



Digital Public Infrastructure Futures: Charting Inclusive and Secure Transformation in the SADC Region

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Executive summary

Digital public infrastructure (DPI) is a foundational architectural layer essential for accelerating economic resilience, enhancing service delivery and deepening regional integration within SADC. DPI rests on three interoperable pillars: digital identity, digital payments and data exchange systems. SADC has shown leadership by establishing Africa's first regional DPI initiative: a federated e-Know Your Customer ecosystem spanning 16 member states to unify national ID systems and boost cross-border financial inclusion for millions of cross-border nationals. While the technical foundations are promising, global case studies from India (security-by-design) and Brazil (multilateral governance) confirm that success hinges on robust, context-adapted governance. Yet, SADC faces systemic risk from policy fragmentation, evidenced by the lack of adoption of the AU Convention on Cyber Security and Personal Data Protection (Malabo Convention). This regulatory deficit undermines the trust and security needed for cross-border data flows. This policy insights proposes a 'Triple-A' roadmap: accelerate e-Know Your Customer-driven interoperability, anchor governance with techno-legal safeguards to close the Malabo gap and assert a unified global voice through the African Digital Compact.

The digital transformation imperative in SADC

SADC faces a pivotal moment in its regional integration journey, defined by the challenge of translating existing digital foundations into secure, inclusive digital public infrastructure (DPI). Widespread DPI fragmentation, particularly in identity and regulatory compliance, currently prevents over 3.7 million cross-border nationals from accessing essential financial services.¹ Compounding this, the limited adoption of the Malabo Convention poses a systemic cybersecurity risk that undermines the foundation of cross-border data flows.² It is critical for SADC to translate its existing regional payment systems into the foundational DPI needed to achieve the objectives of the SADC Digital Transformation Strategy (DTS).

DPI comprises interoperable digital building blocks, governed by open standards, that enable large-scale access to public and private services. Its adoption is pivotal for SADC, serving as a catalyst for economic development, efficient service delivery and social inclusion. This directly supports the Indicative Strategic Development Plan and the SADC Treaty, which aim to promote equitable development by scaling up projects in member states lagging in infrastructure. Recognising this, SADC ministers responsible for ICT (information and communications technology) have endorsed the draft SADC DTS.

1 Co-Develop, "Strategic Collaboration Establishes Africa's First Cross-Border Digital Identity Framework, Enabling Financial Inclusion for Millions", August 2025, <https://www.codevelop.fund/insights-1/strategic-collaboration-establishes-africas-first-cross-border-digital-identity-framework-enabling-financial-inclusion-for-millions>.

2 Daniel Murenzi, "Safe, Secure Digital Public Infrastructure Crucial for Africa", World Economic Forum (WEF), October 2024, <https://www.weforum.org/stories/2024/10/safe-secure-digital-public-infrastructure-crucial-africa/>.

The DTS is designed to digitally empower citizens, businesses and institutions, ensuring that the maximisation of economic, social and political impact derived from digital technologies fulfils SADC's overarching regional development agenda.³ DPI provides the architectural foundation for achieving the DTS objectives, moving beyond basic connectivity towards structured, secure and shared digital capability.

This policy insights presents a strategic roadmap to position SADC at the forefront of the global digital economy. While the region possesses significant strengths, such as robust payments infrastructure, it faces critical challenges including fragmented digital governance and a lack of cohesive global representation. To address this, we propose a 'Triple-A' agenda: accelerate regional interoperability by mandating a federated e-Know Your Customer (e-KYC) framework; anchor governance in trust through techno-legal safeguards and closing the Malabo governance gap; and assert a unified global voice by leveraging the African Digital Compact (ADC) in international forums.

This analysis uses a futures studies approach, incorporating systems mapping⁴ of regional stakeholders and policies, conference engagements and secondary data analysis. A central component was a stakeholder foresight session using the Futures Triangle,⁵ which juxtaposed the 'pull of the future' (digital sovereignty aspirations) against the 'weight of the past' (structural barriers) and the 'push of the present' (resources and political will to act). This framework ensured the recommendations are both ambitious and practical. The paper assesses transferable lessons from India and Brazil's DPI models, examines structural barriers in global digital governance and presents the foresight findings.

Finally, the paper proposes pathways for systemic innovation through the Triple-A agenda, an evidence-based roadmap designed to secure stakeholder buy-in and accelerate the safe, inclusive implementation of DPI. It calls on SADC decision-makers to adopt this agenda and transform the region's infrastructure strengths into a foundation for digital sovereignty.

