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Economic Commission for Africa

Africa Digital Identity Landscape 2022

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Acknowledgement

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Synopsis

Africa has seen an increase in the deployment and use of digital technologies and in its attempt to establish and improve national identification and registration systems across the region. Countries in Africa are progressively restructuring their civil registration systems in a bid to meet the pressure of effective delivery of services to their citizenry, such as security and sustainability of programmes, among other factors. Consequently, prioritizing digital solutions to facilitate these forms of registration does not come as a surprise.

The present report provides a status review of digital identity in Africa and an ecosystem scan of the current level of development in digital identification systems in African countries, while considering the legal and regulatory concerns that arise from applying such systems.

Consideration is also given to the impact that digital identity systems have on the delivery of services, in both the private and public sectors, while reviewing the various types of identity systems and the impact such systems have on fundamental rights and freedoms of the people in their respective countries.

Various laws and regulations were reviewed in order to identify their impact on various ongoing initiatives in Africa, and to identify areas for reform to make specific recommendations for a sustainable and effective roll-out of digital identification in Africa.

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I.   Introduction

Legal identity is a primary right and an automatic entitlement for every person.[1] It is through the establishment of legal identity that other forms of identification can be used for authentication of a person's details.[2] Article 6 of the Universal Declaration of Human Rights stipulates that "everyone has the right to recognition everywhere as a person before the law".[3] This requirement is internationally acknowledged as a fundamental human right, and so requires African States to take active steps towards ensuring it is implemented.

People are identified by reference to their specific and unique attributes, such as assigned name, biodata and facial appearance. These identifiers are deemed as minimum registration requirements for various identification systems.[4] The responsibility to design identification models and systems rests with Governments, which over time have settled on birth registration as the preferred model of setting up legal identity authentication mechanisms for persons born in their sovereign boundaries.[5]

Digital identity (ID) systems refer to methods of identifying persons, both online and offline,[6] by using other existing models of identification, such as government-led registration initiatives at the local and national levels. Registration of persons is a fundamental function of States, and requires multifaceted approaches.[7] The experiences of African States have revealed a trend in which development in the technology ecosystem has led to an evolution of registration systems to keep up with the momentum.

States and Governments have principally adopted laws to provide for the registration of persons and for the issuance of identity cards. The laws were enforced under the backdrop of colonial registration, classification and identification systems that existed in respective countries in Africa.

Kenya, for example, provides a model of registration of persons through its National Registration Bureau. The Bureau provides assistance in the enforcement of the Registration of Persons Act

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[1] Ben Oppenheim and Brenna Marea Powell, "Legal identity in the 2030 Agenda for Sustainable Development: lessons from Kibera, Kenya", Open Society Justice Initiative, Policy Paper (October) (New York, Open Society Foundations, 2015).

[2] Ibid.

[3] General Assembly resolution 217 A (III).

[4] Oppenheim and Powell, "Legal identity in the 2030 Agenda for Sustainable Development: lessons from Kibera, Kenya".

[5] See Sustainable Development Goal 16, available at https://sdgs.un.org/goals/goal16; see also World Bank, "Principles", in *ID4D Practitioner's Guide: Version 1.0 (October)* (Washington, D.C., 2019).

[6] International Telecommunication Union, *Digital Identity Roadmap Guide* (Geneva, 2018).

[7] General Assembly resolution 2200 A (XXI), annex. 16 December (International Covenant on Civil and Political Rights, article 24, paragraph 2, 1966); General Assembly resolution 44/25, article 7.

1949, which makes it a mandatory requirement for citizens 18 years of age or older to be registered and issued with a national identity card.[8]

Digital ID comprises identifiers, attributes and credentials electronically recorded and stored. These attributes and credentials are capable of accurately and uniquely identifying a person.[9] The process of setting up a digital ID system starts with establishing registration standards, requirements for enrolment and mechanisms for validation of the captured information. The end result is usually the issuance of identity documents (electronic in nature) containing unique numbers and features. The processes involved in managing the system are taken into account, to ensure accurate and up-to-date records for the digital ID.

The present report provides a review of digital ID systems in select countries in Africa. The analysis was based on the situational landscape, legal and regulatory regimes, uptake, emerging trends, challenges and proposals for adoption of the systems. The objective was to ascertain the status of African countries in the adoption of digital ID in its systems.

A review of the legal and regulatory environment was undertaken to identify the challenges and determine whether the gaps in law affect the adoption of digital ID in Africa. Laws affecting the roll-out of digital ID systems – such as cybersecurity, privacy and data protection, information laws and technology legislation, among other laws – have shaped the landscape of the countries reviewed.

The present report provides a contextualized exploration of the digital ID landscape in Africa, highlighting several aspects, including the background and history, of digital ID. It also provides an analysis of the strides taken by specific African countries, the attendant challenges to be met, and the proposals that Africa should adopt to further propel digital ID and properly harness its benefits.

A. Background

Digital ID has gained popularity in Africa because of its ease, affordability and convenience, compared with traditional systems. Significant progress has been made by African countries in developing policy and legal frameworks for digital ID systems. These systems have been driven by the need to deliver services, facilitate trade, ensure security and enhance access to poverty alleviation programmes, such as credit access.

On the continental front, the African Union Commission has actively participated in initiatives aimed at adopting a common framework for digital ID in Africa, and as such is currently developing a digital ID policy framework as part of its Digital Transformation Strategy for Africa

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[8] Kenya, *Registration of Persons Act 1949*, chapter 107. Available at
http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/RegistrationofPersonsActCap.%20107.pdf.
[9] World Bank, *Technical Standards for Digital Identity* (Washington, D.C., 2017), p. 2.

(2020–2030),[10] recognizing the social and economic potential of digital ID for Africans. Just as the coronavirus disease (COVID-19) pandemic has shed light on inequality, digital ID provides a critical lens through which to examine development practices in Africa, raising questions about whether these technologies expand choices and opportunities, or exacerbate existing inequalities, especially among marginalized populations.[11]

Given the increasing priority of digital IDs on the African policy agenda, it is necessary to critically analyse the potential benefits and risks associated with these systems and interventions. The efforts of the African Union Commission to develop a digital ID interoperability policy framework that aligns with the Digital Transformation Strategy highlights the significance of digitized legal identification mechanisms on the continent. Digital IDs are seen as providing support to countries in enhancing social development, thus enabling meaningful participation in economic growth, innovation, entrepreneurship and the successful implementation of the African Continental Free Trade Area.

Coherence and interoperability among African countries are essential, considering the varying levels of development in foundational identity management. While some countries have advanced systems with near-universal coverage, others have gaps in coverage or in emerging systems, or have no foundational ID systems at all. Approximately 85 per cent of African countries have national ID systems backed by electronic databases, with more than 70 per cent collecting biometric data.

Multilateral agencies, global non-governmental organizations and foreign donors are providing technical support, funding and loans to sub-Saharan Africa in deploying digital ID initiatives in the region. Both local and foreign private sector stakeholders are actively involved in providing tools and equipment to implement these initiatives in diverse contexts. Advocates argue that digital ID can enhance government payment efficiency, election integrity, financial sector services (such as know-your-customer and subscriber identity module (SIM) registration), public security and safe migration. The benefits extend to both the public and private sectors, offering platforms to improve service delivery and making individuals visible to the State and eligible for services.

The Economic Commission for Africa (ECA), as a mandate of its policy and research activities, intends to enhance the advancement of digital ID management as a lever for inclusion and development in the African region. In addition, ECA intends to underscore the importance of assessing trends in the digital ID initiatives in Africa towards promoting socioeconomic development on the continent. In this regard, ECA, through the Digital Centre for Excellence, has organized annual regional workshops on digital IDs and interoperability in Africa. The Digital Centre for Excellence convenes representatives of government institutions, financial and telecommunications institutions and companies – along with policymakers, data and tech

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[10] African Union, *The Digital Transformation Strategy for Africa (2020–2030)* (Addis Ababa, 2020).
[11] Ibid.

companies, civil society organizations and other stakeholders – for recurrent workshops and dialogues on the state of affairs in the implementation of an effective digital ID management and digital ID framework, policies, principles and practices that align with the African Union Digital Transformation Strategy. The support has extended to States such as Botswana, Ethiopia, Nigeria (Kaduna) and Togo, among others.

As the global demand for digital IDs grows, it is crucial to examine their impact on human rights, the rule of law, and social and economic inclusion or exclusion. While there have been some efforts to analyse the effects of digital IDs in countries (for example, Kenya and Uganda), such examinations are still relatively rare in Africa and the broader global South.

At present, many African countries are in the process of drafting policy and legal instruments to adopt digital ID systems, but without the proper grounding of these systems, there is significant potential to violate human rights because of the challenges in providing basic services uniformly to individuals, regardless of their identification status.

B. History of digital identity in Africa (2011–2021): a decade of identity

From 2011 to 2021, the digital ID landscape in Africa underwent significant advancements and transformative initiatives. This section sets out the key milestones and developments during that period.

The year 2011 marked the beginning of the introduction of national identification systems across various African countries. Ghana, Kenya and Nigeria initiated efforts to establish comprehensive identification systems.[12] These initiatives were intended to provide citizens with unique identification numbers or cards linked to central databases, and to create a standardized and reliable means of verifying identities of individuals for various purposes.

In 2013, Nigeria launched its National Identification Number system. The system assigned a unique number to each citizen, which became a mandatory requirement for accessing services such as SIM card registration, banking and government programmes. The National Identification Number system is intended to enhance security and streamline service delivery by ensuring accurate identification.[13]

The expansion of biometric identification has gained momentum in Africa, starting in 2015. Biometric technologies, including fingerprints and facial recognition, were increasingly adopted for ID verification. Biometric data became a vital component of digital ID systems, enabling more accurate identification and reducing the risk of ID fraud.

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[12] World Bank, *The State of Identification Systems in Africa* (Washington, D.C., 2017).
[13] National Identity Management Commission, "NIMC Issues National Identification Number (NIN) to over 20 Million Nigerians", *NIMC Newsletter*, vol. 2, No. 4 (July and August 2017).

In 2016, Ghana launched the Ghana Card initiative, aimed at providing citizens with multipurpose identification cards, which were connected to a national database and granted citizens access to a wide range of public services, including health-care education and banking. The Ghana Card helped the country to streamline service delivery and improve governance through efficient data integration.[14]

In 2017, South Africa implemented the Smart ID Card initiative, replacing the traditional paper-based ID documents. The Smart ID Card integrated identification, authentication and additional features into a single smart card. This initiative enhanced security and convenience for citizens, making identity verification more efficient and reliable.[15]

In 2019, Kenya introduced the Huduma Namba project, aimed at providing citizens with a unique identifier linked to their demographic and biometric data. The project was intended to streamline service delivery, enhance governance and improve the efficiency of public programmes by integrating citizen data.[16]

The rise of mobile technology played a transformative role in digital ID across Africa. Mobile-based digital ID systems, such as the m-Pesa in Kenya, revolutionized financial services by enabling individuals to conduct transactions, save money and have access to credit using their mobile phones. Mobile technology enabled greater financial inclusion and access to services for individuals who previously lacked traditional identification documents.

