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Digital Policy Hub

Digital Policy Hub – Working Paper

Robust Digital Governance Frameworks in Africa

Badriyya Yusuf

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About the Hub

The Digital Policy Hub at CIGI is a collaborative space for emerging scholars and innovative thinkers from the social, natural and applied sciences. It provides opportunities for undergraduate and graduate students and post-doctoral and visiting fellows to share and develop research on the rapid evolution and governance of transformative technologies. The Hub is founded on transdisciplinary approaches that seek to increase understanding of the socio-economic and technological impacts of digitalization and improve the quality and relevance of related research. Core research areas include data, economy and society; artificial intelligence; outer space; digitalization, security and democracy; and the environment and natural resources.

The Digital Policy Hub working papers are the product of research related to the Hub's identified themes prepared by participants during their fellowship.

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Partners

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67 Erb Street West
Waterloo, ON, Canada N2L 6C2
www.cigionline.org

Key Points

- Growing interest in Africa's digital transformation is being driven by the continent's youth bulge, its potential as a partner trading on an equal footing and its role in tech geopolitical rivalries.
- Regional approaches to data governance help enhance interoperability and harmonization of national data regulations, providing African states with more leverage and market share in the digital economy.
- Canada's Group of Seven (G7) presidency in 2025 puts the country in a good position to build on the digital development agenda, which focuses on strengthening data pipelines in Africa to increase collaboration in data quality, accessibility, standardization and regulation.

Introduction

On August 2, 2023, the activities of Worldcoin were halted in Kenya over data privacy concerns. The firm is a multinational cryptocurrency and digital identification (ID) firm founded by OpenAI's Sam Altman and Tools for Humanity's Alex Blania and was suspended for collecting Kenyan citizens' biometric data without informed consent and using tactics described as "nefarious" (Open Institute 2024). More than 350,000 Kenyans had been registered in a process for inclusion into a financial network that involved having their irises scanned by an orb-shaped device in exchange for a digital identity called World ID (Musau 2023b). Registrants "earned" 25 free cryptocurrency tokens (equivalent to CDN $89). As with most big tech corporations, Worldcoin maintains that data was voluntarily given by Kenyans who signed up for the "free service," and that it does not "and never will share any personal data (including biometric data) with anyone who is not working on or assisting with the Worldcoin project" (Musau 2023a).

Despite pressure from the United States government to lift the ban and Worldcoin's insistence on the project's compliance with data security and encryption requirements, Kenyan administrators maintained that Worldcoin was not regulated in Kenya (Mutai 2024). The authorities remained resolute on the ban, until agreements on guidelines were concluded and assurances of the project's safety and integrity were established. While relatively new, iris scanning is among a number of biometric and facial recognition technologies increasingly being used alongside algorithmic fingerprint analysis, palm prints, and DNA testing for surveillance and automated decision making (Andrejevic and Selwyn 2022). The potential abuses and misuses of digital technologies and algorithmic biases, especially among vulnerable populations, are well documented in critical academic and journalistic inquiry (Eubanks 2018; Benjamin 2019; Buolamwini 2023). These concerns bring to the fore key questions on fairness, accountability and transparency (FAT) in the politics of emerging technologies, including the questions of who owns our data and why that matters. As Kate Crawford writes, "We need to go beyond neural nets and statistical pattern recognition to instead ask what is being optimized, and for whom, and who gets to decide?" (2021, 9). By interrogating the opaque and "black box" nature of technocratic interventions, critical data theorists

highlight the significance of transparency as a central component of enacting regulation in the development and deployment of technologies, given that state actors and regulators can only legislate what they can see and understand (Bui and Noble 2020, 6).