3 SADC, "Ministers Discuss Strategic Policies and Activities to Accelerate Implementation", *SADC News*, June 2023, <https://www.sadc.int/latest-news/sadc-ministers-discuss-strategic-policies-and-activities-accelerate-implementation>.

4 Systems mapping is the process of creating a visual diagram that represents a system's elements, the relationships between them and their feedback loops. It is used to understand complex situations, align diverse stakeholders and identify leverage points for intervention and change, see Christian Tooley, "What 'Systems Thinking' Actually Means – And Why It Matters For Innovation Today", WEF, January 2021, <https://www.weforum.org/stories/2021/01/what-systems-thinking-actually-means-and-why-it-matters-today/>.

5 The Futures Triangle is a foresight tool developed by Sohail Inayatullah that analyses the forces shaping a particular theme or future. It consists of three points: the weight of the past, which represents historical constraints and structures; the push of the present, which includes current trends and events; and the pull of the future, which represents images, visions or preferred outcomes. By mapping these three forces, individuals and organisations can better understand how they interact and how they might influence or create different plausible futures, see Sohail Inayatullah, "The Futures Triangle: Origins and Iterations", *MetaFuture* (2023).

The SADC digital landscape

The SADC region possesses a significant advantage often termed the ‘brownfield’ approach to digital transformation. Rather than initiating entirely new systems, SADC can build upon existing infrastructure. For instance, the SADC Real-Time Gross Settlement (RTGS) system, which has been operational since 2013 and the Transactions Cleared on Immediate Basis (TCIB) system, launched in 2021, already provide proven, foundational digital payment rails.⁶ These systems form the base upon which advanced DPI, such as interoperable identity verification capabilities, can be scaled.⁷

Despite these strong foundations in payments, the digital landscape must contend with several policy gaps that threaten the DPI project, which include the following:

Persistent connectivity and inclusion gap

The SADC region faces a severe challenge regarding the affordability and universal availability of internet access.⁸ Despite regional infrastructure policies aimed at ensuring ‘always-on’ connectivity, low levels of internet access persist in many SADC countries, directly undermining the global commitment to achieving universal internet access and affordability by 2030.⁹ This persistent connectivity deficit ensures that the digital divide remains substantial, threatening to widen socio-economic gaps by relegating many citizens to passive consumers of digital technology, rather than enabling them to reap the economic benefits of the digital economy. Crucially, this imperative is underscored by the Global Digital Compact for Future Generations, which commits to ensuring safe and affordable digital access for all.¹⁰ Policies designed to mitigate digital exclusion should explicitly address factors such as gender, income, location, language and disability to ensure broadband and digital services are genuinely accessible to all citizens.

Critical cybersecurity and regulatory deficit

Perhaps the greatest systemic risk to SADC’s cross-border DPI ambition is the regulatory gap in cybersecurity. Very few member states (Comoros, Mozambique and Zambia) have signed the AU’s Malabo Convention.¹¹ This massive regional regulatory void represents a severe lack of legal harmonisation, which is necessary for establishing secure and trusted cross-border data exchange systems.¹² The lack of a common, legally binding

6 IMF, “Digital Payment Innovations in Sub-Saharan Africa”, *IMF Working Paper* (2025).

7 Co-Develop, “Strategic Collaboration Establishes Africa’s First Cross-Border Digital Identity Framework”.

8 Ebosetale Jenna Oriarewo, “The State of Digital Inclusion in Africa: Challenges and Disability Inclusion as a Solution”, VerivAfrica (2024), <https://www.veriv africa.com/insights/the-state-of-digital-inclusion-in-africa-challenges-and-disability-inclusion-as-a-solution>.

9 Oriarewo, “The State of Digital Inclusion in Africa”.

10 UN, *Pact for the Future: Global Digital Compact and Declaration on Future Generations* (September 2024), https://unsdg.un.org/sites/default/files/2025-03/sotf-pact_for_the_future_adopted.pdf.

11 Oriarewo, “The State of Digital Inclusion in Africa”.

12 Murenzi, “Safe, Secure Digital Public Infrastructure”.

framework means that even advanced technical infrastructures, such as the planned federated e-KYC system, remain vulnerable to fragmentation and lack the requisite legal assurances to foster public confidence and private sector investment. The regional digital transformation can only promote shared values and trust if this legal framework is urgently addressed.