Private sector innovations played a significant role in advancing digital ID. Companies and organizations developed innovative solutions, such as blockchain-based ID platforms, to address privacy-, security- and interoperability-related challenges. These solutions empowered individuals to have greater control over their personal data, and provided more secure and reliable means of ID verification.

Collaborative cross-border ID initiatives emerged in Africa, such as in the Economic Community of West African States (ECOWAS), which launched the ECOWAS Biometric Identity Card, enabling citizens of member States to travel across borders using a standardized digital ID. These initiatives are intended to facilitate cross-border movement, enhance regional integration and simplify ID verification processes.[17] In recent years, there has been an increased focus on inclusivity and data protection in digital ID systems. Efforts have been made to address issues related to marginalized populations having access to identification services, and to strengthen data

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[14] Digital Watch, "Ghana mass registration for digital national identification ongoing" (19 May 2019).
[15] South Africa, Department of Home Affairs, "Smart Identity Document (ID) card roll-out". Available at www.gov.za/about-government/government-programmes/smart-identity-document-id-card-roll-out.
[16] Ibid.
[17] Alessandro Mascellino, "ECOWAS Commission urges remaining 9 member states to issue biometric regional ID card", *Biometric News* (12 May 2023).

protection measures. Ensuring inclusivity and safeguarding personal data have become important considerations in the design and implementation of digital ID initiatives.

The decade 2011–2021 witnessed a significant shift towards digital ID in Africa. National identification systems, biometric technologies, mobile-based solutions and private sector innovations all played vital roles in advancing digital ID across the continent. The coming decade is expected to build upon these foundations by focusing on establishing robust legal frameworks, ensuring interoperability between systems, enhancing inclusivity and strengthening cybersecurity measures to further improve the impact and benefits of digital ID in Africa.

II.   Types of identity systems

The ID ecosystem typically comprises numerous government and private sector identification systems, collectively forming a comprehensive framework.[18]

Historically, Governments have operated a variety of ID systems to serve different purposes, encompassing essential identification systems, such as civil registers, national identification cards and population registers. These systems are established with the purpose of granting identification to the general population and facilitating a diverse range of transactions.
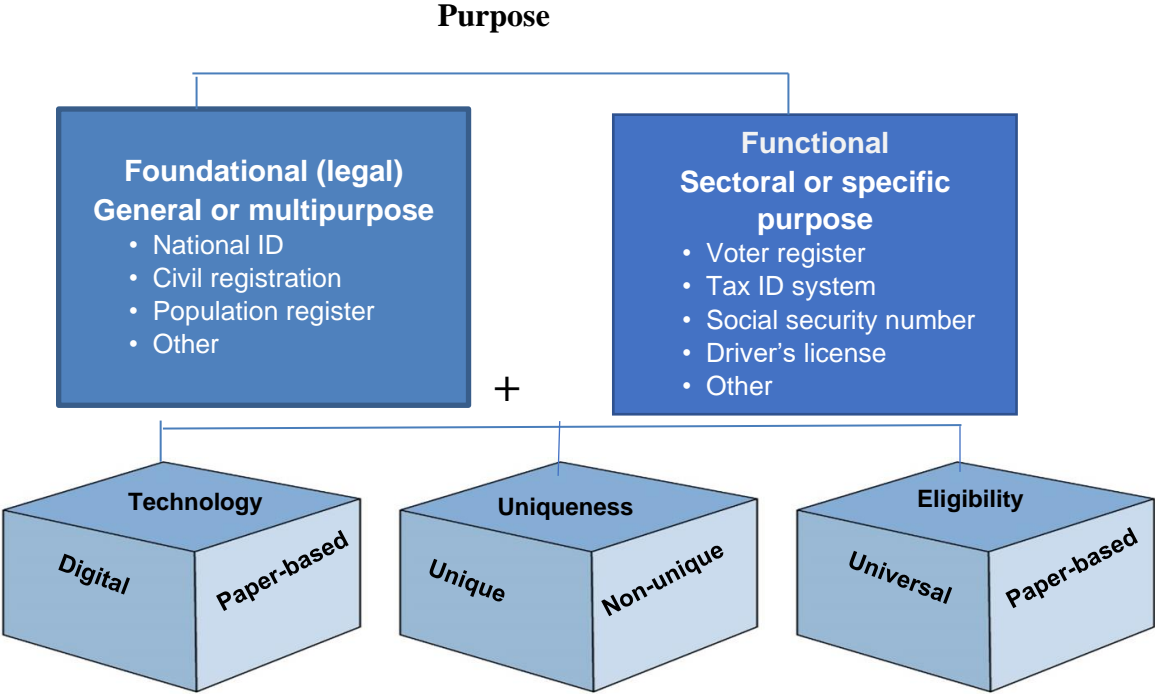
Source: World Bank, 2019 (see footnote 18).

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[18] World Bank, "Types of ID systems", in *ID4D Practitioner's Guide: Version 1 (October)* (Washington, D.C., 2019).

Governments also utilized functional ID systems to manage identification, authentication and authorization for specific sectors or use-cases, such as voting, taxation, social protection, travel and more (see diagram).[19]

As these systems transition towards digital platforms, the complexity of the ecosystem tends to increase and involves a diverse array of ID models and stakeholders, each with distinct responsibilities, interests and priorities.[20]

A. Foundational identity systems

Foundational ID systems refer to primary mechanisms for identification of persons and authentication of their details through specified mechanisms, such as registration centres or offices, or any other modes of identification maintained by authorities and used for decision-making in different aspects of life. Foundational ID systems can be used either for the purpose of establishing legal ID or for sectoral purposes, such as population tracking, voting or distribution of public resources.

B. Local identity systems

The process of setting up ID systems relies on the basic societal structures of identification. At the community level, the structures of government maintain a type of identification system and act as the default registration centres.

In Kenya, for example, it is often a challenge to create a local ID system, considering movement of people from place to place. Registration of persons, however, is first initiated by applicants through presenting their documents at the local level, for the administrators to derive information to manually feed into the statutory forms of application for registration.[21]

In Ethiopia, registration and issuance of ID cards are done locally by local administrative units, without the involvement of the central Government.[22] The comparison here is that, in Kenya, the local administration unit relays the information collected to the national registration bureau, while in Ethiopia, the information is not sent to the civil registry for validation. The local unit in Ethiopia is the entity issuing the ID card, and in Kenya, it is the national administration that processes and issues the ID card.

C. National identity systems

African countries have adopted identification systems at the national level, by tasking specific institutions to enforce legislation regulating the registration of persons. These institutions issue

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[19] Ibid.
[20] Ibid.
[21] *World Bank, The State of Identification Systems in Africa: A Synthesis of Country Assessments* (Washington, D.C., 2017).
[22] Ibid.

identification details, including national ID cards, which are issued through mandatory application by citizens.

At the point of application for registration, the authorities require the presentation of foundational documents, such as proof of birth, by way of a certificate or notification. This forms part of the registration criteria, and it follows prescribed modes of identification. Citizens are required to submit details to be used to process the national ID, including the place or region of birth. These details are fed into a national register of registration of persons, and governments maintain the register in electronic databases, in which biometric data are collected, stored and processed for different purposes.

National registration systems maintain the registers of data, and are likely to include those generated from civil registries or population registers.[23] The objective of national ID systems is to achieve the age of majority requirements, such as decision-making status of citizens, in such affairs as determining voting requirements and other statuses.

Some national ID systems in Africa include the following:

(a) In 2017, Ghana introduced the Ghana Card, which serves as the country's national identification card;

(b) South Africa implemented the South African Smart ID card, which replaces the traditional paper-based ID book;

(c) Rwanda introduced the Rwanda Identification Service to provide a unique identification number to its citizens and residents;

(d) Egypt has the Egyptian National ID card, also known as the Unified National ID card;

(e) Côte d'Ivoire has the *Carte Nationale d'Identité*, a national ID card for its citizens;

(f) Senegal implemented the *Carte Nationale d'Identité Biométrique*, a biometric national ID card.

D. Digital identity systems

Digital ID systems are those that use digital technology throughout the identity life cycle, including for data capture, validation, storage and transfer; credential management; and ID verification and authentication.[24]

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[23] World Bank, "Types of ID systems".
[24] Ibid.

Several countries in Africa have made strides in implementing comprehensive digital ID frameworks and systems. These systems principally utilize digital technology throughout the identity life cycle. Registration into the digital identity system is done by using digital infrastructure to collect information and authenticate it. Countries are currently in the process of setting up digital ID systems to aid in the identification of persons in effective ways. Having such digital ID systems would be useful in social protection, migration, financial inclusion and handling natural disasters.[25]

One notable example is the Huduma Namba system in Kenya, which is intended to provide citizens with a unique and secure digital ID for accessing government services. The system collects biometric and demographic data from individuals, facilitating streamlined service delivery, reducing bureaucratic hurdles and promoting more targeted social welfare programmes.

In Ghana and Nigeria, electronic identification documents have been introduced to modernize and digitize the identification process. These documents enable individuals to prove their own identities electronically, facilitating seamless access to services, digital transactions and financial inclusion. This digital leap enhances efficiency, security and accuracy in identification processes.

Mozambique implemented the Electronic System for Civil Registration and Vital Statistics, which tracks births and deaths, with plans to expand the scope of the system to include other citizen information, such as marriage, divorce and parentage. The Civil Registry Code provides the legal framework for digital registration acts through the Electronic System for Civil Registration and Vital Statistics.

Rwanda has implemented the National Identity Number system, which assigns a unique identification number to each citizen. This system serves as a cornerstone for various governmental services, including health care, education and social welfare. The national identity number enables efficient data management, better planning and targeted service delivery to the population.

These digital ID initiatives across Africa signify a transition towards more inclusive and digitally driven societies. By harnessing the power of digital technologies, countries in Africa are striving to address identification challenges, eliminate duplication, enhance security and promote effective governance. Such systems hold the potential to revolutionize service delivery, empower individuals and foster socioeconomic development in the region. As countries continue to expand their digital ID systems, it is essential to prioritize data protection and privacy rights, and ensure inclusive access to these services, to the benefit of all citizens.