In the case against Worldcoin, Kenya's then Cabinet Secretary for Interior Kithure Kindiki is reported to have stated in his address to the Parliament: "Citizen data is a sovereignty issue. They harvested data here operating outside the law. I know I run the risk of being told I'm standing in the way of commerce but as a security manager, I need to know who is behind any crypto[,] the source of their investment and who is doing what because if we allow anything that will harm the people of Kenya, I will be asked" (Musau 2023b). The Kenyan Data Protection Act stipulates that a data subject has a right to be informed as to how their personal data will be used, to access their personal data in the custody of a data controller or data processor, and to object to the processing of all or part of their personal data. Worldcoin was set to resume operations in Kenya after June 14, 2024, when the country's director of public prosecutions dropped investigations on the corporation, closing the file "with no further police action" (Reuters 2024).

The case of Worldcoin in Kenya provides valuable insight into a pressing issue facing a vast majority of states worldwide: namely, how to structure and implement their national data governance frameworks and strategies. States face the challenge of balancing between the pressure to participate in an evolving digital political economy and the need to protect citizen data and privacy. The case of Worldcoin also highlights how technology is rolled out often without informed consent, as well as the limited say that users have over their collected personal data and how that data is used and exchanged (Tennison 2024), especially in cases where that data can be used to generate economic and/or social value (The World Bank 2021). This dilemma is particularly relevant in the context of the Global South, where some countries are unprepared to participate in the data-driven economy, and where the governance of cross-border data flows is often based on trade agreements (Aaronson 2018). The rapid expansion of the African digital economy necessitates having in place mechanisms that protect consumer privacy while simultaneously facilitating data flows. This balance is best achieved by developing robust data governance frameworks. Recognizing the importance of data privacy and protection, as of 2023, at least 36 out of 55 African states have some form of data protection regulation or national data plans.[1] Judging from the centrality of artificial intelligence (AI) in the agendas of many African stakeholders at the recent 2025 World Economic Forum (Adegoke 2025), discourse on data governance frameworks is gaining traction.

This working paper contributes to a series (Yusuf 2024, 2025) that is focused on addressing a critical question: How do we develop sustainable data governance frameworks in Africa? This research aims to assess the scope of coverage and applicability of existing data governance frameworks, as well as their robustness. It has found that a wide range exists between African countries with active data regulations and policies and those still in the early stages of developing legal frameworks. These differences are often attributed to capacity constraints in resources and expertise between countries (Adeniran 2022; Aaronson 2018; Fumega 2024). Despite a shared geographic space, history, and economic challenges, differences in the levels of digital

1 See https://dataprotection.africa.

development and operationalization remain hurdles in the harmonization of cross-border policies, and regulatory heterogeneity can also lead to digital fragmentation (Fritz and Giardini 2023, 2).

In this working paper, I engage with the perspectives of issue area experts in African digital politics to empirically build recommendations for how to overcome these hurdles and develop interoperable and robust cross-border digital policies across the continent. The paper proceeds by first providing an overview of the African digital landscape. This overview is followed by a discussion on the growing agency of African actors in digital transformation. Highlighting the transdisciplinary nature of this research, the paper draws from the insights and perspectives of experts to proffer recommendations for robust data governance frameworks.

Methods

To deepen our understanding of the challenges, opportunities and outcomes of data governance frameworks in Africa, this research uses qualitative methods. In addition to a desk review of publicly accessible government, intergovernmental and non-governmental organization reports, expert interviews[2] are used to help explore explanations that may be insufficiently nuanced or contextualized in quantitative research.

Theoretical Background

There is no standard definition for data governance. It is comprised of several policy instruments focusing on data protection, the ethical use of data, cybersecurity, cross-border data transfers and data localization (ibid.). Data governance frameworks guide the usage of data, its storage, its transfer to third parties and the rights of data subjects. According to Silvana Fumega (2024), "robust legal frameworks and ethical guidelines governing data collection, storage and accessibility need to be established in order to achieve a balance between advancing shared interests and safeguarding individual rights." Given the expansive scope of emerging technologies, data governance is being broadened beyond data to encompass digital technologies, applications and normative considerations in their development and deployment. Normative considerations examine the ways in which digital technologies are integrated into systems of surveillance, exploitation and control, thereby reinforcing and creating new forms of digital discrimination and oppressions (Bui and Noble 2020). It is in this vein that Michel Girard (2024) provides a tiered conceptualization of digital governance made up of both objective criteria applied to technologies and subjective criteria that includes values such as health, safety, security and human rights, and ethics (such as equity and fairness). Digital governance here is defined as "the management of harms resulting from the use of digital technologies" (ibid., 2).