The principal threat to SADC's DPI realisation is not a technological deficiency, but rather policy fragmentation and a regulatory implementation lag

The evidence demonstrates that the principal threat to SADC's DPI realisation is not a technological deficiency, but rather policy fragmentation and a regulatory implementation lag. The technical infrastructure for regional payments is robust and operational (RTGS/TCIB).¹³ The core systemic innovation, the federated e-KYC, is being piloted. Consequently, the major barrier preventing the secure, trusted data exchange required for full interoperability is the lack of a harmonised legal structure, specifically the Malabo Convention gap. The failure to close this legal fragmentation gap renders advanced technical infrastructure intrinsically vulnerable and potentially untrustworthy, stalling progress towards regional integration and inclusion.¹⁴

Financing and sustainability challenges

For DPI to be sustainable and ensure public policy ownership, it must rely on effective domestic resource mobilisation. Relying heavily on external investors and partners introduces volatility and diminishes accountability to citizens.¹⁵ However, most sub-Saharan African countries depend on weak revenue authorities and a narrow tax base highly prone to evasion. Creating a well-structured financial sector with a competitive banking system and stable macroeconomic environment is, therefore, a necessary precondition for sustainable DPI funding.

13 "Regional DPI Initiative Supports KYC, Digital ID Interoperability Across 16 Countries", *Biometric Update*, August 2025.

14 Afrobarometer, "Africa's Digital Divide Is Closing, But Participation in the Digital(ised) Economy Remains Highly Uneven", *Afrobarometer Report* (2025), <https://www.afrobarometer.org/wp-content/uploads/2025/08/PP95-Digital-divide-in-Africa-closing-but-participation-in-digitalised-economy-still-uneven-Afrobarometer-23aug25.pdf>.

15 SADC, "Domestic Resource Mobilisation", in *Regional Infrastructure Development* (2019), https://www.sadc.int/sites/default/files/2021-07/SADC_Regional_Infrastructure_Development.pdf.

Insights from global case studies: transferable models for SADC DPI

Experiences from the Global South offer strategic blueprints for SADC, highlighting that the true power of DPI lies not merely in the technology adopted but in the governance principles and architectural design. First, the Indian and then the Brazilian case studies are discussed.

India's foundational DPI: architecture, governance and scale

India Stack – covering digital identity, payments and data exchange systems, provides a powerful reference model for Africa.¹⁶ India successfully demonstrated how foundational DPI systems can be rapidly deployed at population scale. For SADC, the relevance extends far beyond technology adoption, offering practical guidance on overcoming similar challenges related to financial inclusion and identity verification in traditionally cash-based economies. The central, most valuable lesson from India is the imperative of security-by-design.¹⁷ Security was not treated as an auxiliary feature but was embedded in the very 'DNA' of the DPI systems from their conception, including Aadhaar's biometric protocols, Unified Payments Interface frameworks and data-sharing architectures. This foundational security approach builds citizen trust, essential for widespread adoption and engagement in the digital economy.¹⁸

The techno-legal safeguards (DPI Sutras)

The transfer of DPI from India to SADC is primarily a transfer of governance frameworks, not just technology. The core asset is the DPI Sutras: normative principles functioning as an actionable governance framework.¹⁹ These principles mandate openness, interoperability, consent and robust governance. Crucially, they serve as explicit techno-legal safeguards designed to prevent the centralisation of power, guarding against DPI weaponisation by state or corporate actors and preventing monopolisation by powerful interests. This governance methodology introduces a 'techno-legal' approach where regulators supervise the protocols underpinning the DPI ecosystems, influencing policy outcomes through code and embedding compliance obligations directly into the system design.²⁰

16 IMF, "Stacking Up Financial Inclusion Gains in India", *Finance & Development* (July 2021), <https://www.imf.org/external/pubs/ft/fandd/2021/07/india-stack-financial-access-and-digital-inclusion.htm>.

17 WEF, "Security-By-Design Lessons from India's Digital Public Infrastructure Journey", *WEF Report* (2025), <https://www.weforum.org/stories/2025/10/security-by-design-india-digital-public-infrastructure/>.

18 Murenzi, "Safe and Secure Digital Public Infrastructure".

19 Carnegie Endowment for International Peace, "Digital Public Infrastructure: A Practical Approach for Africa", February 2025, <https://carnegieendowment.org/research/2025/02/digital-public-infrastructure-a-practical-approach-for-africa?lang=en>.

20 Carnegie Endowment, "Digital Public Infrastructure: A Practical Approach for Africa".

India's model also relies on a hybrid provisioning approach, where the government retains ownership and oversight of the critical infrastructure rails, while the private sector is encouraged to innovate rapidly and deliver services on top of those rails.²¹ This balance ensures that resilience is treated as a public good while fostering market competition.

