

Beyond innovation: The enabling conditions for civic technology development and scaling in Africa

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Abstract

Over the past decade, civic technology has become an increasingly visible feature of Africa's governance landscape. Despite significant growth in digital access, development in this sector has remained uneven. Some countries have developed vibrant ecosystems supporting active organisations and sustained innovation, while others continue to experience limited activity despite facing comparable governance challenges. This paper argues that understanding these differences requires looking beyond the tools themselves and examining the enabling conditions within which civic technology emerges and operates. The paper proposes an enabling conditions framework comprising three interrelated dimensions: digital infrastructure, civic space, and ecosystem support. Drawing on data from the ITU, GSMA, CIVICUS Monitor, Mo Ibrahim Foundation, and ecosystem-level research, it examines how these conditions shape civic technology development and scaling across African contexts. The analysis finds that while improvements in mobile connectivity have created important opportunities for digital participation, significant gaps persist between infrastructure availability and meaningful engagement. Affordability constraints, low digital literacy, and the coverage-usage divide continue to limit the reach of civic platforms across much of the continent. Civic space is also a critical determinant of whether digital participation can translate into accountability outcomes, with restrictions on civic freedoms constraining the effectiveness of even well-designed tools. Ecosystem support structures, including funding mechanisms, innovation hubs, and collaborative networks, are shown to be essential for long-term organisational sustainability. However, many civic technology initiatives continue to operate under short-term, project-based financing that limits their capacity to scale. The paper concludes that civic technology outcomes are products of interactions among multiple enabling conditions rather than of technological innovation alone. It offers implications for funders, policymakers, and ecosystem builders seeking to strengthen civic technology as a sustainable mechanism for participation, accountability, and governance across Africa.

Keywords: Civic technology, digital governance, enabling conditions, Africa, civic space

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1. Introduction

1.1 Digital Expansion and the Growth of Civic Technology in Africa

Over the past two decades, digital technologies have significantly expanded across Africa and become embedded in governance and civic life. Internet penetration on the continent roughly doubled over the past decade, rising from approximately 19% of the population in 2014 to 38% in 2024 (ITU, 2024). The development of these digital platforms has created new opportunities for citizens to access information, organise collectively, monitor public institutions, and participate in governance processes.

Civic technology is the development of digital initiatives aimed at improving the relationship between citizens and public institutions (Patel et al., 2013). While definitions have continued to evolve, most converge around the use of technology to strengthen participation, transparency, accountability, service delivery, and collective problem-solving. What distinguishes civic technology is not the tools employed but the problems it seeks to address. Unlike government technology, which is primarily designed to improve administrative efficiency or public service delivery, civic technology is oriented towards strengthening the relationship between citizens and institutions and improving accountability and responsiveness (UNDP, 2024).

As digital technologies have become more accessible, this innovation has become an increasingly visible feature of Africa's governance landscape. Governments, development partners, and civil society organisations have viewed and applied digital innovation as a means of improving governance outcomes and strengthening state–society relations — from election monitoring platforms and budget transparency initiatives to citizen feedback systems and open data products (Peixoto & Sifry, 2017; Rotich, 2017). Kenya's Ushahidi, built in 2008 to map post-election violence and later deployed for election observation across the continent, is a well-known example of this trajectory (Rotich, 2017).

The growth of civic technology across the continent has, however, been uneven. While some countries have developed vibrant ecosystems characterised by active civic organisations, innovation hubs, supportive networks, and sustained investment, others have experienced more limited growth. Analysis by TechCabal Insights found that civic technology activity is concentrated in West and East Africa, while North and Central Africa each account for less than 5% of mapped organisations (TechCabal Insights, 2026). These realities include uneven internet access, high data costs, varying levels of digital literacy, and differing political environments. As a result, many initiatives have frequently prioritised accessibility and adaptability over technological complexity. Hence, SMS-based reporting systems, WhatsApp-enabled engagement platforms, community information networks, and low-bandwidth digital services often play a more significant role than highly specialised digital applications (ECDPM, 2022).