2 The views of individuals representing different stakeholder groups in the African digital ecosystem were used for this research paper: two are from academia, two are from civil society and one is from industry. Participant perspectives on digital governance in Africa were elicited through the interviews, speeches and publications of the area experts. These interviews were conducted between October and December 2024, and ethics approval was received from the Queen's University General Research Ethics Board.

The African continent faces multiple hurdles as it deepens its digital transformation. These challenges include underdeveloped digital infrastructure and a dependence on foreign technology, resulting in much of its data being hosted abroad. Research by critical data scholars and engagement across the continent highlight how data geographies, extractivism and unequal distribution of data ownership will lead to new concentrations of power (Hepp, Jarke and Kramp 2022, 2). In response, African countries are grappling with how to assert greater control over data generated within their borders (Yusuf 2024). Caught between competition driven by foreign tech companies and ideological differences among the Chinese state-driven, American market-driven and European rights-driven models of data governance (O'Hara and Hall 2021; Bradford 2020), legislation and strategies such as data onshoring are increasingly being used by African states to assert greater control over citizen data flows (Soulé 2023, 5). However, strict data localization is argued to be counter-productive for cross-border data economic development (ibid.). In addition, the limited market power of several African countries, which has led to the ineffective implementation of governance frameworks, is driving the push for harmonized regional approaches to data governance (Adeniran 2022).[3]

African Agency in the Global Digital Landscape

Building on scholarship on shifting global power, there is a burgeoning literature on African agency demonstrating how African actors have been able to act on and to effect change in the international system (Brown and Harmon 2013; Chipaike and Knowledge 2018). Agential constructivism (Grant 2018) provides a valuable lens through which to analyze African agency in the global digital landscape. While acknowledging structural constraints, this theoretical approach also recognizes the capacity of marginalized actors to strategically disrupt longstanding norms and structures even in the face of power imbalances. More importantly, agential constructivism accounts for the role of non-state actors in shaping state preferences, which is a significant feature of the African political economy landscape. In the African digital ecosystem, this role is evidenced in the mushrooming of digital innovation hubs across the continent coined as "Silicon Savannah" and in the proliferation of indigenous technologies with domestic and transnational impacts, including Rwanda's e-government Irembo platform and Kenya's Ushahidi, an open-source software application used to geo-locate political hotspots that has served as the prototype for activist mapping. Other popular applications include the mobile money application M-Pesa that has had significant impact on financial technology systems (Nyabola 2018) and Masakhane, an open-sourced initiative aimed at fostering collaboration on natural language processing for African languages (United Nations Development Programme 2024). The proliferation of indigenous technological capabilities in African countries is fuelling calls for the need to harness local technological talents to address local issues, requiring Africans to distinguish between which technologies to embrace, which technologies to modify, and which technologies to resist. It is increasingly being recognized that African data governance policies should reflect the continent's unique concerns and aspirations.

3 Interview, July 4, 2024.

In line with scholarship on African agency, nascent research on the African digital ecosystem posits that African actors are increasingly navigating ongoing geopolitical rivalries between digital powers by adopting a mix of pragmatic approaches to pursue their own priorities and interests (Soulé 2023). In her analysis of negotiations of digital partnerships, Folashadé Soulé (ibid., 5) finds that African actors are diversifying partnerships and forming joint ventures to meet their digital transformation goals. Overturning traditionally held views of actors from the Global South as passive recipients of norms, Soulé's research demonstrates how African digital policy making is increasingly being shaped by the alignment of interests rather than by geopolitical considerations. This is manifested in the trend towards diverse portfolios in digital partnerships despite the geopolitical rivalry between China, Europe and the United States. This rivalry has been noted as having a positive effect for African nations, with "actors from various countries try[ing] to outcompete each other to propose favourable offers to governments and operators seeking partners to execute large-scale digital projects" (ibid., 4).