Brazil's digital multilateralism and sovereign strategy

Brazil offers valuable lessons through its brownfield approach, showing how existing, successful systems can evolve towards DPI principles – a model well suited to SADC's use of RTGS/TCIB infrastructure.²²

Brazil's assumption of the G20 presidency provided a strategic platform for asserting digital sovereignty and shaping the global digital agenda.²³ Digital sovereignty is complex, referring to a nation's ability to govern its digital environment independently, controlling infrastructure, technologies, data and regulation.²⁴ Brazil framed data as a strategic asset for poverty reduction and inclusive growth, complementing the G7's narrower focus on data protection and free flow.²⁵ This approach shows SADC how to engage globally to galvanise political and financial commitments towards infrastructure and governance structures that maximise data availability for inclusive growth.

Brazil's experience with national participatory planning processes highlights effective strategies for digital democracy and inclusivity.²⁶ The model bridges the digital divide through hybrid engagement, blending community Wi-Fi hubs with offline tools such as SMS and local consultations in low-connectivity regions.²⁷ This adaptability is essential for SADC, where connectivity gaps are profound.

Principles of adaptation: sovereignty, localisation and integration

The efficacy of India's playbook rests entirely on its adaptation to local contexts, not its wholesale replication. SADC should ensure its DPI solutions are localised, addressing the specific challenges of cross-border financial exclusion and regional integration, while simultaneously aligning with broader continental frameworks such as the AU's Interoperability Framework for Digital ID.²⁸

21 Chloe Teevan, Raphael Pouyé and Gautam Kamath "From India Stack to EuroStack: Reconciling Approaches", European Centre for Development Policy Management *Discussion Paper* (2025).

22 ECDPM, "From India Stack to EuroStack".

23 George Ingram and Priya Vora, "Brazil's G20 Opportunity: A Consensus on Digital Data", *Brookings Institution* (2025), <https://www.brookings.edu/articles/brazils-g20-opportunity-a-consensus-on-digital-data/>.

24 Internet Society Foundation, "What's Digital Sovereignty? Lessons from Brazil to the World", *Internet Society Foundation Blog* (2024), <https://www.isocfoundation.org/2024/10/whats-digital-sovereignty-lessons-from-brazil-to-the-world-implications-risks-and-global-insights/>.

25 Ingram and Vora, "Brazil's G20 Opportunity".

26 People Powered, "Bridging the Digital Divide: Lessons from Brazil's National Participatory Planning Process", March 2025, <https://www.peoplepowered.org/news-content/bridging-the-digital-divide-lessons-from-brazils-national-participatory-planning-process>.

27 People Powered, "Bridging the Digital Divide".

28 Carnegie Endowment, "Digital Public Infrastructure: A Practical Approach for Africa".

Successful adaptation requires comprehensive policy and regulatory frameworks that cover not only the DPI platform itself but also its operating entity. These frameworks must actively govern the network participants to ensure fair competition and ethical conduct, while placing paramount importance on protecting end-user rights, including accessibility, data privacy, security and readily available grievance redress.

The architecture of DPI – comprising common ID, payment and data exchange layers – is pivotal to expanding Africa’s technology ecosystem and creating economic opportunities for the continent’s youthful population.²⁹ It provides pathways for digitally empowered youth to develop localised innovations at scale, driving market-driven solutions such as e-commerce platforms. Unlocking this digitally enabled youth segment, given the region’s demographics, must be a foundational key performance indicator for SADC DPI development.³⁰

TABLE 1 MAPPING GLOBAL DPI LESSONS TO SADC POLICY ADAPTATION

Source DPI model	Key architectural principle	Relevance for SADC	Policy adaptation for SADC
India Stack (Aadhaar/Unified Payments Interface)	Security-by-design and DPI Sutras (techno-legal)	Enables citizen trust, protects data autonomy and ensures resilience against misuse or state/corporate weaponisation	Codifying rights-preserving protocols and governance frameworks directly into regional DPI infrastructure (SADC–DPI Sutras)
India Stack	Scalable foundational pillars (ID, payments, data exchange)	Supports financial inclusion and rapid economic growth at population scale	Integrating national ID systems into the existing SADC RTGS/TCIB infrastructure via the federated e-KYC framework
Brazil’s strategy	Brownfield evolution and system integration	Maximises investment returns by building on and integrating successful pre-existing national digital ID and payment systems	Prioritising standards for interoperability that bridge existing fragmented national systems to the new regional framework, aligned with the AU Interoperability Framework
Brazil’s multilateralism	Assertive digital sovereignty advocacy	Strengthens SADC’s diplomatic position, focusing on data as a strategic asset for growth and poverty reduction	Developing and consistently presenting unified SADC/ African positions on data governance, cross-border flows and digital taxation in global fora (G20, UN)

Source: Compiled by authors

29 AU, *Digital Transformation Strategy for Africa (2020–2030)*, <https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf>.

