa – Part I: Governance

## Introduction

In South Africa, scientists at the University of Johannesburg used AI to forecast the peak periods of COVID-19, helping develop more effective policy measures. In Ghana, StarShea used AI to connect women farmers globally, increasing their earnings by 50% within six months. In Kenya, a groundbreaking startup, SohpieBot, employs AI-driven chatbots to handle inquiries related to sexual and reproductive health. These are just some of the many AI use cases illustrating the potential of AI adoption on the continent to address critical social, health, and economic challenges.

Across the continent, public and private sector interest in AI has been growing rapidly, spurred in part by the capabilities of large language models like ChatGPT. Africa currently counts over 2,400 AI companies,<sup>4</sup> out of which 40% were founded in the last five years. For African nations to sustain and amplify this growth trajectory, governments and the private sector must prioritize AI in their investments. This is essential not only for driving economic expansion, but also for accelerating Africa's progress towards the Sustainable Development Goals (SDGs), especially considering the recently adopted <u>UN resolution on AI Governance</u> that aims to promote safe, secure, and trustworthy AI systems.

Al adoption in Africa does not come without costs or risk. Generative Al and large language models ingest vast amounts of data, generating concerns around privacy, data security and copyright infringement. Predictive Al models could upend traditional decision-making and raises ethical questions around biased and inaccurate data. Proponents of Al development in Africa face nascent Al regulations, a large data deficit, and high capital and operating expenses.

To create strong enabling environments across Africa that can realize Al's immense potential, while minimizing risks, we believe that public and private sector decision-makers should focus on bolstering four pivotal enabling areas: 1) Governance, 2) Data and Digital Infrastructure, 3) Talent, and 4) Funding.

Today, many African nations lack national strategies, institutions, and regulatory frameworks that address AI technologies. This governance vacuum creates uncertainty – stifling investment and hindering innovation in the AI sphere. In this paper we explore these dimensions of AI governance, including challenges and opportunities in each. Subsequent papers in this series will focus on the other three enabling areas.

Al in Africa

2400

Al Companies in Africa, 40% founded since 2017



Source: unsplash

#### **UN Resolution on AI Governance**

March 21<sup>st</sup>, 2024: The UN General Assembly adopted a landmark resolution on the promotion of "safe, secure and trustworthy" artificial intelligence (AI) systems that will also benefit sustainable development for all.

### Governance

# Trust is pivotal for the successful adoption and cultural acceptance of AI in Africa.

It acts as the foundation for the sustainable and beneficial integration of AI into society. However, as AI solutions become more widespread on the African continent, a multitude of risks arise that could undermine that trust, such as personal data misuse, inaccuracies in outputs of AI models, and systemic biases amplified by AI. To deliver on AI's potential socioeconomic benefits, uphold human rights, and align with values such as fairness, accountability, equity, transparency, inclusion, and responsible technology use, African governments and private sector actors must establish a strong governance foundation, including strategic direction, implementing mechanisms, and regulatory and ethical frameworks for AI adoption.

#### **AI Strategy and Planning**

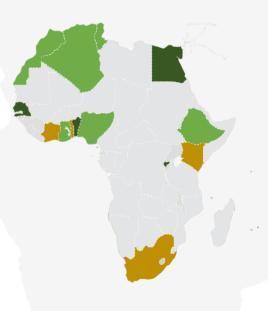
National and regional strategies can accelerate and sustain the adoption of AI, providing roadmaps to guide its development, implementation and use in a way that respects societal values and norms and contributes to inclusive growth. Both the United States<sup>5</sup> and European Union<sup>6</sup> have released AI strategies that set visions, policies, priorities, and action plans for enabling AI development and commercial uptake and "ensuring that AI works for the people." These could be potential models for the African Union and national governments on the continent.