Gains are being made in digital policy and regulatory efforts through the adoption of national- and continental-wide instruments that are informed by local knowledge and contexts (Kwet 2019). In alignment with the digital transformation espoused by the African Union's Agenda 2063, regional instruments have been designed to guide the development of digital governance policies and legislation to align better with the continent's unique contextual and capacity constraints (African Union 2022). There is also increased demand for regional instruments to facilitate harmonization (Open Institute 2024). Regional approaches can be used to build capacity on implementation gaps in national data governance frameworks arising from capacity challenges and regulatory inertia. For example, the African Union's Data Policy Framework (2022) provides a continent-wide blueprint for creating a consolidated data environment to help enhance interoperability and harmonization of national data regulations. There is, however, criticism over lack of coherence in the framework, which can potentially limit its wide adoption (Thaldar 2023). The prolonged periods required to develop legislation can mean that this legislation is outdated by the time it has been adopted. Questions over the efficiency and implementation of the existing regional instruments have led to calls for either revamping these instruments (Okolo 2024) or updating them through guidance notes and additional protocols (Carnegie Endowment for International Peace 2023). This is especially relevant as the foundational frameworks for data protection form the basis of legislation for emerging technologies such as AI.

African Perspectives

This section engages with insight gained from experts in four interrelated key areas — data governance, human rights, cybersecurity and AI governance. The categories represent the dominant issue areas advanced in policy making on digital governance, and the perspectives reflect Africans on the continent or in the diaspora who have made a significant contribution to scholarship and practice in the African digital ecosystem.

Data Governance

Recognizing the threat to digital sovereignty posed by dependence on foreign tech providers and by extraterritorial storage of sensitive national data, several African states are using data localization strategies to increase control over the flow, processing and storage of citizen data. These strategies include efforts in establishing and implementing data protection laws and, increasingly, the establishment of national data centres (Soulé 2023, 5). To limit data protectionism, policy makers are encouraged to scale up efforts on "enabler" laws leading to improved cross-border data flows (Adeniran, Balogun and Ihezie 2023). This is the focus of the political and economic push toward unified continent-wide systems through the African Continental Free Trade Area (AfCFTA) and the African Data Policy Framework. Proposals have also been put forward for national procurement processes that ensure co-generation of data by requiring open licensing terms and opportunities for local knowledge transfer (Effoduh, Akpudo and Kong 2024).

Cybersecurity

Africa is reported to lose more than US$4 billion a year to cybercrime (Anthony, Sambuli and Sharma 2024) through cyber breaches, malware and data protection issues. As discussed by Enrico Calandro (2020), preserving cyber stability is a collaborative effort that requires African actors to devise cooperative mechanisms of observing, implementing and including norms in their national cyber policy or strategies. However, governing cyberspace is ineffective without adequate digital capacity. According to Nnenna Ifeanyi-Ajufo (2023), the disparities in digital capacities and political structures create challenges for African states in implementing principles of responsible state behaviour in cyberspace by African states. To this effect, regional cooperation and a unified approach are critical to reinforcing institutional capacities and building trust. It is hoped that the African Union's Convention on Cyber Security and Personal Data Protection, which finally came into force in 2023 to regulate cybersecurity, data security and security of electronic transactions, will also facilitate this process.

Human Rights

In addition to cybersecurity challenges posed by malicious actors, the rise in the number of African states that deploy spyware, surveillance, censorship and internet shutdowns has led to increased calls for human-centric approaches that ensure for the responsible use of data and technology. Adedeji Adeniran, Adekunle Balogun and Ezra Ihezie (2023) maintain that checks and balances must be embedded into data governance frameworks to limit monopoly either by governments or the private sector. Data policy should align with supranational rights as enshrined in the African Charter on Human and Peoples' Rights and the African Union Convention on Cyber Security and Personal Data Protection. Enhanced engagement in inclusive data governance (Tennison 2024) through multi-stakeholder decision arrangements will also improve civil society accountability.