Typically, identification systems strive to ensure uniqueness; however, certain systems may encounter challenges with attaining reliable ID records, due to factors such as insufficient deduplication measures, non-unique identifier generation (for example, recycling ID numbers over

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[25] World Bank, *The State of Identification Systems in Africa: Country Briefs* (World Bank, Washington, D.C., 2017).

time), or inadequate ID proofing procedures. Alternatively, in some instances, the capability to accommodate multiple registrations may be intentionally incorporated as a feature within the ID system's functionality.[26]

III.   Economic prosperity versus the human rights approach to digital identity

Digital ID systems affect the exercise of rights, considering the mandatory nature adopted by States. Persons can be restricted from having access to property, public services and private services (for example, banking). Similarly, the vulnerable (such as children) can be denied access to education, which is a long-term violation.

In implementing digital ID systems, various considerations are at play – chief among them, whether implementation should be done in line with economic interests of the States, or whether human rights should be prioritized, thus giving consideration to rights of persons before, during and after implementation of the various forms of digital ID systems.

Governments make a case for economic prosperity of countries based on identity. Proponents of digital ID suggest that adoption of the same is directly linked to various financial gains. For example, for proper planning, people need to prove their own identities. Digital ID also improves access to public services, which in turn fosters digital trade. It also helps to reduce fraud, save companies' costs, improve productivity, boost the sale of goods and services, and maximize the collection of tax revenue.[27]

Focusing on the economic benefits of digital identity, however, can hinder the consideration of violation of human rights associated with obtaining a digital ID. Such rights include privacy, non-discrimination, consent and participation, which can easily be overlooked in favour of the economic benefits. The United Nations, through its 2030 Agenda for Sustainable Development, has therefore tried to remedy the possible violation of people's rights through the inclusion of the requirement for States to provide legal identity for all, including birth registration, by the year 2030.[28]

Human rights approaches to ID systems consider the right to legal identity as a fundamental entitlement of people, and gives them the choice to determine the use of their information and

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[26] Ibid.
[27] Alex Williams, "How Digital Identification Could Be the Key to Inclusive and Economic Growth?" LoginRadius. Available at https://www.loginradius.com/blog/growth/digital-identity-key-to-economic-growth/.
[28] 2030 Agenda for Sustainable Development, target 16.9.

whether they agree to freely provide information about themselves to government or any other such entity.[29]

This approach requires countries using civil registration systems to take into account the impact that lack of, or barriers to access to, legal identity have on both citizens and residents, as factors beyond their control. This should be factored into the civil registration system, as elements to ease citizen access to legal identity, despite their unique situations.

The Universal Declaration of Human Rights and the International Covenant for Civil and Political Rights, among other international laws and conventions, require advancing and guaranteeing human rights to the highest extent. Sustainable Development Goal 16.9 of the 2030 Agenda for Sustainable Development seeks to provide legal identity without leaving anyone behind in the development agenda. Consequently, there is a push against identity being a source of exclusion tendencies, and difficulty in access to services and rights. For example, legal identity can be a barrier to exercise the right to vote. A human rights approach to identity promotes a culture of justification for collecting data from citizens, in which identification may not be the only legal basis for such collection. The approach puts people at the centre of the identity systems and considers factors such as inclusion of all people.[30]

IV.   Emerging trends in digital identity frameworks in Africa

The realization of new spheres of resource mobilization, such as the emergence of laws to regulate the digital economy, has led to the need for effective digital ID systems to facilitate access to services. Accordingly, countries are adapting to the changes by studying trends and customizing their practices.

A. Legal and regulatory regime

Identity – as a legal concern – has been conceptualized by countries in different ways, the recurring theme being the need for versatile laws, regulations and institutional frameworks to give effect to the policies put in place to govern digital ID.[31] Countries are increasingly adopting international standards that regulate legal identity and, by extension, digital ID systems.[32]

The legal and regulatory regime governing digital ID is fast being shaped by concerns already identified in other jurisdictions, such as the impact on the right to privacy, safety concerns and the

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[29] Stefania Grottola, "The future of digital identity and human rights", *Digital Watch*, Geneva Internet Platform (13 November 2018).
[30] Ibid.
[31] World Economic Forum, "Why a ruling on digital ID by Kenya's High Court has global implications for online privacy", 31 March 2022.
[32] Ibid.

right to access government services. There is a general desire for a legal environment that is sensitive to the rights of the citizenry.[33]

There have been challenges in developing homegrown legal instruments and countries adopting standards set uniquely for other jurisdictions. For example, there is reliance on the European Union General Data Protection Regulation and China Privacy and Information Privacy Laws, to tackle challenges relating to rolling out digital ID systems that are sensitive to the right to privacy.[34]

Key considerations in the adoption of an ideal legal and regulatory regime should focus on the impact of the rolling out of digital ID systems in Africa, bearing in mind the challenges of legal identification in respective African States.[35] The aspect of consumer protection has also been a factor in shaping the legal and regulatory regime to support digital ID in Africa. Countries appreciate that, without consideration for consumers, there are likely to be impediments created by the drive for digital ID.

The African Union Commission contribution to the legal and regulatory regime cannot be denied. The African Union Digital ID Policy Framework[36] has been designed as a reference law to regulate digital ID as an enabler for citizens of States to access services. It is through the adoption of uniform standards of regulating digital ID that the opportunities available in Africa can be utilized optimally. Thus, Governments are collaborating in a bid to adopt best practices in the development of digital ID systems that can work for Africa.

B. Institutional frameworks

The implementation of digital ID systems in Africa has been accompanied by the establishment of institutions to govern their operation, often supported by appropriate legal and regulatory frameworks. The following African countries have implemented such regimes to ensure effective management of digital ID systems:

(a) In Ghana, the National Identification Authority was established to oversee the implementation of the Ghana Card, which serves as a national digital ID system. The responsibilities of the Authority include registration, issuance and management of the Ghana Card, which is recognized as an official identification document for citizens;[37]

(b) Similarly, in Kenya, the Government introduced the Huduma Namba system, aimed at providing a unique identification number to every citizen. To facilitate its implementation,

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[33] Ibid.

[34] Yiannis Theodorou, "On the road to digital-ID success in Africa: leveraging global trends", Tony Blair Institute for Global Change, 13 June 2022.

[35] Ibid.

[36] Africa Portal, "Help the Africa Union Commission develop a digital ID framework for the continent", 26 July 2021.

[37] Kenya, Secretariat, Huduma Namba organizational structure. Available at www.hudumanamba.go.ke/organogram/.

the National Integrated Identity Management System was established to manage the collection and verification of citizen data, ensuring the efficient functioning of the system. The approach involves ministerial-level participation and the adoption of secretariat approaches to oversee all aspects of digital ID;[38]

(c) In Nigeria, the National Identity Management Commission is in charge of national identity in the country and provides services, including national e-identity card issuance. Given that these systems increased privacy concerns and surveillance of citizens' concerns, the Commission was cautioned by the country's Data Protection Bureau to set high standards for privacy and data protection as a way to strengthen the country's digital ID system;[39]

(d) In Rwanda, the Rwanda Utility and Regulatory Authority is entrusted with the regulatory oversight of its digital ID system, known as Irembo. Through Irembo, citizens receive unique identification numbers that facilitate access to government services and electronic transactions;

(e) Similarly, in South Africa, the Department of Home Affairs is responsible for issuing official identity documents, while the Government Gazette and legislation provide the legal framework for digital identity systems. The Electronic Communications and Transactions Act recognizes electronic signatures, enabling their use for authentication. The Protection of Personal Information Act regulates data protection and privacy rights. The South African Post Office offers verification and authentication services, while the private sector service providers and financial institutions play a significant role in digital identity verification.

These examples illustrate the significance of legal and regulatory regimes and the corresponding institutions established in Africa to govern digital ID systems. Each country has taken its own approach and designated specific institutions to manage its respective digital ID systems, ensuring efficient and secure identification processes.

In order to regulate aspects of digital ID and protect personal data, some countries in Africa have established data protection commissions or offices of data protection or personal information regulators. These institutions play a crucial role in overseeing the implementation of data protection regulations and ensuring compliance. A few examples are presented below:

(a) South Africa has the Information Regulator, an independent statutory body established under section 39 of the Protection of Personal Information Act of 2013. This regulator is

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[38] Kenya, Ministry of Interior and National Administration, https://www.president.go.ke/ministries-ke/ministry-of-interior-national-administration/ [[MORE DIRECT INFO NEEDED]]

[39] Diplo, "Digital identification in Africa: frameworks and initiatives". Available at www.diplomacy.edu/resource/report-stronger-digital-voices-from-africa/digital-identification-africa/ (accessed on 16 May 2023).

responsible for monitoring compliance with data protection laws, handling complaints and promoting the protection of personal information in the country;[40]

(b) In Kenya, the Office of the Data Protection Commissioner was established under the Data Protection Act, 2019. This office is tasked with regulating the processing of personal data, enforcing compliance with data protection regulations, conducting investigations, and raising public awareness about data protection rights and responsibilities;[41]

(c) Nigeria has the National Information Technology Development Agency as its regulatory body for data protection. The Agency is responsible for implementing and enforcing the Nigeria Data Protection Regulation, and for safeguarding personal data and promoting data protection practices across the country;[42]

(d) Ghana established the Data Protection Commission as its regulatory authority under the Data Protection Act of 2012 (Act 843). It is responsible for protecting personal data, ensuring compliance with data protection laws, and creating awareness and education programmes on data privacy rights;[43]

(e) The National Data Protection Authority oversees the enforcement of data protection laws in Rwanda. It is responsible for implementing the Data Protection Law No. 058/2021 of 13 October 2021 on the protection of personal data, ensuring lawful and secure processing of personal data.[44]

While these institutions are legally intended to function as independent entities, in practice, many of them are managed by other government institutions. This often results in limited financial resources and operational independence for these regulatory bodies. Even so, their presence and efforts are crucial for safeguarding personal data and ensuring data protection compliance in the respective countries.

C. Social inclusion

Challenges in the implementation of the legal and regulatory framework identified above have led to interventions and responses to ensure that States take into account the glaring realities relating to the exclusion of segments of the population as a result of digital ID systems. Countries are quickly taking lessons from pioneer States, such as Kenya, to address the question of inequality created by these systems, including exclusion of already marginalized groups. The response at

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[40] Information Regulator (South Africa), "About the regulator". Available at https://inforegulator.org.za/.
[41] Kenya, *Data Protection Act, 2019,* article 31 (c) and (d*)*. Available at www.odpc.go.ke/dpa-act/.
[42] National Information Technology Development Agency, Nigeria, "From the director general's desk". Available at https://nitda.gov.ng.
[43] Data Protection Commission, "About the commission". Available at www.dataprotection.org.
[44] DLA Piper, "Data protection laws of the world: Rwanda". Available at www.dlapiperdataprotection.com/index.html?c=RW&c2=&go-button=GO&t=law.

both the policy and legislative levels has thus taken into account that many citizens are already facing challenges with obtaining legal identity,[45] which is now made more complex by the introduction of digital ID systems.