1.2 The Gap Between Digital Expansion and Governance Outcomes

Despite growing innovation, a persistent gap remains between digital expansion and governance outcomes. In many parts of Africa, progress in areas such as accountability, participation, and institutional responsiveness has been inconsistent. While civic technology initiatives have evolved into accountability mechanisms, many organisations still struggle to achieve scale, sustain operations, or translate citizen participation into institutional change (Zisengwe, 2024; Iyer, 2019).

The 2024 Ibrahim Index of African Governance shows that infrastructure and digital access recorded the most significant improvements of any sub-category over the decade — with the Mobile Communications indicator rising by 19.8 points and Internet & Computers by 16.2 points. Security- and democracy-related sub-categories, however, deteriorated over the same period, and over 77% of Africa's citizens now live in a country where participation outcomes in 2023 are worse than in 2014 (Mo Ibrahim Foundation, 2024).

Table 1. Africa's most improved governance indicators, IIAG (2014 vs 2023)

Indicator	2023 Score	10-year Change
Mobile Communications	65.5	+19.8
Laws on Violence against Women	79.3	+16.7
Internet & Computers	36.4	+16.2
Public Perception of Female Leadership	66.7	+14.5
Air Quality	65.4	+11.9
Capacity of the Statistical System	48.8	+7.9
Child & Maternal Health	61.8	+7.9
Protection against Discrimination	19.6	+7.7
Access to Energy	43.5	+7.2
Rural Economy Support	62.0	+7.1

Source: Mo Ibrahim Foundation (2024)

Research on accountability and participation consistently demonstrates that information alone rarely produces meaningful change. A meta-analysis of 23 ICT-enabled citizen platforms in the Global South found that more than half produced low institutional responsiveness, and that the platforms most likely to generate change were those that combined public disclosure of feedback with offline civic engagement and active government participation (Peixoto & Fox, 2016).

This raises an important question. If digital technologies have become more accessible and civic technology initiatives have proliferated across the continent, why do some initiatives mature into enduring governance infrastructure? In contrast, others struggle to achieve scale, secure long-term support, or influence institutional outcomes. Understanding these differences requires looking beyond technology itself and examining the broader conditions within which civic technology emerges and operates.

1.3 Civic Technology as a Governance Layer

Civic technology should not be viewed as a stand-alone innovation sector. Rather, it functions as a governance layer that facilitates and mediates interactions between citizens, civil society actors, and public institutions. Accountability outcomes emerge through interactions among these actors rather than through technology itself (Zisengwe, 2024; Peixoto & Fox, 2016). Understanding civic technology in this way shifts attention away from the tools themselves and towards the conditions that enable civic actors to operate effectively, helping to explain why similar technologies produce very different outcomes across different environments.

The presence of digital tools does not automatically generate stronger participation, greater accountability, or more responsive governance. Rather, civic technology initiatives operate within broader technological, political, and institutional environments that shape both the opportunities available to civic actors and the constraints they encounter. Where enabling conditions are absent, even well-designed tools tend to remain limited in reach and impact (Roberts, 2021; Onyango & Karuri-Sebina, 2024).

This paper examines the conditions that enable and constrain civic technology development and scaling across African contexts. The paper argues that the dominant focus on tools and platforms, while valuable, can obscure the deeper structural questions about what it takes for civic technology to persist, grow, and matter.

2. Conceptual Framework

This paper proposes an enabling conditions framework for examining civic technology development and scaling in Africa. The framework is centred on three dimensions: digital infrastructure, civic space, and ecosystem support. It is grounded in a conceptual and analytical review of secondary literature and empirical data.

2.1 Research Design

This paper is a conceptual and comparative analytical review. It synthesises existing empirical evidence, ecosystem assessments, institutional datasets, and academic literature to develop and apply an enabling-conditions framework to understand civic technology development and scaling in Africa. The aim is to identify structural patterns across diverse African contexts and distil implications for policy and practice. No primary data was collected through fieldwork, interviews, or surveys. The enabling conditions framework emerged inductively from the synthesis process and is applied to organise the analysis across Sections 3 to 5.