30 IMF, “Digital Payment Innovations in Sub-Saharan Africa”.

The preceding analysis of the India Stack and Brazil's digital multilateralism illuminates critical, transferable lessons for SADC as it develops its own DPI. The core insight is that effective DPI implementation hinges on adapting robust governance principles and architectural blueprints rather than simply replicating technology. These global experiences must be localised to address SADC's specific needs, such as cross-border financial exclusion and regional integration, while aligning with continental frameworks like the AU's Interoperability Framework. The culmination of these insights, outlining the specific lessons, their relevance and the resulting policy adaptations for SADC, is presented in Table 1 above.

Addressing structural barriers in global digital governance

SADC member states and other African nations face structural barriers that restrict effective participation in global digital governance fora, resulting in norms being set by external global powers. Overcoming these barriers requires a shift from reactive participation to proactive, unified diplomatic engagement rooted in robust domestic policy.

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Diagnosis of engagement challenges: resource asymmetry and agenda influence

African nations face significant resource asymmetry when attempting meaningful participation in multilateral forums like the International Telecommunication Union and UN-related digital debates.³¹ Practical constraints, including visa restrictions and travel costs, hinder the attendance of independent experts and civil society organisations from the Global South. African nations often struggle to gain substantial influence over agenda-setting in critical debates concerning AI regulation and cross-border data flows. This lack of influence forces Africa to follow global powers' positions, rather than shaping the digital order to favour local social justice and anti-discrimination objectives.³²

³¹ IT for Change, "Identified Challenges to Meaningful Participation: Global South CSOs", *WSIS Forum* (2025).

³² IT for Change, "Identified Challenges to Meaningful Participation".

The domestic digital paradox compounds this external vulnerability: despite the digital economy's promise, the digital divide keeps many Africans passive consumers rather than skilled participants in the digital labour market.³³ This domestic exclusion weakens the legitimacy and intellectual authority of national policy positions globally, limiting the potential benefits of the digital economy.

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Gaps in regional digital preparedness

The most detrimental structural gap is the ongoing failure of most SADC member states to ratify the Malabo Convention.³⁴ This inaction creates a significant vacuum in regional cyber-regulatory harmonisation. Strong global positioning requires strong domestic policy; thus, this legislative fragmentation undermines SADC's credibility in international forums.

The trajectory of national data governance frameworks demonstrates an imbalance in regulatory focus. Although the number of African countries with data protection laws has tripled since 2012, this emphasis tends to skew towards safeguards (eg, data protection and privacy) while neglecting critical enablers (eg, data portability and localisation).³⁵ Both safeguards and enablers are essential to maximise the economic potential of data, and the current imbalance stifles the innovation necessary to fully leverage DPI.

Pathways to unified engagement: leveraging the African Digital Compact

Effective global engagement requires a unified voice. The ADC, adopted by the AU Executive Council, serves as the continent's official common position on digital transformation. This initiative, anchored in Agenda 2063, is designed to harness technology to drive sustainable development, protect digital rights and ensure digital

33 Afrobarometer, "Digital Divide in Africa".

34 Oriarewo, "The State of Digital Inclusion in Africa".

35 Adedeji Adeniran, "Developing an Effective Data Governance Framework to Deliver African Digital Potentials", *Brookings Institution* (March 21, 2025), <https://www.brookings.edu/articles/developing-an-effective-data-governance-framework-to-deliver-african-digital-potentials/>.

inclusivity.³⁶ SADC must use the ADC as its diplomatic anchor point to articulate regional priorities in global digital discussions.

Active participation in global norm-setting needs strategic alliances and public diplomacy to ensure the digital order benefits the continent. A crucial avenue for consolidating SADC's common position is the Southern Africa Internet Governance Forum (SAIGF), a sub-regional multi-stakeholder platform that facilitates dialogue among governments, civil society, the private sector and academia to develop shared principles on internet governance. Through SAIGF, SADC can crystallise unified regional policy positions before engaging at the Africa IGF and the Global IGF.³⁷

The ability of African nations to influence global digital governance depends on the cohesion and robustness of their domestic policy frameworks.³⁸ For SADC to assert digital sovereignty effectively, it must first resolve legal inconsistencies, particularly the Malabo Convention gap and fragmented national data protection laws. Unified domestic frameworks are the necessary antecedent to authoritative global engagement.