In 2023, the African Union convened AI experts to draft the African Union Artificial Intelligence (AU-AI) Continental Strategy for Africa, set to be released in 2024. Yet, most countries in Sub-Saharan Africa have yet to develop national AI strategies or policy plans. The lack of clear direction hinders collaboration and integration of AI across economic sectors, impeding coordination, prioritization, and resource allocation of AI efforts within each country and across the continent. 8

Efforts to establish AI strategies in Africa vary, falling into the following categories: 1) early AI adopters—countries with national AI plans or strategies adopted; 2) countries with plans or strategies in development; 3) AI integrators — countries incorporating AI governance into a comprehensive digital strategy or within an existing framework; and 4) non-adopters of AI —countries that have no mention of AI in plans, policies, or strategies at the national level. In the first two categories, Egypt, Rwanda, Ghana, Senegal, Tunisia, and Nigeria stand out as the early adopters and have either created AI national strategies or are currently in the process of doing so.

### Status of National AI Strategy and Planning

- Countries that have adopted an Al National Strategy
- Countries in the process of adopting an Al National Strategy
- Countries with no national Al strategy but integrating Al into digital strategy or legal framework.
- Countries with limited or no consideration of Al



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In 2021, Egypt launched its National AI Strategy and established a National Council for Artificial Intelligence. This comprehensive strategy serves as a guiding framework for the responsible and strategic adoption of AI technologies across various sectors within Egypt. Egypt's vision includes positioning itself as a thriving hub for innovation, drawing in investments, and effectively addressing critical societal challenges to stimulate economic growth. The implementation of this strategy is projected to yield a direct impact of \$42.7 billion USD by 2030, equivalent to 7.7% of the nation's GDP.

In the second category, AI integrators, lies South Africa, which lacks a national AI strategy but has established a Presidential Commission on the Fourth Industrial Revolution (4IR)<sup>9</sup> to develop a strategic plan for the country's 4IR vision, to become a leader in emerging technologies, notably, Artificial Intelligence, quantum computing, and smart manufacturing. Similarly, Kenya, which also currently lacks a national AI strategy, relies on existing laws related to AI and digital technologies as a regulatory framework. 10

Countries in the last group show limited or no consideration of AI. This is often due to policymakers not perceiving it as a priority and questioning their capability to pursue it. These countries may be prioritizing other underlying challenges to Al adoption, such as digital divides, talent gaps, and limited data and digital infrastructure, all of which can make AI seem like a distant goal.

Other reasons for the slow progress in adopting AI strategies and necessary governing mechanisms are the limited knowledge and understanding of Al's potential and its societal implications among the policymakers. This lack of awareness can impede effective decision-making and the formulation of suitable policies and regulations. As a result, it can lead to a slower pace of AI adoption and missed opportunities for using AI to tackle social, economic, and developmental challenges.

#### **Opportunities for Consideration**

African governments must craft national AI strategies to serve as a foundation for effective Al governance. Public officials should consider engaging Al leaders, industry experts, corporate and international partners to create robust AI strategies that define objectives and encourage cross-sector collaboration, with clear, measurable roadmaps for implementation. Strategies and roadmaps should ideally be developed within the context and aligned to a comprehensive economic growth strategy, guiding long-term objectives, and maximizing potential. These guiding documents should go beyond articulating a vision; they should include analysis and decisions to set priorities, optimize resource allocation, and identify implementation needs. National strategies should align with and support implementation of the African Union's forthcoming continental AI strategy.11