2.2 Data Sources and Selection Criteria

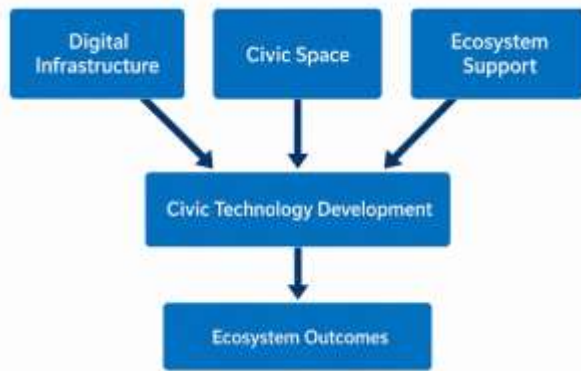
The sources used in this study were selected based on four criteria: continental coverage (the capacity to generate Africa-wide or multi-country comparative data), relevance to at least one of the three framework dimensions, institutional authority and methodological credibility, and temporal currency, with preference given to data from 2019 onwards while retaining older foundational sources where they remain the standard reference.

Data on digital infrastructure was drawn from the ITU and GSMA. Civic space conditions were primarily assessed through the CIVICUS Monitor and supplemented by governance data from the Mo Ibrahim Foundation's Ibrahim Index of African Governance (IIAG). Evidence on ecosystem support was drawn from reports by the Civic Tech Innovation Network, Briter Bridges, and TechCabal Insights, among others. Academic literature on civic technology and digital accountability was sourced through systematic searches of Google Scholar, JSTOR, and relevant development databases.

2.3 Analytical Approach

The analysis began with thematic synthesis to identify recurring patterns within each framework dimension, drawing on multiple sources per theme. This was followed by comparative analysis across countries and regions to understand variation in enabling conditions and how those differences correlate with differences in civic technology development. Cross-source triangulation was employed to assess the robustness of key claims, drawing on quantitative indicators from institutional datasets, qualitative assessments from ecosystem reports, and findings from academic literature. The analytical approach acknowledges that the three conditions are interdependent and that their effects on civic technology outcomes are mediated by context.