AI

People with darker skin tend to be underrepresented, misclassified or miscontextualized when analyzed by automated systems (Buolamwini 2023). Describing how the use of low-quality, limited and non-representative data in AI has the potential to perpetuate and

deepen prejudices toward already marginalized populations, Jake Okechukwu Effoduh, Ugochukwu Ejike Akpudo and Jude Dzevela Kong (2024) posit that there is a need to scale local solutions for context-relevant innovation by including consideration for African norms, ethics, values and communitarian ethos in the development of new technology and policies. This builds on other recommendations such as establishing internal auditing frameworks at all stages in the development and deployment of large-scale AI intelligence systems (Raji et al. 2020).

Implications for Canada-Africa Relations

Recognizing Africa as a dynamic and diverse continent of increasing geopolitical and economic importance, Canada renewed its partnerships with the African Union and bilaterally with several African countries in November 2024 (Global Affairs Canada 2024). This move takes on even more significance as Canada navigates trade diversification and the challenges of a trade war with the United States. In discussing the potential of the AfCFTA in positioning the African continent as a great trade opportunity for Canada, Jeremy de Beer (2025) identifies digital trade and AI, clean energy innovation, biomedical technologies and data-driven agriculture as being among the key areas for engagement. In relation to Canadian policy, this working paper recommends having a more pronounced digital cooperation stance in implementation of the Canada-Africa Strategy.[4]

Inroads can be made by Canada during its G7 presidency in 2025. As the host country, Canada is well positioned to advance the work on global governance of AI initiated during the G7 presidencies of Japan and Italy. The Italian G7 2024 presidency focused on sustainable AI development in Africa in its efforts toward equitable distribution of AI benefits (United Nations Development Programme 2024). Emphasis was placed on data collection and management, computing power, and attracting and retaining skilled talent. As laid out by former Prime Minister Justin Trudeau at the 2025 AI Summit in Paris,[5] AI is on the agenda for the G7 Leaders' Summit in June, enabling Canada to build on gains made to ensure that partnership-based approaches are adopted, leading to equal cooperation and mutual benefits with developing countries.

4 The Government of Canada released its Canada-Africa Strategy in March 2025. See Global Affairs Canada (2025).

5 See www.cpac.ca/headline-politics/episode/pm-trudeau-speaks-at-ai-summit-in-paris--february-10-2025?id=62adcd3e-8733-4f49-ae16-77355ee655b6.

Recommendations

- In addition to increased investment in African digital public infrastructure, more needs to be done to facilitate shaping the regulatory environment for data flows. This can be achieved through regional harmonization to ensure cohesion between legislation, executive orders and courts.
- While aligning with international best practices, African digital governance regulation must also be tailored to the continent's socio-economic realities and cultural diversity. Blindly adopting regulations from other contexts, termed the "Brussels Effect" (Bradford 2020), may stifle innovative approaches that better reflect African realities and needs.
- During its 2025 G7 Presidency, Canada is well positioned to build on initiatives such as the AI Hub for Sustainable Development.

Conclusion

This paper summarizes the key findings of a series of working papers focused on addressing the question of how sustainable data governance frameworks are to be developed in Africa. It uses a case study of Worldcoin's engagement in Kenya to highlight the data governance challenges faced by African states. Drawing from the perspectives of experts in the African digital ecosystem, it highlights recommendations in four key but interrelated issue areas — data governance, cybersecurity, human rights and AI. Recognizing the continent's potential for digital transformation driven by its educated and youthful population, increasing connectivity and vibrant tech ecosystem (United Nations Development Programme 2024), the paper recommends that Canada develops a more pronounced digital cooperation strategy for its engagement with African countries.

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About the Author

Badriyya Yusuf is a Social Sciences and Humanities Research Council doctoral candidate in international relations in the Department of Political Studies at Queen's University, Canada. She holds a master's degree in development practice from the University of Winnipeg. Badriyya adopts an interdisciplinary approach to global digital governance, political economy and international development. Her recent work on regional security governance has been published by Routledge and *International Journal*. Her research as a doctoral fellow with the Digital Policy Hub examined data governance frameworks, with a focus on Sub-Saharan Africa.

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