Groups challenging the introduction of digital ID systems have been categorical that segments of the population already disadvantaged by foundational ID systems should be prioritized in the pre-phase leading to both policy and legal considerations for the establishment of a digital ID. To respond to the challenges, States are adopting a multifaceted approach, thus encouraging access to foundational ID systems and utilizing primary databases in the creation and development of digital ID systems. The success of such approaches, and the impact to the existing mechanisms of enforcing digital ID systems, remain to be evaluated.

D. Drive for interoperability

Questions are already emanating from the utility of independent digital ID systems in various jurisdictions that do not speak or interact in any way with each other.[46] This means that, as a trend, interoperability is a factor that countries are considering in rolling out digital identity systems. It is foreseeable that the general design of digital ID in Africa will influence other spheres of government, including immigration policies and security factors in countries.

In the light of the work of the African Union on the use of digital ID, there has been a recurrent need to build systems that can stand the test of time, by interlinking with other systems in different States.[47] This, however, also presents various challenges, such as the need to facilitate integration from a broader perspective.

E. Phased transitions

There has been a push to transition from the conventional legal identity structures and systems established long ago by Governments. This has necessitated the establishment of various mechanisms, including progressively enacting sectoral regulations to drive different methods of identity registration, such as through national civil registries, national census bodies and national election bureaux, among other methods.

States have adopted phased transitions, including the merger of registration information into single-use and access points. This has resulted in centralized record systems, which are used to set up effective digital ID systems, even though some segments of the population are likely to experience challenges that affect transitions.

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[45] World Bank, "Making everyone count: how identification could transform the lives of millions of Africans", 24 May 2017.
[46] World Bank, "Interoperability". Available at https://id4d.worldbank.org/guide/interoperability.
[47] Nick Mothershaw, "Digital ID: why trust frameworks must succeed", *Finextra*, 3 May 2022.

Approaches such as the setting up of parallel registration systems (for example, manual and automated registration systems) have been vital in rolling out different phases of legal identity mechanisms. These approaches are deemed complementary and serve the function of ensuring that there is inclusion of all persons in a bid to achieve internationally set standards governing identity.

V.   Digital identity integration

A. Digital identity and civil registration and vital statistics systems

Civil registration systems form part of the foundational identity mechanisms. States have adopted laws to ensure that this is the basis upon which persons are identified, and most States rely on birth registration data to determine the validity of entries on the national population registers.[48] Civil registries are crucial for the advancement of digital identity systems, as the registries provide foundational identity or original identity documentation, such as birth certificates and marriage records, serving as authoritative sources for accurate and reliable information. The registries also play a key role in the verification of identities, ensuring the legitimacy of digital identities by cross-referencing data with its records.

Civil registries promote inclusion by enabling individuals, including marginalized populations, to obtain the documentation necessary for digital ID participation; establish standards for data integrity and standardization, contributing to the accuracy and consistency of digital ID information; and facilitate seamless integration between traditional and digital identities, simplifying administrative processes and enhancing service delivery. The registration of individuals from birth with civil registries ensures consistency and the inclusion of all people.[49] Overall, civil registration and vital statistics systems serve as essential components for the successful implementation of digital ID systems, ensuring trust, accuracy and accessibility.

Countries in Africa continue to experience challenges in ensuring accurate registration of births, considering factors such as centrally located registration centres and access to facilities that can be used as points of call for birth registration data. It remains a requirement in law that children have the right to be named and registered at birth.[50] Lack of legal identity in general through ineffective registration systems leads to injustice and inequality of access.[51]

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[48] Economic Commission for Africa, African Union Commission and African Development Bank, "Integrating civil registration and vital statistics systems and legal identity management in the digital era". Fifth Conference of African Ministers Responsible for Civil Registration (Lusaka, 14–18 October 2019).
[49] World Bank, "Linking ID and civil registration", in *ID4D Practitioner's Guide*: *Version 1.0 (October)* (Washington, D.C., 2019).
[50] General Assembly resolution 44/25, article 7; and the Organization of African Unity, OAU Doc. CAB/LEG/24.9/49, 11 July (African Charter on the Rights and Welfare of the Child, article 6, 1990).
[51] Economic Commission for Africa, African Union Commission and African Development Bank, "Integrating civil registration and vital statistics systems and legal identity management in the digital era".

In order to tackle issues such as social exclusion, there is therefore a need for designing identity systems that are sensitive to human rights, and this entails linking civil registration systems with civil registration and vital statistics systems.

Typical national registration systems take on important milestones (births, deaths, marriages and divorces, among others) and such records require interlinking to develop a seamless system of authentication. Accuracy and accountability for data are important considerations for establishing an interlinked system to develop a digital ID system.[52]

B. Digital identity and e-commerce laws

Reports indicate that the digital economy is set to hit the $360 billion mark by 2025, driven by e-commerce, food delivery and digital financial services.[53] Digital ID can be a driver for e-commerce growth, and for tapping into opportunities in the digital economy. Digital ID technology is also projected to change the digital ecosystem and behaviour.[54]

Without effective systems, digital ID presents challenges, including the exclusion of segments of the population from access to e-markets. The use of data to validate digital ID systems is a challenge that requires intervention on such aspects as cybersecurity, given that e-commerce brings aspects of security into sharp focus. What is required is a digital ID system that is sensitive and alive to factors such as privacy and security, and that allows access for segments of the population that are usually excluded and denied access because of the lack of legal identity.[55]

Systems for validation of identity require that a level of trust be established by a digital ID. This authentication is vital in e-commerce insofar as the use of identity formats, both offline and through digital systems, should achieve the desired results. Transactions on e-commerce platforms rely on digital trust, and it is important for all users and operators of these platforms that digital trust be assured. Therefore, an effective system of authentication of information is essential in facilitating transactions and in driving activities in the e-commerce sector.[56]

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[52] CRVS Systems, "Creating digitized, interoperable ID systems". Available at https://crvssystems.ca/blog/creating-digitized-interoperable-id-systems.
[53] Google, Temasek, and Bain and Company, "e-Conomy SEA 2021". Available at https://services.google.com/fh/files/misc/e_conomy_sea_2021_report.pdf.
[54] Sphere, "Digital identity enters a new era of e-commerce", 22 February 2018.
[55] Mario Masaya, "E-commerce, digital identity, and inclusive digital economy in Southeast Asia" *Georgetown Journal of International Affairs* (Washington, D.C., 2022).
[56] Ibid.

VI.   Regional versus international perspectives of digital identity in Africa

A. Regional perspectives

To realize the full effect of digitization in Africa, there is a need to lay frameworks that underscore data and information as enablers to accessing the digital economy.[57] To this end, there have been regional efforts to engineer the legal and institutional frameworks to develop laws and regulations on digital ID. These laws cut across security, privacy and data protection, and registration of persons.[58]

There has been a focus on implementing digital IDs regionally, for the purpose of easing access to services offered by Governments to respective citizenry and residents of the jurisdictions within which Governments exercise sovereignty.[59] Governments view centralizing data belonging to citizens and assigning a unique identification mechanism as a way to offer services, with the benefit of planning, based on the evidence of numbers. At present, the information is kept nationally and held for intergovernmental access, with limited details relating to the mechanisms put in place to ensure that the information collected for the generation of a digital identity is utilized for authorized purposes only.[60]

The African Union Commission has considered the risks inherent in utilizing digital space, and anticipated the need for regional cybersecurity laws. The regime of law meant to secure the rights of persons online is thus an important factor in rolling out digital identity systems in Africa.[61]

Regionally, there is little to no demonstration of any successful implementation of a cross-border digital ID system. This is a barrier to the call for a common market in Africa, despite existing legal and institutional frameworks to give effect to integration and minimize the barriers to trade in Africa. There have been challenges in mutual recognition of identity systems, leading to unilateral national identity systems and forms of identification for respective States.

1.   African Union Convention on Cyber Security and Personal Data Protection, and digital identity

In 2014, the African Union Convention on Cyber Security and Personal Data Protection (Malabo Convention) was adopted by 55 African Heads of State. It has since been signed by 14 countries and ratified by 8 countries in Africa.

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[57] Adedeji_Adenira, "Developing an effective data governance framework", The Brookings Institution, 21 March 2022.
[58] Ibid.
[59] Ibid.
[60] Ibid.
[61] African Union, *African Union Convention on Cyber Security and Personal Data Protection*, (Malabo, 2014).

The Malabo Convention provides a benchmark for African States to develop appropriate laws and systems to enhance safe practices in cybersecurity and data protection. It is aimed at bringing African States on the same platform in compliance with standards of data protection and enforcing the right to privacy uniformly in Africa. The theme the Malabo Convention pursues is that of promoting uniform legal and institutional frameworks, with a particular focus on the rights of persons whose information is used.

The objective of the Malabo Convention is to promote the use of data in e-commerce, through the adoption of effective cybersecurity laws. Cybersecurity, in its whole spectrum, is a concern for countries using digital ID systems, which are projected to enhance trade in the digital economy in Africa.

With the push for digital ID systems, the Malabo Convention highlights the need for consideration of the dangers of an ecosystem that is not sensitive to data safety. It is a call to action for African States to consider (not only) the gains of technology.

2. African Continental Free Trade Area and digital identity

The Africa Continental Free Trade Area and digital ID are closely intertwined, with the potential to drive economic growth, promote inclusivity and facilitate seamless cross-border transactions within Africa. The African Continental Free Trade Area is intended to establish a single market across the continent, while digital ID systems can serve as a crucial tool in achieving the objectives of the Area.

Digital ID solutions offer a secure and reliable method of verifying the identities of individuals and businesses engaged in cross-border trade. By implementing robust digital ID systems, the African Continental Free Trade Area can streamline customs procedures, simplify documentation processes, and combat fraud and illicit activities. These systems provide a trusted framework for authenticating and validating the identities of traders, ensuring more efficient trade interactions.

Digital IDs can also facilitate with opening doors to enhanced financial services – enabling individuals and businesses to access banking, credit and other financial tools necessary for growth – and facilitate e-commerce platforms, empowering entrepreneurs to engage in online trade across borders. Digital IDs act as a bridge, connecting buyers and sellers in a trusted environment, stimulating economic activity under the framework of the African Continental Free Trade Area.