Figure 1: Enabling Conditions Framework for Civic Technology Development

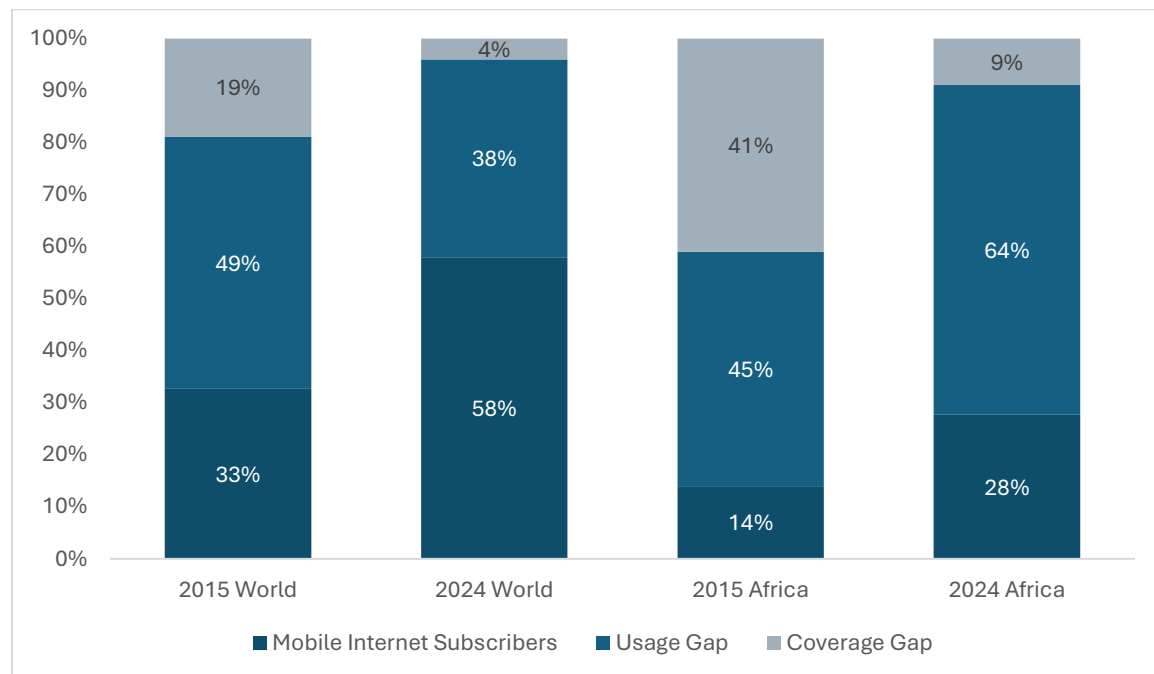


3. Digital Infrastructure

Digital infrastructure provides the foundational conditions for innovation and citizen participation. It includes better connectivity, affordability, access to devices, and data systems that influence who can engage with civic technologies and the forms those technologies can take. Development in this area has lowered barriers to participation and enabled the emergence of digital platforms focused on transparency, accountability, citizen feedback, and public engagement.

However, improvements in connectivity have not translated into universal digital participation. One of the most significant challenges is the gap between network coverage and actual internet usage. According to GSMA (2024), while mobile broadband networks cover most of the population in Sub-Saharan Africa, a substantial proportion of citizens remain offline despite living within areas already served by mobile internet infrastructure. This "usage gap" is considerably larger than the remaining "coverage gap", indicating that physical access is no longer the primary barrier to participation.

Figure 2: Mobile Internet Coverage Gap vs Usage Gap in Africa



Source: GSMA Intelligence

Several factors contribute to this difference. Affordability remains a significant constraint, particularly for low-income populations. The cost of devices and mobile data continues to limit meaningful participation in digital spaces, especially among rural communities (A4AI, 2024). Digital literacy also

remains uneven, with internet penetration in rural Africa at 23% compared to 57% in urban areas (ITU, 2024), limiting citizens' ability to engage effectively with online platforms and services.

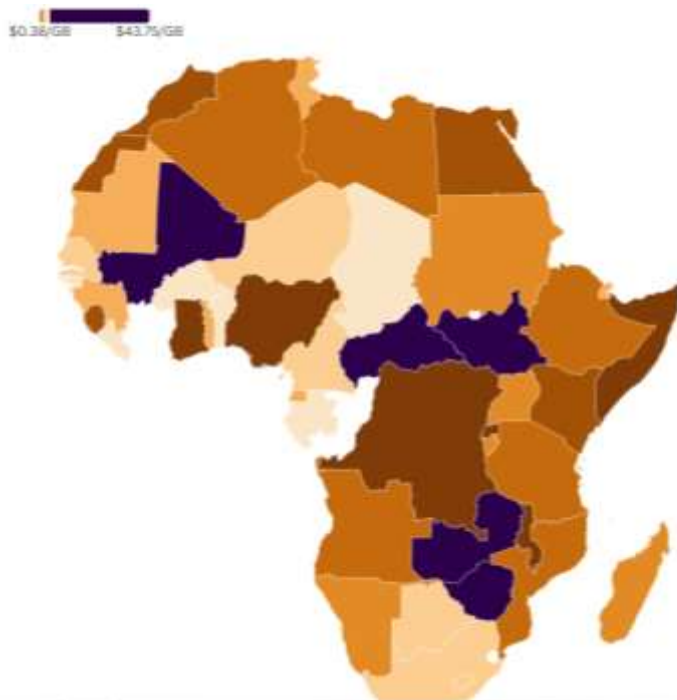


Figure 3: Average price (USD) of 1GB of mobile data across African countries

Source: BestBroadbandDeals.co.uk

Even when African countries rank among the cheapest globally in absolute terms, affordability remains relative to income levels. As a result, even low nominal prices can limit consistent access for large segments of the population.

Many civic technology initiatives have adapted their approaches by prioritising low-bandwidth and mobile-first solutions, including SMS-based reporting systems, WhatsApp-enabled engagement tools, and USSD services.