Strategies for enhanced representation in global fora

The South African G20 presidency provides an immediate, high-leverage opportunity for SADC to assert its DPI governance principles.³⁹ Building on the Global AI Summit on Africa, held in Kigali in April 2025, the continent has already established a crucial platform for advancing its digital agenda. This summit resulted in the adoption of the Africa Declaration on Artificial Intelligence, which formalised commitments across key DPI areas, including data governance, infrastructure and institutional cooperation.⁴⁰ The summit further advanced this agenda by establishing the \$60 billion Africa AI Fund and the Africa AI Council, designed to promote ethical, trustworthy and inclusive AI adoption across the continent. SADC leadership must now leverage this concrete continental momentum, especially the Council and Fund, to develop and present unified policy proposals that secure financial and political commitments for accelerating the AU's Data Policy Framework.

To ensure broader representation, SADC should establish regional funds to cover travel and participation costs for independent experts and civil society, reducing resource-driven influence.⁴¹ SADC must elevate digital policy discussions within diplomatic missions, prioritising digital diplomacy and working with international institutions, such as the International Telecommunication Union, to adopt rules on technology evolution and

36 AU, "African Digital Compact (ADC)", August 2024, <https://au.int/en/documents/20240809/african-digital-compact-adc>.

37 See SAIGF, <https://www.saigf.org/>.

38 IT for Change, "Identified Challenges to Meaningful Participation".

39 Ingram, "Brazil's G20 Opportunity".

40 Jane Munga and Sylvester Quansah, "Understanding Africa's AI Governance Landscape: Insights From Policy, Practice, and Dialogue," Carnegie Endowment for International Peace, September 11, 2025, <https://carnegieendowment.org/posts/2025/09/understanding-africas-ai-governance-landscape-insights-from-policy-practice-and-dialogue?lang=en>.

41 IT for Change, "Identified Challenges to Meaningful Participation".

standard interoperability, avoiding short-term obsolescence of deployed equipment. Table 2 synthesises the issues discussed above, translating the identified structural weaknesses into concrete, actionable mitigation strategies for SADC leadership.

SADC should establish regional funds to cover travel and participation costs for independent experts and civil society, reducing resource-driven influence

TABLE 2 STRUCTURAL BARRIERS TO SADC GLOBAL DIGITAL GOVERNANCE PARTICIPATION AND MITIGATION STRATEGIES		
Structural barrier	Impact on SADC engagement	Mitigation strategy (actionable proposal)
Regulatory fragmentation (Malabo gap)	Undermines regional stability and global trust necessary for secure cross-border DPI	Fast-track ratification and domestication of the Malabo Convention within 18 months through an immediate high-level political mandate
Resource asymmetry and external influence	Limits SADC's policy- shaping power and forces alignment with externally set norms	Coordinate SADC diplomatic efforts via the ADC to assert unified positions on data sovereignty and AI governance
Overemphasis on data safeguards	Restricts economic growth and stifles innovation fostered by data portability and sharing	Harmonise laws across SADC based on the AU Data Policy Framework, prioritising secure, regulated data exchange as an economic enabler
Digital divide for marginalised groups	Excludes millions from the digital economy, creates deep social and economic inequality	Implement hybrid participation models (online/ offline) and invest in assistive technologies and targeted digital literacy training for people with disabilities and rural populations

Source: Compiled by authors

Stakeholder engagement: Futures Triangle model for SADC DPI

Strategic dialogue is essential for aligning policy with collective aspirations and identifying systemic barriers. The Futures Triangle method, developed by futurist Sohail Inayatullah, is a foresight methodology that examines three competing factors that determine how the future unfolds: the pull of the future, the push of the present and the weight of the past.⁴² This method helps stakeholders gain insight into the system by mapping how aspirational visions interact with current momentum and historical constraints, thereby creating a space of plausible and actionable futures.

42 Inayatullah, "Futures Triangle".

A recent foresight session applied this model to the SADC DPI landscape, leading to an enhanced understanding of the current state, desired future and ingrained challenges.

TABLE 3 STRUCTURAL BARRIERS TO SADC GLOBAL DIGITAL GOVERNANCE PARTICIPATION AND MITIGATION STRATEGIES

Force	Description/key drivers
Pull of the future (visions and aspirations)	• Expand digital inclusion to provide access to services for all citizens. • Enhance national data sovereignty and control over digital data. • Establish secure, interoperable regulatory frameworks; Foster systemic innovations for sustainable digital transformation. • Adopt global best practices, notably India's identity/payments model and Brazil's multilateral strategies; • Promote interoperability between digital systems across member states; • Align SADC DPI priorities with broader African and global digital governance agenda. • Develop DPI governance models that balance state control with competitive market dynamics. • Position SADC as a regional leader in digital evolution. • Strengthen regional integration using DPI to deepen economic and social cohesion
Push of the present (current trends)	• Digital transformation is reshaping global economies. • South Africa's G20 presidency in 2025 provides a strategic opportunity to position DPI as a key driver • AU membership in the G20 provides a platform to influence global digital governance. • Recognition of the need for cohesive regional cooperation and investment in local data ecosystems. • Importance of learning from global case studies, particularly India and Brazil's DPI innovations
Weight of the past (historical influences and constraints)	• Inadequate digital infrastructure across member states; • Fragmented regulatory policies hindering regional alignment. • Reliance on foreign technology providers. • Limited financial and technical resources. • Structural barriers limiting effective SADC participation in global digital governance fora