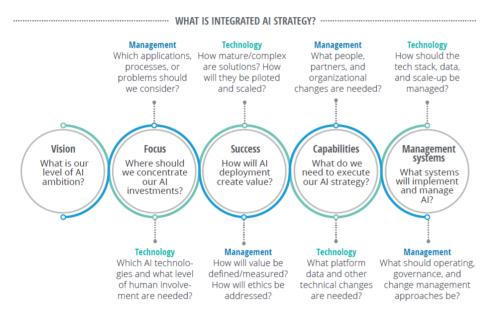
#### Egypt's Al Journey

Increase in Egypt's GDP is expected from its new Al



Source: freepik

In a 2019 Deloitte article on AI strategy for government leaders, authors explained that "strategy isn't just a declaration of intent, but ultimately should involve a set of choices that articulate where and how AI will be used to create value, and the resources, governance, and controls needed to do so." Based on this premise, Deloitte developed an AI version of its classic strategic choice cascade framework to reflect the questions and considerations required for AI adoption (see figure below). To be effective a government AI strategy should cover five core components — a vision, prioritized focus, a clear definition of success, capabilities needed, and supporting management systems. This framework can be applied at the national level, to use AI for improved government performance or to advance an economic growth agenda, or from a sectoral lens, for the AI strategy of a specific ministry or public agency.



Source: freepik

Source: Deloitte analysis.

Donor partners can provide tailored training and capacity strengthening for policymakers to bridge the knowledge gap. Enhancing domestic AI policymaking capabilities will empower African countries to autonomously shape AI policies that align with their distinctive requirements and ambitions. Donors can build on existing models such as the FAIR Forward program, which initiated peer-learning activities to enhance the capacity of policymakers from Africa and Asia to respond to the benefits and challenges of AI. The program was implemented by the Human Sciences Research Council (HSRC) from South Africa, working with researchers and policy experts from Ghana, Kenya, Rwanda, South Africa, Uganda, among other countries.<sup>12</sup>

#### **Public-Private Coordination & Implementation Mechanisms**

There is often a lag and lack of institutional coordination between national AI public stakeholders and private sector players and initiatives, limiting the potential of such strategies to be effective in dirving economic growth and social development. To fully harness AI's benefits, effective institutional frameworks for AI policy and strategy implementation and collaboration between the public and private sectors, are essential.

Nigeria, Rwanda, and several other countries are taking a proactive approach on this front. To promote research and development in emerging technologies, the Nigerian government established the National Centre for AI and Robotics (NCAIR). <sup>13</sup> This collaborative endeavor engages government agencies, businesses, and academic institutions in a shared mission, to create an African Hub for AI and Robotics. Furthermore, in May 2023, the Federal Government of Nigeria made a resolute commitment to generate one million jobs in the digital economy by providing accessible courses for professionals, in Artificial Intelligence, Cloud computing, Game Programer, Ecommerce, Digital Marketing, etc. <sup>14</sup>

Similarly, Rwanda launched the AI Hub initiative flagship program to focus on building vibrant AI ecosystems to support startup researchers and entrepreneurs. The AI Hub developed a training program for young professionals in collaboration with the Rwanda Space Agency (RSA), German Aerospace Agency (DLR), and the private sector in targeting machine learning programs for earth observation. The program's goal is to make use of AI and machine learning to leverage geospatial data in the sustainable development of the country. In addition, the Rwanda Information Society Authority (RISA) and the AI Hub established a natural language processing fellowship with the aim of bolstering the state's technical skillset among the local population.

Egypt has also created an AI council to oversee its national AI strategy, and Kenya has entrusted its national innovation agency<sup>16</sup> with developing and implementing IT-related policies, including those pertaining to AI and data. Meanwhile, Senegal is the only African country represented in the Global Partnership of Artificial Intelligence (GAPI), a standards body convening experts from the public and private sectors to develop governance models and shepherd global innovation.<sup>17</sup> These initiatives illustrate the vital role that public-private cooperation plays in advancing AI-driven economic growth.

#### **Opportunities for Consideration**

- Government strategies should empower new or existing institutions or coordination mechanisms to drive implementation. These institutions, whether national AI agencies or commissions, can carry the mandate of facilitating dialogue, co-creating policies, and ensuring coherent AI ecosystems. African countries can actively learn from each other and other contexts to tailor governance mechanisms to their specific needs. In the US, for example, the government established the National Artificial Intelligence Research Resource Task Force (NAIRR) to help drive implementation and facilitate dialogue among stakeholders of AI adoption. The aim of the Task Force was to stand up the national infrastructure for AI development and research. The task force brings together experts from academia, industry, and government to provide insights and drive implementation.
- African governments should actively participate in global AI standards bodies. Global standards bodies are developing and proliferating governance guidance for AI research

Institutions with public-private coordination mandate for Al adoption:

Egypt: Established a National Council for Artificial Intelligence to implement the national AI strategy, which serves as a guiding framework for the responsible and strategic adoption of AI technologies across various sectors.