These challenges are not evenly distributed across the continent. Countries with stronger connectivity, higher levels of digital literacy, and more mature digital ecosystems have better opportunities to experience greater concentrations of civic technology activity. This pattern is reflected in the emergence of civic technology hubs in countries such as Kenya, Nigeria, South Africa, and Uganda, where digital infrastructure has expanded alongside broader innovation ecosystems (Civic Tech Innovation Network, 2023; Zisengwe, 2024; Iyer, 2024).

A recurring limitation in discussions of digital infrastructure is the conflation of coverage with connectivity quality, which varies widely within and across African countries. This matters directly for civic technology: a platform providing real-time reporting, for instance, requires connection quality that intermittent, low-bandwidth, or high-latency services cannot reliably provide.

Throughout 2025, Sub-Saharan Africa's top performers — South Africa, Kenya, and Nigeria — recorded median mobile speeds of 65.7 Mbps, 45.37 Mbps, and 44.14 Mbps, respectively, with only these three countries ranking within the global top 100 for mobile internet speed (Yaici, 2026). North Africa fared better. Morocco recorded the largest ranking improvement in the Middle East and Africa region, jumping 22 places to 39th globally, while Algeria rose 11 places to 78th and Tunisia climbed to 72nd. The limited global positioning of Sub-Saharan African countries underscores the significant connectivity gaps that remain across the region.

3G and 4G remain the dominant connection technologies across much of Africa (GSMA, 2026). While 3G usage has declined sharply on other continents, it remains prevalent across West, Central, and East Africa. According to GSMA (2025), 5G adoption across Africa stood at only 2%, while 4G accounted for 45% of connections as of 2024.

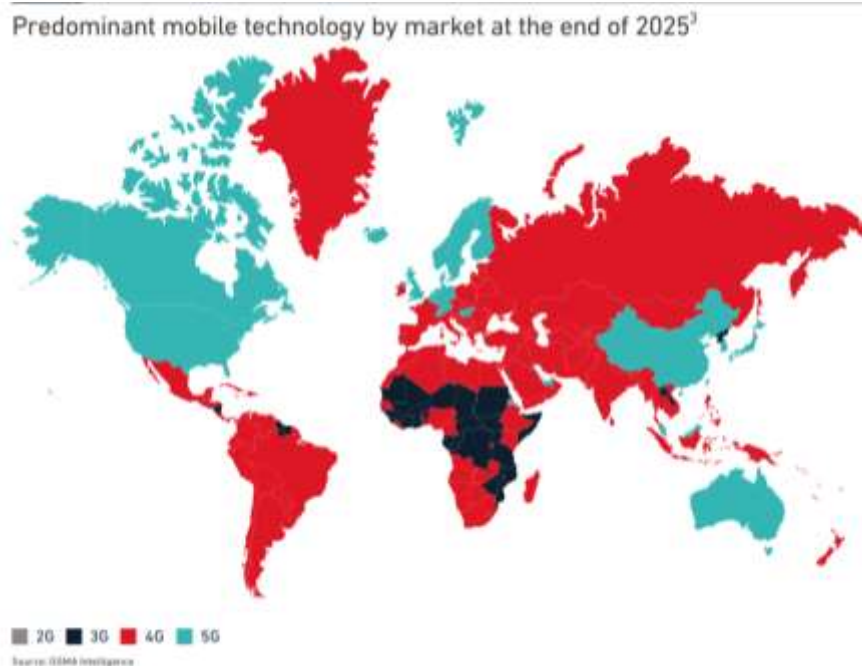


Figure 4: Predominant mobile technology by continent, 2025 (GSMA, 2026)

Constraints in the electricity infrastructure further compound network quality. Approximately 600 million people in Sub-Saharan Africa still lack access to electricity, the vast majority in rural areas, limiting both device charging and the local infrastructure that supports connectivity (IEA, 2024).