Source: Compiled by authors

Enhanced understanding of the DPI landscape

The engagement session provided participants with a clearer perspective on the current DPI landscape in SADC, highlighting key drivers of change and challenges, including fragmented regulatory policies, reliance on foreign technology providers and limited

infrastructure and resources. This approach grounds future policy pathways in a realistic assessment of both opportunities and deeply ingrained barriers.

Pathways to innovative and inclusive DPI futures in SADC

Systemic innovation⁴³ in SADC must focus on developing shared, reusable digital infrastructure that delivers regional inclusion and security, rather than relying on fragmented national or bilateral initiatives.

Scaling regional DPI: the federated e-KYC ecosystem for cross-border inclusion

The most ambitious and structurally significant initiative underway is the strategic partnership between the Committee of Central Bank Governors (CCBG), FinMark Trust and Co-Develop to establish a federated e-KYC ecosystem across 16 SADC member states.⁴⁴ This initiative represents Africa's first regional DPI framework and is a direct, strategic response to the problem of poor interoperability between fragmented national ID platforms.

The current fragmentation leaves over 3.7 million cross-border SADC nationals without access to formal financial services, forcing them to rely on informal, often cash-based transactions. The federated model links national digital ID systems for real-time, cross-border verification while preserving national sovereignty over citizen data. This structure eliminates the need for 16 separate, cumbersome bilateral agreements and accelerates financial inclusion at scale. The e-KYC system will enhance digital payments by integrating identity verification capabilities directly with the existing SADC RTGS and TCIB payment infrastructure, ensuring seamless and secure financial services across the region.

Securing trust: developing robust data governance and privacy frameworks

Trust is central to a flourishing data environment; technical security alone is insufficient. When citizens are confident that their data is protected and handled equitably, they are more likely to engage in digital transactions, boosting the digital economy. DPI governance should be robust and people-centric, safeguarding privacy and user autonomy.

43 Systemic innovation has been defined by scholars such as Gerald Midgley and Erik Lindhult as the development of policies and governance at a local, regional or national scale to create an enabling environment for synergistic, multi-organisational innovations, recognising that innovation systems are constrained or enabled by a meta-level policy system, see Gerald Midgley and Erik Lindhult, "What is Systemic Innovation?", Centre for Systems Studies, Business School, University of Hull (2017).

44 Co-Develop, "Strategic Collaboration Establishes Africa's First Cross-Border Digital Identity Framework".

When citizens are confident that their data is protected and handled equitably, they are more likely to engage in digital transactions, boosting the digital economy

Drawing on the lessons of the DPI Sutras, member states should urgently implement a techno-legal mandate where robust governance standards are automatically embedded into the protocols underpinning the federated e-KYC and data exchange systems. This embedded compliance ensures that systems are designed with rights preservation from the outset. This is achieved by adopting a techno-legal approach, which integrates compliance as an 'obligation in code', allowing regulators to supervise the DPI protocols themselves. For instance, a core implementation step involves embedding mandatory consent mechanisms into the regional identity verification API: if a member state's system attempts to access cross-border identity data without explicit, time-stamped user consent, the API automatically denies the request, ensuring instant accountability and adherence to privacy rights.

A key requirement for the regional DPI is the development of interoperable data exchange protocols that simultaneously balance Anti-Money Laundering/Combating the Financing of Terrorism requirements with financial inclusion goals. The security architecture must allow for the secure sharing of compliance information while lowering the cost and complexity of verification for the underserved, strengthening financial integrity without sacrificing inclusion.

Current regional DPI success is primarily driven by the CCBG, focused on financial integrity and payments. DPI's broader goal is societal scale, encompassing healthcare, education and civic participation. Governance must evolve beyond finance to include ICT, justice and social services ministries, while incorporating civil society and technical experts to ensure alignment with human rights and inclusion.

Ensuring equitable access: investment in digital literacy and assistive technology

The transformative potential of DPI is compromised if the persistent digital divide widens socio-economic gaps. To ensure equitable access, DPI initiatives must focus investment on underserved rural areas, enhancing both infrastructure and reliable connectivity.