Nigeria: The Nigerian government established the National Centre for AI and Robotics (NCAIR) to engage government agencies, businesses, and academic institutions to create an African Hub for AI and Robotics.

Rwanda: The AI Hub developed a training program in collaboration with the Rwanda Space Agency (RSA), German Aerospace Agency (DLR), and the private sector in targeting machine learning programs for earth observation.



Source: freepik

and activities—influencing AI product and service delivery models. African governments should be an active voice at the table, allocating funding and time to these efforts to influence global decision-making and advancing their own economic and national security needs. This includes applying for membership, leadership roles in policy committees and funding African experts at technical committees at these foras for deeper global engagement.

o Implementation institutions should have a mandate to foster public-private partnership. Establishing collaborative governance structures that bridge the gap between the public and private sectors is essential. We're seeing this in other areas of opportunity for digital enablement. For example, in Senegal the National Meteorological Agency was granted the mandate and liberty to establish PPPs as part of a weather and climate data value chain from government to end users. Public agencies charged with implementing AI strategies should be similarly encouraged and equipped to partner with the private sector to strengthen the entire ecosystem.

**Regulatory and Ethical Framework** 

As AI relies heavily on data, including personal and sensitive information, certain laws and regulations related to data collection, transfer, protection, and cybersecurity have significant impact on the ethical and safe adoption of AI. Much of the data employed for AI tools and solutions comes from Global North users. In general, citizens in the Global North typically have more advanced digital infrastructure. This easy access to digital technologies leads to greater use of these technologies by Global North users, which in turn creates greater representation of Global North users in the data within such technologies. As a result, datasets may reflect the demographics, preferences and behaviors of population in the Global North, potentially leading to biases when AI systems are applied at the global level. AI has the potential to further exacerbate the digital divide between the digitally underservedand the highly digitalized countries and pose risk for disadvantaged or marginalized groups because these groups may not be represented in AI training data.<sup>19</sup>

Similarly, across the African continent and within each country in the region, insufficient infrastructure and other factors limit access and use of digital tools and technology for certain groups more than others. Without the right processes and safeguards in place, the adoption of AI can exacerbate existing digital divides, including between expat and local populations, men and women, urban and rural residents, and along formal education level and income lines.

Furthermore, Al as a tool can be co-opted for pernicious uses, such as for promulgating mis-, dis-, or mal-information, which can have devastating effects on social and political stability. For example, mis-,dis-, and mal-information have been weaponized to increase instability in the Sahel region where low literacy rates, existing political tension, and and uptick in social media use have combined to make an already complex situation even more challenging.<sup>20</sup>

Additional challenges and gaps related to AI and data protection, data transfer, and cybersecurity are significant. According to UNCTAD, most African countries have already adopted a data protection law<sup>21</sup> or are in the process of drafting legislation. However, due to the rapid evolution of technology, regular updates are necessary. For example, Tunisia enacted a personal data protection law in 2004. Despite being advanced, this law

Without the right processes and safeguards in place, the adoption of Al can exacerbate existing digital divides, including between expat and local populations, men and women, urban and rural residents, and along formal education level and income lines.



Source: freepik

faces challenges, including the General Data Protection Regulation for the European Union<sup>22</sup> (GDRP) compliance, effective enforcement, raising awareness among businesses and the public, and adapting to rapid technological changes.