By leveraging digital ID technologies, the African Continental Free Trade Area can realize its vision of a single market for Africa, promoting seamless movement of goods and services across national boundaries. These technologies enhance efficiency, foster trust and increase transparency in cross-border trade. As a result, businesses can expand their reach, explore new markets and establish mutually beneficial partnerships, contributing to the continent's economic integration and sustainable development.

The close connection between the African Continental Free Trade Area and digital ID highlights the potential of digital ID systems to support the objectives of the Agreement Establishing the African Continental Free Trade Area. These systems offer secure identity verification, simplify trade processes, enable financial inclusion and facilitate cross-border transactions. By embracing digital identity technologies, the African Continental Free Trade Area can unlock significant opportunities for economic growth, inclusivity and seamless trade within Africa, ultimately advancing the continent's prosperity.

3. East and West African approaches to digital identity

States in East and West Africa consider digital ID systems as enablers to accessing government services for the people. Technology is considered as an important aspect of development and deployment of the systems; however, because of the different levels of compliance with identity standards, technology – and its deployment in digital ID systems – has caused challenges, such as exclusion of persons lacking legal identity.[62]

Countries in both East and West Africa have adopted a mandatory approach to digital identification by setting requirements for enrolment and issuance of identity documents as a basis for access to government services. In East Africa, the digital ID model used in Kenya excluded persons without foundational registration documents (such as birth certificates and national identity cards), including people who have been battling statelessness owing to a lack of legal identity.[63] In West Africa, the National Identity Management Commission in Nigeria has the mandate to issue digital ID cards to applicants under the identity programme. However, there are conditions as to registration of persons to the identity programme, which presents challenges such as exclusion.

Several States in West Africa have also adopted the mandatory or service-based model for digital ID systems, thus placing the mandate of registration on States, including determining who qualifies for registration. This has raised concerns relating to the rights of those excluded because of government requirements.

As a common factor in both East and West Africa, challenges of exclusion have been litigated upon and courts have directed that there should be a resolution of identity issues in an inclusive manner.[64]

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[62] World Bank, *International Development Association Project Appraisal Document for West Africa Unique Identification for Regional Integration and Inclusion Project*. Report No: PAD2480 (Washington, D.C., 2018).
[63] Ibid.
[64] Ngozi Nwanta, *"Digital identification and inclusionary delusion in West Africa"*, Center for Human Rights and Global Justice, 19 October 2020.

B. International perspectives

On an international level, digital ID systems have been identified as significant drivers of development.[65] It is commonly understood that the development of digital ID systems will lead to ease of access to basic services, and will enhance the participation of people, including minority and marginalized groups.[66] The issue of exclusion is of concern within the international community – thus the need for programmes to ensure identity equality.

Interoperability is a factor that is internationally recognized and encouraged for optimal results. There is insistence on the mutual recognition of digital ID and putting in place measures to ensure that safety is a common factor for States.

Similar to regional concerns, the international community acknowledges that there is a need for effective data protection frameworks in the establishment of digital ID systems. The principles of data protection that are internationally accepted, such as accountability, are the basis upon which States are required to adopt laws to ensure effective deployment of a digital ID system. The requirement for data protection impact assessments, as held by the High Court in Kenya, is an international prerequisite in the designing of digital ID.[67]

The following instruments are among several specific international instruments that contribute to tackling these issues:

(a) The Sustainable Development Goals, adopted in 2015, prioritize the provision of legal identity for all individuals (including birth registration) by 2030, recognizing the pivotal role of digital identity systems in driving development;[68]

(b) The Universal Declaration of Human Rights, established in 1948, upholds the right to privacy (article 12) and the right to a standard of living adequate for health and well-being, including access to basic services (article 25). These rights are particularly relevant in the context of digital identity systems, highlighting the importance of inclusivity and non-discrimination;[69]

(c) The General Data Protection Regulation, enforced by the European Union, establishes a comprehensive framework for data protection and privacy rights. It includes such

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[65] See World Bank, *G20 Digital Identity Onboarding Report* (Washington, D.C., 2018); and G20 Information Centre, "Declaration of G20 digital ministers: leveraging digitalisation for a resilient, strong, sustainable and inclusive recovery" (Trieste, Italy, 5 August 2021).
[66] Ibid.
[67] Shiva Kanwar and others, "The emerging era of digital identities: challenges and opportunities for the G20", Policy Brief, No. 2022-3 (August) (Tokyo, Asian Development Bank Institute, 2022).
[68] The United Nations Development Programme, "What are the Sustainable Development Goals?" Available at https://www.undp.org/sustainable-development-goals.
[69] General Assembly resolution 217 A (III).

principles as accountability, data protection impact assessments, and measures to ensure data safety, aligning with internationally accepted standards;[70]

(d) The Council of Europe Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data safeguards individuals' rights and fundamental freedoms concerning the processing of personal data. This international legal instrument provides guidelines and recommendations pertaining to data protection, including its application in digital identity systems.[71]

These international instruments, and others, play a pivotal role in shaping the development, implementation and regulation of digital identity systems worldwide, ensuring their effectiveness, inclusivity and adherence to data protection principles.

VII.   Situational analysis: country mapping of the digital identity landscape

The situational analysis is intended to identify country positions and current trends in Africa, and to make recommendations towards a harmonized approach to digital ID through the adoption of international best practice standards.

Country	Outlook	Action points
Benin	Benin started the process of implementation of an electronic ID in 2017, adopting a Unique Personal Identifier. There has been a push for adoption of appropriate legal and institutional frameworks to regulate the processing of biometric data. The foundational civil registration system maintains birth registration data and conventional national ID registrations, based on manual registers for individuals over 18 years of age. In 2019, there was a push for the issuance of biometric cards to assist in making it easy for the authentication of identity. The	Strengthen the legal and institutional frameworks governing the implementation of the electronic ID system, especially in regulating the processing of biometric data. Streamline the process of authentication of identity by issuing biometric cards and expanding their usage for access to public services. Prioritize the facilitation of access to public services for vulnerable

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[70] European Council, "The general data protection regulation". Available at
www.consilium.europa.eu/en/policies/data-protection/data-protection-
regulation/#:~:text=data%20protection%20rules-
,What%20is%20the%20GDPR%3F,application%20on%2025%20May%202018.
[71] Council of Europe, Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, *European Treaty Series*, No. 108 (Strasbourg, 28 January 1981).

objective is to facilitate access to public services for the vulnerable and make it easy for movement of persons within the Economic Community of West African States (ECOWAS) subregion.

Legal identity is thus an active concern of the Government, making it necessary to factor in the impact it has on the people in remote areas and those with challenges of access, with risks such as exclusion of people from private and public services due to lack of identity.

Legal framework

Benin adopted a personal data protection law in 2009 to safeguard use of information. This is an important law in enforcing standards of protection of data by establishing an institutional framework through the data protection agency, referred to as the National Commission on Information and Liberty.

Digital ID is thus operational in line with provisions of the data protection laws in place, and use of biometric data is subject to this legislation. The law on personal data was reviewed in 2018 to set up a general data protection legal framework, referred to as the Benin Digital Code, which introduced a raft of digital era developments such as e-ID and e-signatures.

The gains from the Code include tapping into e-commerce and ease of doing business, thus the need to take a closer look into cybersecurity issues surrounding the use of digital ID.

populations and enable smooth movement of persons within the ECOWAS subregion by leveraging the digital ID system.

Continuously address concerns related to legal identity in remote areas and ensure that lack of identity does not result in exclusion from private and public services.

Ensure compliance with data protection laws, such as the personal data protection law and the Benin Digital Code, to safeguard the use of information and address cybersecurity issues surrounding the use of digital ID.

| Botswana | In Botswana, the Department of Civil and National Registration undertakes registration services on civil registration and identity management. The primary method of | Entrust the Department of Civil and National Registration with registration services and identity management. |

registration is electronic On-site Registration of Births. The country maintains a foundational national identity management system.[a] There is a connection between birth registration, national registration and death registration through a unique identifier.

The foundational ID system is interlinked with a digital platform, which makes it possible to update the national ID register. Parents can simultaneously register a child's birth and add them to the national ID register, thus making it a modern integrated ID systems approach.

The strategy in achieving maximum registration of persons in Botswana is based on issuance of a unique identity number at birth, linking civil registration and identification records. The same unique identity number is used for the national ID card issued at 16 years of age and above.

Implement electronic On-site Registration of Births as the primary method of registration.
Maintain a foundational national identity management system.
Link birth registration, national registration and death registration through a unique identifier.

Enable simultaneous registration of a child's birth and addition to the national ID register.

Issue a unique identity number at birth, linking civil registration and identification records.

Use the same unique identity number for the national identity card issued at 16 years of age and above.

Ensure maximum registration of persons through effective strategies and a modern integrated ID systems approach.

[a] Botswana, National Registration (Amendment) Act, No. 17 of 1993 (Gaborone, 1993).

Ethiopia	Ethiopia has adopted a Digital Identification Program by developing both policy and legislative frameworks through the National ID Program.[a] The objective is to set up a trusted, secure and robust digital identity ecosystem in Ethiopia.[b] The digital ID is intended to facilitate digital services, including financial and social protection services.	Adopt a Digital Identification Program through the National ID Program.
		Develop policy and legislative frameworks for the digital ID ecosystem.
		Implement a trusted, secure and robust digital identity system.
	The use of biometrics has been viewed as the way to develop a trusted digital ID as a foundational ID in Ethiopia. The State, in implementing the digital ID, counterchecks	Use biometrics for accurate identification and verification.
		Ensure privacy and data protection through approved data protection proclamations.

records against the existing national ID systems for accuracy.

Ethiopia projects that, through adoption of a digital national ID, people will experience enhanced public service through online platforms, taking into account safeguards such as privacy and data protection, having approved the private data protection proclamation. The overriding objective of the national ID system is to confer legal identity and ensure fast and convenient access to services.

The use of genetic and biometric (such as fingerprint and eye) data will enhance accuracy and facilitate issuance of a unique ID. Implementation of the digital ID system will open up Ethiopia to the rest of Africa and the world, in terms of business and development of the national economy, thus calling for interoperability and cybersecurity.

Issues concerning the implementation of a digital ID system include developing strategies to ensure that there is no inequality and exclusion of vulnerable people, being mindful of data protection and privacy.

Enhance public services through online platforms.

Establish interoperability and cybersecurity measures for the digital ID system.

Address issues of inequality and exclusion of vulnerable populations.

Focus on data protection and privacy in the implementation of the digital ID system.

Utilize genetic and biometric data for accurate issuance of a unique ID.

Leverage the digital ID system for economic development and business opportunities.

Ensure fast and convenient access to services through the national ID system.