Disability is a major area of digital exclusion, with only 16% of Africans with disabilities online due to limited access to smartphones and accessible digital products. DPI implementation must therefore mandate systemic change, including investment in the research and development of assistive technologies and user interfaces designed

to empower people with disabilities and ensure equitable healthcare access and employment opportunities. National implementation strategies should incorporate the lessons from Brazil's inclusive participation model, mandating hybrid service delivery that blends online tools with offline alternatives, such as community-led consultations or SMS input, especially in regions with limited connectivity. Training programmes should be rigorously implemented to enhance targeted digital literacy training for marginalised groups, including women and those in the informal sector.

Fostering sustainable infrastructure and local innovation

For DPI to be sustainable, physical infrastructure must be rationalised and cost-effective. Member states should institute policy and regulatory frameworks that mandate infrastructure and site sharing among telecommunication and ICT operators to avoid the multiplicity of initiatives and redundancies. A smart infrastructure strategy requires capitalising on existing sectoral infrastructures, such as electrical transport networks and water pipelines, for back-hauling telecommunications. For example, instead of digging up roads across the region to lay new fibre optic cables (a costly and slow process), a government can install these communication cables directly within the existing electrical grid's transmission routes or even inside water pipelines. This approach leverages the infrastructure that is already in place to rapidly and cost-effectively connect remote areas, dramatically reducing deployment time and environmental impact.

The development of DPI should leverage existing digital payment systems to spur wider digitalisation through network effects. The gradual expansion of these practical, digital-based transactions acts as a catalyst for necessary institutional reforms and regulatory framework development. This approach ensures that reforms are driven by genuine market demand and private sector vibrancy, rather than being implemented by the public sector 'in a vacuum' without immediate market utility. Finally, the design of new digital finance mechanisms must explicitly prioritise environmentally sustainable components to support green innovation in SADC economies, which are particularly vulnerable to climate change.

TABLE 4 SADC REGIONAL DPI ARCHITECTURE: INNOVATION AND INCLUSION PILLARS

DPI component	Systemic innovation (SADC model)	Inclusion/security outcome	Core stakeholders
Digital identity	Federated e-KYC ecosystem (Africa's first regional DPI)	• Inclusion: unlocks financial inclusion for cross-border nationals • Security: enables real-time, cross-border ID verification while preserving national data sovereignty	• CCBG • FinMark Trust • national central banks, • ministries of home affairs
Data exchange	Interoperable data exchange protocols	• Inclusion: facilitates broader access to financial and compliance services • Security: secure sharing of identity and compliance information; balances Anti-Money Laundering/Combating the Financing of Terrorism requirements	• Financial regulators • digital service providers • AU Development Agency–New Partnership for Africa's Development
Governance	Adaptation of techno-legal frameworks (DPI Sutras)	• Inclusion: supports equitable participation in digital ecosystems • Security: embeds privacy and security by design; safeguards against monopolisation and political weaponisation	• ICT ministries • legal experts • civil society • technical community
Payments	Enhancement of RTGS/TCIB infrastructure	• Inclusion: provides seamless cross-border financial services for citizens and businesses • Security: ensures secure and resilient payment networks	• Commercial banks • mobile money operators • youth tech developers

Source: Compiled by authors

Policy recommendations

- The SADC CCBG should accelerate the federated e-KYC across 16 states, enabling real-time, cross-border verification for 3.7 million citizens while retaining national data sovereignty.
- SADC member states should urgently embed robust, techno-legal governance into DPI protocols to safeguard user rights and privacy, expanding oversight beyond the financial sector to include justice, ICT and civil society.
- SADC member states should mandate systemic investment in underserved rural infrastructure, digital literacy training and the research and design of assistive technologies to empower people with disabilities and close the digital divide.
- SADC member states should require infrastructure and site sharing among operators to rationalise deployment, prioritise environmentally sustainable components and leverage existing payment systems to drive market-led green innovation.

Leading Africa's digital decade

The SADC region is uniquely positioned, through the confluence of regional systems (RTGS/TCIB) and innovative partnerships (federated e-KYC), to lead Africa's digital transformation. This success is fundamentally dependent upon political leadership in immediately closing the critical regulatory gaps, primarily the Malabo Convention deficit. By anchoring the DPI architecture in trusted, techno-legal safeguards and leveraging coordinated diplomacy through the ADC, SADC can ensure DPI drives equitable growth, deepens regional cohesion and establishes assertive digital sovereignty. DPI is not merely a technical upgrade; it is the essential infrastructure for inclusive and resilient SADC futures.

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