Protection of inventions also stands as a crucial regulatory challenge for AI providers. Indeed, AI's unique intellectual property challenges, particularly in algorithm protection and AI-generated content, are also emerging concerns. Today, in the majority of countries, AI software is protected only by copyright covering the source code. However, this protection can be limited as it does not extend to the underlying ideas, methods, or algorithmic functionalities.

One example of how this governance gap can manifest is in the level of caution used by AI startups in their data collection. Several interviewed startups admitted that they have used data from surveillance cameras to create their database and train their models without the required authorizations from the national data protection authorities due to a lack clarity and guidance on regulatory requirements. This reveals a critical need for better regulatory understanding and support systems to ensure that AI development aligns with legal and ethical standards.

Addressing these risks is essential to creating a safe, secure, inclusive, and transparent enabling environment for ethical AI adoption and innovation in Africa. In some cases, rapid adoption of a strict regulatory framework around AI might hamper innovation. For example, in 2023 tech industry leaders in Kenya raised concerns about the government's proposed bill for the Kenya Robotics and Artificial Intelligence Society, arguing that such legislation could potentially stifle innovation, especially considering that the AI sector in Kenya is still in its nascent stages. <sup>23</sup> Conversely, policymakers recognize the importance of safeguarding consumers' interests by providing a legal framework for the establishment and operation of AI technologies. <sup>24</sup> This situation highlights the critical need for a regulatory approach that safeguards users while also fostering technological advancement and innovation. Recently the European Union approved an AI Act that establishes a foundation of safeguareds. <sup>25</sup>

#### **Opportunities for Consideration**

Prioritize the establishment of data protection, data transfer, cybersecurity and intellectual property regulations that are robust and aligned with international standards. Adapting these laws is crucial to address the intersecting risks posed by AI, such as algorithm protection, ownership and usage rights of Al-generated content and the use of personal data with the appropriate protection. Data must not only be secured properly, but ownership rights must also be clearly defined, recognizing both individual and collective rights. Individuals should be allowed to opt-out or remove access of having their data used as part of an Al solution. On ownership, resolving conflicts between data sovereignty and accessibility can be challenging, especially regarding national governments' control over data, but ethical use would ultimately place power into the hands of those having their data collected. Reconciling data accessibility with privacy protection is crucial. While AI innovation relies on diverse datasets, ensuring privacy rights through measures like anonymization, masking, encryption, or differential privacy is essential. Striking a balance between accessibility and privacy requires collaboration among stakeholders and the development of clear ethical guidelines, security controls, and regulatory frameworks. This not only boosts consumer confidence in African organizations but also enhances their competitiveness on the international stage.



Source: freepik

The European Union approved the AI Act: The AI Act, approved on March 13<sup>th</sup>, 2024, "aims to protect fundamental rights, democracy, the rule of law and environmental sustainability from high-risk AI, while boosting innovation and establishing Europe as a leader in the field. The regulation establishes obligations for AI based on its potential risks and level of impact."

Conversations about a unified regulatory framework should also be considered for African nations. Just like the European Union, which last February approved the AI Act to ensure that AI systems are safe, transparent, and accountable, fostering trust in this rapidly evolving technology.