[a] "The national ID program of Ethiopia". Available at https://id.gov.et/about.
[b] Ethiopia, *Digital Ethiopia 2025: A Digital Strategy for Ethiopia Inclusive Prosperity*. Available at www.lawethiopia.com/images/Policy_documents/Digital-Ethiopia-2025-Strategy-english.pdf.

Kenya

Kenya has embraced the idea of digital ID as a desirable mode of identity management and planning. The roll-out of digital ID has not come without challenges, as highlighted below. Municipally, Kenya has adopted a national registration system, based on notification and registration of vital events such as births and deaths. The registration is recorded in a national register, from which the initial registration document (birth certificate)

Embrace digital ID as a desirable mode of identity management and planning.

Address challenges faced during the roll-out of digital ID.

Implement and manage the Integrated Population Registration System for collecting and processing civil registration and vital statistics systems

is generated. The national Government bears responsibility for the registration of vital statistics and events, through its regional governing units, at the district level, where registration offices are maintained.

The national identity registration system is managed through an Integrated Population Registration System, a digital database for collection and processing of civil registration and vital statistics systems data. From birth registration, there is a mandatory requirement for all persons who have attained the age of majority (18 years of age) to apply for a national registration document (identity card), which forms the primary mode of identification for adults.

The Integrated Population Registration System database keeps a central record of birth registration, civil registration, alien and refugee registration, and the national population statistics. The main objective is to make it possible for the Government to maintain a central repository of data to enable verification of identity and planning, and to provide services to the residents.

Data in the Integrated Population Registration System are stored by file, with a personal identifier allocated to individual records. The record is updated depending on a particular registration event, such as birth and civil registration, inter-agency databases and the national population register.

The purpose of the multiple source data is to ease authentication of identity. The overall approach is the assignment of a unique identifier, for identity purposes and to ease tracing of the historical data of individuals.

data.

Establish a national registration system based on notification and registration of vital events such as births and deaths.

Maintain a central repository of data in the Integrated Population Registration System for identity verification, planning and service provision.

Develop and enforce a legal framework governing identity, registration and proof of identity.

Establish the National Integrated Identity Management System to centralize citizen information and generate a digital identity.

Ensure a proper policy and legislative framework for the implementation of the digital identity system.

Address security concerns and ensure compliance with data protection and privacy regulations.

Develop regulations and an institutional framework to support the Data Protection Act (2019).

Use biometric details for digital identification purposes.

Deploy the national population register to create a single source of identity information.

Introduce a unique digital identification number (Huduma Namba) and identification card

Legal framework

Identity, right from the initial process of registration of births in Kenya, is governed by the Constitution.[a] To give effect to the provisions of the Constitution on registration and proof of identity, segmented legislation that has been enacted includes the Registration of Persons Act, Citizenship and Immigration Act, Births and Deaths Registration Act and the Basic Education Act, laws which require identification in various forms.

In summary, in January 2019, the Government established a national digital identity project, then known as Huduma Namba, a National Integrated Identity Management System. The system was intended to centralize citizen information, with heavy collection and processing of biometric data, to generate a digital ID. The implementing legislation was section 9A of the Registration of Persons Act.[b]

In November 2019, the implementation of the digital ID system faced legal challenges. Among other factors, the system was initially set for implementation without the proper policy and legislative framework. On 25 November 2019, the Data Protection Act came into force, although it required the regulations and institutional framework for its implementation to be put in place.

The Data Protection Act addressed the issues raised in court, including the security of data collected for purposes of implementing the system. The Act also covered the issue of accountability for unauthorized access to the information contained in the system to comply with the constitutional right to privacy.

Subsequently, the Office of the Data Protection Commissioner, through a task force, developed the three sets of regulations (Huduma Card) as conclusive evidence of legal identity in Kenya.

to give effect to the provisions of the Data Protection Act. This addressed the issue of the specific guidance on use of the system.

In brief, the National Integrated Identity Management System, as a government-led tool for identification, sought to consolidate, into a central system, information relating to persons, including fingerprints, genetic data (such as retina patterns), global positioning system (GPS) information and DNA data.

Accordingly, Kenya maintains a system of digital identification, which predominantly relies on biometric details, the National Integrated Identity Management System. In deploying the digital identity system, Kenya progressively used the national population register, which contains the foundational registration information, to come up with a single source of identity information, and the primary source of information on personal information and identity.

The conceptualization of the mechanism for deployment of the digital identity system is through the use of a unique digital identification number (Huduma Namba) and identification card (Huduma Card). These, when authenticated against the biometric data held in the National Integrated Identity Management System, shall be conclusive evidence of legal identity in Kenya.

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[a] Kenya, *Constitution of Kenya, 2010* (chapter 3, articles 12,13,14 and 15). Available at https://faolex.fao.org/docs/pdf/ken127322.pdf.
[b] Kenya, *Registration of Persons Act 1949, chapter 107*. Available at http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/RegistrationofPersonsActCap.%20107.pdf.

| Morocco | The Directorate of National Security maintains an identification and authentication service that relies on a national e-ID card. The national digital ID facilitates authentication of identity. The factors in play are both trust and security.

Legal framework

Implementation of the digital ID in Morocco is backed up by Decree 2.20.521, which gives effect to the law on the National Electronic Identity Card. The ID system is based on PIN-based cards linked to mobile services.

The implementing authority is the General Directorate of National Security, which projects that persons will be able to validate their identities digitally and in a secure ecosystem. Use of technology to develop a platform through a digital ID mobile application will ease authentication of identity, thus making it a safe way to access data for purposes of offering services online.

There is reliance on personal data, thus bringing into focus concerns such as security and data protection. It is the Government's objective to enhance access to public services, but private players are also set to use the system in their operations. | Develop a robust and secure digital identity ecosystem by leveraging the National Electronic Identity Card system.

Enhance the trust and security factors in the national digital ID system to ensure reliable authentication of identity.

Implement technological advancements, such as a digital ID mobile application, to simplify identity authentication and facilitate secure access to online services.

Establish comprehensive data protection measures to address concerns regarding the reliance on personal data, ensuring privacy and security.

Collaborate with private players to optimize the use of the digital ID system in their operations and expand access to public services. |
| Mozambique | In Mozambique, the state of digital ID is characterized by multiple ministries and institutions involved in legislating, regulating and implementing digital ID activities. These include the Ministry of Science, Technology and Higher Education; the Ministry of Home Affairs; the Ministry of Transport and Communications; and the Ministry of Justice, Constitutional and Religious Affairs. | Establish a coordinated approach among ministries and institutions involved in digital ID activities.

Strengthen the role of the Ministry of Science, Technology and Higher Education in overseeing the development of digital ID systems. |

The Ministry of Science, Technology and Higher Education oversees the development of digital ID systems through the National E-Government Institute and the National Information and Communications Technology Institute. The National E-Government Institute is responsible for planning, implementing, coordinating and managing the Government Electronic Network (GovNet) to ensure secure and confidential information storage. The National E-Government Institute also drafts and implements regulations, such as the Decree on Interoperability, which establishes conditions for implementing the Unique Citizen Identification Number. Operational challenges in previous attempts, however, have led to the preparation of a new system.

The National Information and Communications Technology Institute, under the Ministry of Science, Technology and Higher Education, provides technical support to State bodies, and acts as the regulatory authority for information and communications technology. The Institute coordinates activities to improve public services and governance, and ensures effective interoperability of subsystems involved in civil registration and identification processes, using the Unique Citizen Identification Number. Cooperation with the National Communications Institute of Mozambique, which regulates the telecommunications sector, is essential.

The Ministry of Home Affairs oversees the Directorate of Civil Identity, which issues identity cards, and the National Immigration Service, which handles passports, travel documents and residence permits. These institutions play a crucial role in issuing

Enhance the capacity of the National E-Government Institute and the National Information and Communications Technology Institute within the Ministry of Science, Technology and Higher Education to effectively plan, implement, coordinate and manage digital ID initiatives.

Improve interministerial coordination and establish working groups to redefine and implement a national strategy for digital ID.

Address operational challenges faced in previous attempts at implementing a digital ID system, and test and implement a new system.

Ensure technical support from the National Information and Communications Technology Institute to State bodies and institutions involved in digital ID activities.

Strengthen the role of the Ministry of Home Affairs in overseeing civil identity and immigration matters.

Improve efficiency in issuing official identification documents through the Directorate of Civil Identity and the National Immigration Service.

Enhance the role of the Ministry of Transport and Communications in supervising the National Communications Institute of Mozambique, ensuring regulatory compliance in the telecommunications sector.

official identification documents under the digital ID framework.

The Ministry of Transport and Communications supervises the National Communications Institute of Mozambique, the regulatory authority for the telecommunications sector. The National Communications Institute regulates and supervises the communications sector, including management of the radio frequency spectrum. In 2020, the National Communications Institute mandated SIM card registration for mobile phone users, to enhance security and accountability.

The Ministry of Justice, Constitutional and Religious Affairs oversees the National Directorate of Registry and Notary, responsible for implementing the Electronic System for Civil Registration and Vital Statistics (e-SIRCEV) system. This system tracks births and deaths, but its scope will be expanded to include other citizen information such as marriage, divorce and parentage. The legal framework for digital registration acts through the e-SIRCEV system, and is provided by the Civil Registry Code.

Before the implementation of the e-SIRCEV system under Constitutional Law 12/2018, citizen information in Mozambique was manually registered in books stored in registry offices. Retrieving documents or making changes required a slow and complex physical search through these books. The new system will provide more flexibility and integration with other government services.

Despite these efforts, digital systems for registering identities and issuing identification documents in Mozambique remain separate and disconnected. There is a lack of comprehensive legislation specifically

Promote cooperation between the National Information and Communications Technology Institute and the National Communications Institute of Mozambique to ensure effective interoperability of subsystems involved in civil registration and identification processes.

Expand the scope of the e-SIRCEV system implemented by the National Directorate of Registry and Notary under the Ministry of Justice, Constitutional and Religious Affairs to include additional citizen information such as marriage, divorce and parentage.

Develop comprehensive legislation specifically addressing digital ID matters, to provide a clear legal framework for digital registration acts.

Improve accessibility and understanding of the legal framework for digital ID, especially for citizens in rural areas with high illiteracy rates.

addressing digital ID. Interministerial coordination and working groups are intended to redefine and implement a national strategy for digital ID, but challenges such as complexity, coordination difficulties and the absence of a fully integrated system persist.

Legal framework

The Civil Registry Code, approved under Law 12/2018, forms the legal foundation for the e-SIRCEV system. While the law is clear, some of its language may be challenging for average citizens, especially in rural areas with high illiteracy rates.

The Code consists of 387 articles that detail every step and process related to the issuance of digital birth certificates, including the allocation of Unique Citizen Identification Numbers, marriage certificates, death registrations and other documents. Its comprehensive nature is necessary for effective implementation.