- Equip local public actors with the knowledge to prevent and redress harm that results from AI implemented with a global but not local perspective in mind. Engaging local actors within the ecosystems strengthens capacity both to make ecosystem-informed strategic investments and to develop effective safeguards for AI technology and data. Local actors may include host country governments, technology companies, digital rights activists, civil society organizations, local financial institutions, academic institutions, and regulatory bodies. Local actors impacted by AI should be engaged throughout the design and implementation processes. This means equipping local actors with the knowledge, skills, and tools that allow them to analyze and understand when and how the use of AI tools might result in unfair or unjust outcomes.
- Improve inclusivity and stakeholder representation in AI design, deployment, governance, or policymaking, especially for underrepresented or marginalized groups. Inclusivity and representation of African countries, contexts, and citizens is imperative to mitigating potential AI risks and harms on a global level. Within the African context, inclusion of marginalized groups or those with limited access, such as persons with disabilities, rural residents, women, and girls, <sup>26</sup> can better position AI technologies to address equity issues rather than exacerbating them. Designing AI using principles of gender equity and social inclusion can reduce AI bias<sup>27</sup> in recruitment tools that may reflect discriminatory hiring practices; in financing tools that determine discriminatory credit scores or loan approvals; or with health tools that influence diagnosis and subsequent treatment. Knowledge sharing on AI risks and harms with the public enables active collaboration, learning, and idea sharing to shape an ecosystem where the public and those traditionally excluded in other forums can engage on Al-related issues. The collective perspective creates opportunities for surfacing problems and identifying current and future risks of AI. This in turn allows for AI use that is more equitable, inclusive, and rights-respecting; accounts for, and mitigates, potential harms; and is reflective of a more global reality.
- Adopt a human-centered, responsible, and ethical approach to AI. Including considerations such as: 1) participation and inclusion, to engage and empower diverse and affected stakeholder in the design, development, and governance of AI, so that their needs, preferences, and values are respected and reflected; 2) accountability and transparency to establish clear and enforceable rules and standards for the behavior and performance of AI systems, as well as mechanisms for monitoring, auditing and redressing any harms or errors; and 3) fairness and justice to enable AI systems to be fair, equitable, and nondiscriminatory, so they are able to promote the social good and human rights of all people, especially those who are marginalized, oppressed, and perhaps lack access to the technology. This is an area of potential support from technical partners. Tools such as Deloitte's Trustworthy AI<sup>TM</sup> framework described below can be useful in defining parameters and standards across the various dimensions that need to be considered.

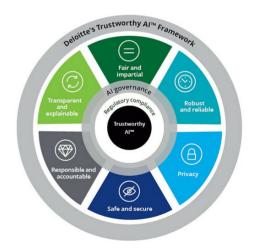


Source: freepik

Trustworthy Al™ framework promotes the ethical use of Al within organizations.

Trustworthy Al™ requires governance and regulatory compliance throughout the Al lifecycle from ideation to design, development, deployment, and machine learning operations anchored on the seven dimensions in Deloitte's

Trustworthy Al™ framework—transparent and explainable, fair and impartial, robust and reliable, respectful of privacy, safe and secure, and responsible and accountable.



Source: Deloitte

## Conclusion

Recognizing the diverse landscape of Africa, each country presents a unique context for Al adoption, with varying levels of maturity across the continent.

However, across the board, it is imperative for African governments and businesses to prioritize developing robust governance and risk mitigation frameworks, including strategy, institutional implementation capabilities, public-private coordination, and regulatory and ethical standards, to reap the potential of the technology. Read more about other critical AI enabling areas in the region as we continue this series on AI adoption, covering talent, data and digital infrastructure, and funding.



Source: Shutterstock

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#### **Acknowledgements**

The authors wish to acknowledge Elizabeth Villarroel, Ramzi Maatoug, Francesca Cavalli, Helena Buckman, Aymen Mtimet, John Millock, Kwame Antwi, Mohamed Baccar Fayache, and Rali Sloan for their extensive contributions to the development of this report. We would also like to thank our colleagues Carlton Jones, Kathleen O'Dell, Mohamed Malouche, Shrupti Shah, Mohamed Sylla, Wessel Oosthuizen and Mulaudzi Rudzani for their insights and guidance.

Finally, this report would not have been possible without the time and invaluable insights shared by startups and SMEs, entrepreneurs, donors, experts, and support organizations. The authors extend their sincere thanks to Aya ElGebeely (Talents Arena), Ali Mnif (Digital Africa), Celina Lee (Zindi Africa), Daniel Djaha (Orange), Jethro Datamwin Apeawini (Classic Data Lab), Olivier Gakwaya (Smart Africa), Sinda Ben Salem (Instadeep), Richard Nii Lante Lawson, Moez Ben Hajhmida (Fairconnect.ai), Nicolas David (AWS), and Wayan Vota (USAID).

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