Since the digitization process began in 2019, physical citizen records are being individually converted into a digital format by registry offices throughout the country. According to Law 3/2017, citizens have the right to request offline access to their own information from the data controller for purposes such as alteration, rectification or removal. If the controller fails to provide the requested information, they must justify their decision in accordance with the law

Nigeria	Nigeria adopted a National Identity Scheme and implemented it through the National Identity Management Commission Act of	Adopt the National Identity Scheme and establish the National Identity

	2007. The institutional framework for implementation is through the National Identity Management Commission. The digital ID system is intended to register, in bulk, citizens of Nigeria and legal residents to eventually set up a central national identity database. The database shall contain data that powers the digital ID system. By issuance of a National Identification Number, identity can then be authenticated by reference to the central database. The system is aimed at creating a national ID that is capable of verification for citizens who have attained 16 years of age. As a requirement for enrolment, the citizen applicants must provide primary or foundational documents in support of the application. Minors are also registered as such, the age requirement being 16 years of age and below. In 2019, the Government made it a mandatory requirement for registration to the system to access government services. The legal framework supporting the registration presents challenges, especially through the use of vague policies, which is a risk that needs to be addressed to avoid challenges such as exclusion.	Management Commission as the institutional framework. Implement a digital ID system to register citizens and legal residents, and establish a central national identity database. Issue a National Identification Number for authentication purposes. Enrol citizens who have attained 16 years of age and provide primary or foundational documents as supporting evidence. Register minors 16 years of age and below. Make registration to the system mandatory for access to government services. Address challenges in the legal framework and policies to avoid exclusion and risks.
South Africa	In South Africa, a biometric-based digital ID system was adopted to promote and improve access to public services. Other considerations include ensuring security and improving the economic situation in the country. It adopts a model of an integrated source of biographic and biometric information. The objective is to replace the National Population Register with the digital ID system.	Adopt a biometric-based digital ID system to improve access to public services. Integrate biographic and biometric information into a centralized digital ID system. Replace the National Population Register with the digital ID system.

The introduction of Smart ID Cards relies on fingerprint data to create unique details capable of accurate identification of people. This will lead to the creation of a seamless legal ID system to cover citizens and residents, and enhance their access to services.

Utilize fingerprint data for accurate identification and issuance of Smart ID Cards.

Enhance access to services through a seamless legal identity system.

Legal framework

Introduction of a digital ID system in South Africa is backed by law, the foundational statute being the Identification Act. Persons are required to submit details for purposes of registration to an identification register.

Establish the Identification Act and the Protection of Personal Information Act as legal foundations.

Address privacy and data protection concerns through the data law.

South Africa in 2013 also adopted the Protection of Personal Information Act, No. 68, of 1997, which takes care of privacy and data protection concerns. The data law forms the basis for the collection of information from people in order to develop the digital ID system. It addresses issues such as the accountability mechanisms and principles of protection of data.

Develop policies, such as the Official Identity Management Policy, for digitizing the identity management system and achieving national development.

South Africa has further engaged in policymaking on identity management through the proposed Official Identity Management Policy (draft) in 2020. The objective is to digitize the identity management system to achieve national development.

| Togo | Togo has taken steps towards implementation of a digital ID system through a Digital Public Infrastructure. This was necessitated and given momentum during the COVID-19 pandemic, when there was a need to formulate a system to offer social protection to citizens by way of cash transfer programmes.[a] Through concerted efforts, a Memorandum of Understanding was executed for the purpose of establishing a digital ID system.[b] The | Implement a digital ID system through a Digital Public Infrastructure. Establish the National Agency for Identification to execute the system. Set up a foundational ID system to map the population structure and centralize citizens' information. |

National Agency for Identification is responsible for execution of the system.

It is important to note that Togo seeks to set up a foundational ID system for the purpose of mapping its population structure and for centralizing citizens' information in order to provide basic services to its people.

In designing the digital ID, consideration was given to such issues as the right to privacy, to which citizens in the system are entitled.[c] The system borrows heavily from the national civil identity card project. The Togolese Digital ID has been shaped by, among other factors, mobile access and registration by payment service providers (82 per cent and 62 per cent of adult Togolese, respectively).

Ensure privacy rights are considered in the design of the digital ID system. Build on the national civil ID card project to shape the Togolese digital ID.

Enable mobile access and registration by payment service providers.

Provide social protection to citizens through cash transfer programmes. Develop safeguards for data protection and privacy.

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[a] BiometricUpdate.com, "Togo eyes more robust digital ID system to enhance inclusion, tackle future challenges" (24 May 2022). Available at www.biometricupdate.com/202205/togo-eyes-more-robust-digital-id-system-to-enhance-inclusion-tackle-future-challenges.
[b] Frank Hersey, "Togo signs MoU to establish MOSIP digital identity system", Biometrics Research Group (20 December 2021).
[c] Frank Hersey, "World foundational digital identity systems under review by Privacy International", Biometrics Research Group (15 November 2021).

Uganda

Uganda has been actively pursuing the development and implementation of digital identification systems to enhance governance, service delivery and economic growth. The country's digital ID outlook includes the key aspects set out below.

National Identification and Registration Authority

The National Identification and Registration Authority is responsible for the issuance of national identification cards, commonly known as the National IDs. These IDs serve as the primary form of digital identity for Ugandan citizens and residents.

Strengthen the National Identification and Registration Authority to ensure efficient issuance of national identification cards and to promote the use of digital identity among Ugandan citizens and residents.

Integration of services

Uganda aims to fully integrate various public services with the national ID system to streamline service delivery and eliminate duplication of processes. This integration facilitates efficient access to government services, including health care, education, social welfare and voter registration.

Accelerate the integration of various public services with the National ID system to streamline service delivery, eliminate duplication of processes and enhance governance.

Biometric data capture

The digital ID system in Uganda incorporates biometric data, such as fingerprints and facial recognition, to ensure uniqueness and accuracy of identification. Biometrics enhance security and help prevent identity fraud and impersonation.

Enhance the accuracy and security of identification through the effective utilization of biometric data, such as fingerprints and facial recognition.

Mobile identity solutions

Uganda has also been exploring mobile-based digital ID solutions to leverage the widespread adoption of mobile phones in the country. Mobile IDs can provide convenient and accessible means of identification, especially in remote areas, where physical infrastructure may be limited.

Explore and implement mobile-based digital ID solutions to ensure convenient and accessible means of identification.

Digital financial inclusion

The digital ID system is instrumental in promoting financial inclusion by enabling individuals to access and use digital financial services securely. It supports the integration of digital payment solutions and facilitates financial transactions, especially for the unbanked population.

Promote financial inclusion by leveraging the digital ID system to enable secure access to digital financial services, and facilitate financial transactions for the unbanked population.

Data protection and privacy

Uganda has implemented the Data Protection and Privacy Act to safeguard personal information collected and processed within the digital ID system. It establishes the rights

Continuously enforce the Data Protection and Privacy Act to protect personal information collected and processed within the digital ID system,

of data subjects, and places obligations on data collectors and controllers to protect personal data.

Legal framework

The Data Protection and Privacy Act of Uganda, which came into effect in March 2019, safeguards the privacy of individuals by regulating the collection and processing of personal information, especially concerning Ugandan citizens. It distinguishes between "special personal data" and "personal data", with the former encompassing sensitive information such as religious beliefs, political opinions and medical records.

The Data Protection and Privacy Act grants data subjects certain rights, such as access to personal information, knowledge of the purpose of data collection, and the ability to prevent data processing. In case of unauthorized data access or processing, data collectors and controllers must notify the National Information Technology Authority-Uganda, which has the authority to determine whether breach notifications should be issued to data subjects. Consent is generally required for data collection and processing, unless mandated by law, for national security, public service delivery, medical purposes or compliance with legal obligations.

The National Information Technology Authority-Uganda, established as the regulatory body for coordinating and overseeing information technology services in Uganda, is responsible for national data protection. It maintains the Data Protection Register, listing entities that collect and process personal data of citizens and residents, including the National Identification and Registration Authority.

establish data subject rights, and ensure compliance with data protection obligations.

Strengthen the role of the National Information Technology Authority-Uganda to ensure accountability of entities handling personal data.

Zimbabwe

Under the National Development Strategy 1 (2021–2025), the Government of Zimbabwe intends to transform the country into a middle-income nation by 2030. This transformation requires adopting domestic policies that support price stability, optimal use of public resources, transparency, accountability and increased public financing, among other measures, according to the World Bank.

As part of the National Development Strategy 1, the Government has announced several technological developments, including the establishment of a national data centre and plans for a national biometric database. The biometric database will facilitate the production of e-passports, national IDs and birth certificates, and is aimed at increasing passport production capacity to clear backlogs, both locally and at foreign embassies.

The introduction of these technological advancements, however, will have an impact on the country's national identity registration framework, which is still largely based on a traditional analog system that has been partially digitized. The country's national ID system has its roots in its colonial legacy, and has evolved through the post-independent politicization of citizenship law and migration realities.

Despite reforms since gaining independence in 1980 and the affirmation of three categories of citizenship (by birth, descent and registration) in the 2013 Constitution, challenges persist. These include a lack of effective birth registration mechanisms, centralized registration processes, high registration costs and limited access to identity documents. For example, while birth registration and certificates are free for

Develop and implement policies and measures that support price stability, optimal use of public resources, transparency, accountability and increased public financing, in line with the goals of the National Development Strategy 1 (2021–2025).

Establish a national data centre to support technological developments and the digitization of national identity registration processes. Implement the national biometric database to improve efficiency in producing e-passports, national IDs and birth certificates, with a focus on addressing backlogs and improving passport production capacity.

Address challenges in the national identity registration framework, such as a lack of effective birth registration mechanisms, centralized registration processes, high registration costs and limited access to identity documents.

Review and revise registration fees to ensure they do not pose barriers or exclude a significant number of people, especially those from low-income backgrounds.

Address issues of potential discrimination and regional or ethnic disparities within the national ID system by ensuring that identification numbers and classifications do not perpetuate colonial classifications and reinforce inequalities.

citizens born in Zimbabwe, it costs $25–$28 to register a child born to non-citizens or individuals without documentation. The correction and replacement of identification documents also incur fees ranging from $10 to $35.

These high fees pose potential barriers and exclusion for a significant number of people, especially considering that 49 per cent of the population is classified as poor. Furthermore, the registration system perpetuates colonial classifications of citizens, allowing for population control and potential discrimination based on ethnicity and place of origin. These issues have been associated with partisan allocation of national resources and development.

In addition, the identification numbers assigned to individuals reflect citizenship by birth or naturalization, and the district of origin, which often corresponds to a rural constituency. This further reinforces regional and ethnic disparities within the national ID system.

Legal framework

The issuance of national identity documents in Zimbabwe is governed by the National Registration Act (chapter 10:17), which has been in effect since 1976 and has undergone several amendments. This Act regulates the collection, use and storage of the national database, and mandates the registration of individuals residing in Zimbabwe with identity documents such as national identity cards and passports.

The Registrar-General of National Registration, established under the Act, is responsible for processing identity documents and verifying the authenticity of supporting

Review and amend the National Registration Act (chapter 10:17) to modernize and align it with current needs, addressing issues related to the collection, use and storage of the national database, and the registration of individuals with identity documents.

Improve awareness and accessibility of registration processes by increasing the number of birth registration centres, providing transportation support, simplifying bureaucratic requirements and conducting awareness-raising campaigns.
Ensure that the politicization of citizenship laws does not affect individuals of foreign descent who have been resident in Zimbabwe their entire lives, and restore their citizenship rights in line with the 2013 Constitution.
Enhance data security measures and ensure trust in the data management of authorities by implementing robust safeguards for the collection, storage and use of personal data, especially in biometric systems.

Promote public consultation and transparency in the implementation of technological advancements, such as biometric IDs, by providing adequate information, engaging stakeholders, and addressing concerns related to personal data security and privacy rights.

documents submitted in an application. During the registration process, individuals are required to provide a facial image, fingerprints and other necessary information. A unique identity number is assigned upon registration at birth, and is included in both the identity card and the birth certificate issued under the Births and Deaths Registration Act of 1986.

The introduction of the "long" birth certificate in 2001 added details of the country of origin of the parents, which is a prerequisite for obtaining other identity documents. This requirement can pose challenges, as a lack of documentation for parents can result in the non-registration of their children. Other factors that affect registration include a lack of awareness of registration processes, long distances to registration centres, transportation costs, bureaucratic requirements and traditional beliefs that hinder women from registering their children without the consent of a man.

While the Government has increased the number of birth registration centres to address some of these challenges, relying heavily on birth certificates as a prerequisite for national registration has caused serious problems. For example, individuals of foreign descent who have been resident in Zimbabwe their entire lives have been affected by the politicization of citizenship laws. Amendments made in 2002 categorized these individuals as "aliens" without some political rights; however, the 2013 Constitution restored citizenship to those who had lived in Zimbabwe but were considered aliens due to their foreign descent.

The centralization and digitization of the population registry led to the establishment of the Zimbabwe Population Registration System in 1996. This computerized system serves as a

centralized composite database containing demographic personal data related to birth, death, national identification, marriage and passports. Data are shared for e-governance purposes with various government departments and private sector entities such as pension offices, immigration and police departments, mobile phone service providers and banking services.

Biometric IDs were introduced in Zimbabwe in the early 2000s as part of the transition to enhance e-governance, but there was limited publicity, information on tendering and procurement processes was scarce, and public consultation was inadequate. As a result, many people are not fully aware of the implications of the new digitized ID features, and their primary perception is centred around the change from metal to plastic ID cards rather than the biometric aspects. Concerns about personal data security and lack of trust in authorities' data management have been raised, especially regarding the collection and use of personal data during biometric voter registration and the infringement of privacy rights when political parties access and utilize personal data without prior consent.

VIII.   Governance and policy approaches to digital identity by member States

A. Country ideology of policy and regulatory affairs on digital identity

There has been a push by African Governments aimed at easing identification in countries keen to provide public services to their citizens. Countries are also keen to comply with provisions of international law on identity. Digital ID systems are thus geared towards achieving the Sustainable Development Goals, in particular providing every person with legal identity by 2030.[72]

Statistics informing policy and regulatory affairs on digital ID indicate that more than 1.5 billion people lack legal identity. To respond to this shortcoming, strategies on digital identity are centred around providing accurate and safe mechanisms of identification.[73]

African countries that typically maintain segmented national registration systems are adopting a centralized policy and regulatory approach, by developing centralized identity systems, dependent on existing foundational ID systems. The considerations include whether to adopt purely digital and paperless systems or to complement the digital system with the existing manual registers. As a policy and regulatory approach, countries are also considering the impact of proper laws to back up digital ID systems. Effective data protection, privacy and cybersecurity laws and regulations have been operating in African countries.[74]

Issues of surveillance of the population are considered as policy and regulatory pitfalls that require keen and sound backing of the law. Considerations such as integration of ID registers also play a role in country ideologies concerning digital ID.[75]

The question of interoperability also plays a role in the policy and regulatory positions taken by countries, including addressing the segmented systems of identity registration systems, whereby the push for open authentication is under scrutiny to allow other players in the identity ecosystem to have access to digital ID systems for purposes of validation of details already obtained from people. This creates a situation in which mutual recognition of authenticated identity can be achieved by African States.

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[72] Global System for Mobile Communications (GSMA), *Regulatory and Policy Trends Impacting Digital Identity and the Role of Mobile: Considerations for Emerging Markets, October 2016* (London, 2016).
[73] Ibid.
[74] Ibid.
[75] Ibid.

Countries have been taking advantage of sectoral requirements as to registration, such as registration of telecommunication devices (such as SIM cards).[76] In this way, identities are established and validated by use of national integrated population registers.[77]

B. National security and surveillance approach

Surveillance as a mechanism for collection of information through analysis of activities of people, by monitoring mechanisms online and offline, has an impact on the fundamental rights of people.[78] Nevertheless, it can be an approach that enhances digital identity systems by providing tools for prevention and detection.

Government intelligence mechanisms rely on surveillance to inform security policies to be put in place; therefore, access to digital ID systems by authorities is a common factor in Africa. There are laws, however, that specifically address the permissible forms of surveillance, and these require strict compliance in the adoption of digital ID systems.

National security is a leading factor in the development and deployment of ID systems. This has shaped the policy and legislative framework because of the innate concerns in identification of persons through the use of technology. Kenya, for instance, has had to grapple with the effects of a centralized system giving effect to a digital ID, including the development of effective systems of law and policy.

Data protection, by default and by design considerations of privacy, are incorporated into data governance, including technical specifications, standards and procedures. The nature of data collected in deployment of a digital ID requires practical evaluation of the related security risks and safety concerns.

C. Accountability

Implementation of digital ID systems requires parties and institutions to designate pillars for accountability. This is critical for building public trust and achieving high levels of trust in the ecosystem. Accountability is also a factor in ensuring smooth implementation, considering the phases required to be implemented in deploying a digital ID system.

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[76] Global System for Mobile Communications, "Mandatory registration of prepaid SIM cards" (London, 2016).
[77] Pakistan, National Database and Registration Authority. Available at http://id.nadra.gov.pk/.
[78] David Lyon, *Surveillance Studies: An Overview* (Cambridge, Polity Press, 2007).

IX. Priority issues within the digital identity ecosystem in Africa 2023 future outlook

A. Access to digital identity systems

Achieving the desired results in the implementation of digital ID systems in Africa requires a keen consideration of the impact that digital ID can have on people's access to basic services, especially for traditionally marginalized communities. The imposition of mandatory requirements for both registration for legal identities and digital ID is counterproductive and should be reviewed.

Furthermore, non-registration and failure to meet the standards set for enrolment in digital ID programmes should not be the basis for restrictions on access to public services, as this has been deemed to be an unconstitutional and overzealous implementation of digital ID systems.

B. Linkage with national authorities

While implementing the digital ID in Kenya, the Ministry of Interior and Coordination of National Government was of the view that it was meant to play a security function and aid in the fight against insecurity. Borrowing from this perspective, it follows that enforcement of digital ID will serve multifaceted roles, including the need for linkage of the digital ID system with other government institutions for different purposes.

In terms of ensuring proper management of taxation channels, digital ID can also be an essential factor in harnessing the tax benefits that come with a working population. It is also an effective remedy to tax evasion, because of the transparency involved with using technology systems.

C. Standardization of legal frameworks

Countries that fully realize the complexities of setting up a digital ID system are responding to the need for an effective legal regime to safeguard the processing of information and ensure that the design is supported by proper laws. This is to avoid implementation barriers, such as lawsuits aimed at stopping deployment of technology, without appropriate legislative and policy safeguards.

It is foreseeable that countries will continue to refine their legal systems to respond to challenges such as breaches in data protection compliance frameworks, cybersecurity risks and incidences, and violations of human rights.

D. Interoperability of digital identity systems

Interoperability is an essential factor in the success of digital ID systems in Africa, but it has not been achieved, with regard to both services and jurisdictions. This could be attributed to the different levels of development in African States.

The challenge of adopting a uniform currency for African States recurs in the implementation of standard digital ID systems. The fragmented state of digital ID systems inherently limits data centralization, but it can also hamper the potential benefits. Possible solutions to this problem include standardization of digital ID.

X. Conclusion and recommendations

A. Conclusion

Digital ID presents real opportunities for development in Africa and expansion of markets to spur economic growth. A vast number of challenges have been identified that require the intervention of States at the policy and legislative levels. Cybersecurity and data protection issues are rife, and present opportunities for policy and legislative reforms. States should identify the unique responses to such challenges, in order to prescribe practical steps to resolve them.

Security is an essential component of digital ID systems, and Governments can leverage international practices to incorporate digital ID into addressing security challenges, such as money laundering, fraud and other types of financial crime.

The African Continental Free Trade Area provides standards and an opportunity for the application of uniform regulations, and States in Africa should start to move towards using the framework to ensure interoperable systems of digital ID. The African Continental Free Trade Area also provides an opportunity for regional integration; therefore, uniform policies should be developed to regulate digital ID systems.

The United Nations projects that, by 2030, digital identity will have been achieved, which would transform the African economy and advance human rights by way of enabling access to government services.

B. Recommendations

In light of the above findings, the following recommendations are made:

(a) Countries in Africa should strive to develop digital ID systems based on trust;

(b) Governments should first address the concerns relating to the deployment of digital ID systems, including security factors such as identity theft, surveillance, discrimination and inequality;

(c) Governments should, as a matter of priority, make provision for policy, regulatory and legislative enactments, amendments and reform, to conform with the principles of effective digital ID systems;

(d) Policy direction should be established for digital ID systems, with a focus on ensuring access to public services and using identity as a mechanism for inclusion, as opposed to excluding persons on the basis of identity challenges that are usually attributed to inaction on the part of Governments;

(e) Countries should deploy resources towards research to determine the appropriate features to be incorporated into digital ID systems that respond to the needs of their people;

(f) Digital ID systems adopted by African States should conform to international standards, including compliance with legal obligations relating to legal identity and access to basic services.

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