A further dimension of digital infrastructure relevant to civic technology is the presence or absence of digital identity systems. Several African governments have invested in national digital identity infrastructure, driven by goals of improving service delivery, reducing fraud, and enabling digital authentication at scale (Musoni et al., 2023). Kenya's National Integrated Identity Management System (NIIMS), introduced in 2019, was created to consolidate multiple identity documents into a single biometric record (Privacy International, 2020). Nigeria's National Identity Number (NIN) has been integrated into mobile telecommunications, financial services, and public administration (NCC, 2021). Similar systems exist across Ghana, Uganda, and Rwanda (Oduro-Marfo & Falconer, 2021; Binda, 2021).

When digital identity systems function appropriately, they can enhance civic technology outcomes. Verified identities enable citizens to engage with e-government services, access benefits, and participate in accountability mechanisms that require identification.

However, poorly implemented or coercively governed digital identity systems can pose a significant threat to civic technology (Musoni et al., 2023). Kenya's NIIMS programme was challenged in the High court on grounds that it lacked data protection safeguards and risked excluding marginalised communities (Open Society Justice Initiative, 2020). Nigeria's mandatory NIN-SIM linkage policy faced significant implementation challenges; industry stakeholders acknowledged that those hardest hit were people in unserved or underserved areas without proximity to NIMC registration centres (Guardian Nigeria, 2021). Additionally, digital identity systems connected to surveillance infrastructure risk limiting civic participation: where citizen interactions are traceable to a verified identity, the potential for self-censorship increases, particularly in politically restricted environments (Musoni et al., 2023).

The governance of digital identity infrastructure is therefore not a minor technical concern but a foundational question about who can participate, under what conditions, and at what personal risk.

4. Civic Space: The Political Environment for Civic Technology

Civic technology relies on freedoms of expression, association, assembly, and access to information. These freedoms enable citizens and organisations to participate in public life, mobilise around collective interests, and hold institutions accountable. Where civic space is restricted, the ability of civic technology initiatives to achieve impact becomes significantly constrained regardless of their technical sophistication.

Across Africa, civic space remains under increasing pressure. The Civicus Monitor classifies countries as open, narrowed, obstructed, repressed, or closed. These classifications reflect varying degrees of restrictions on civic freedoms, including limitations on freedom of expression, restrictions on civil society organisations, barriers to public participation, surveillance, and internet disruptions. Collectively, these conditions shape the environment within which civic actors and digital participation platforms operate.

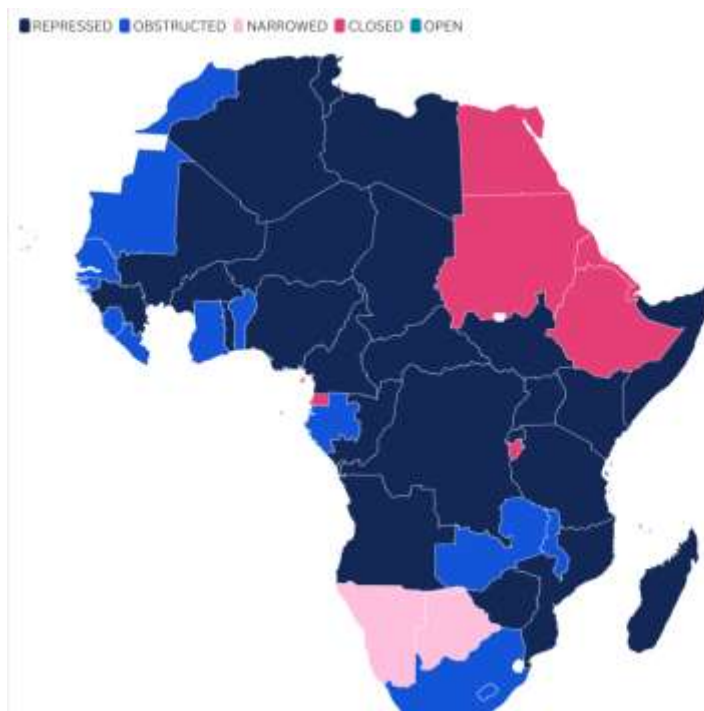


Figure 5: Civic Space Classifications Across Africa

Source: CIVICUS Monitor

The distribution of civic space across the continent reveals a major variation. While countries such as South Africa maintain relatively open civic environments, large parts of Sub-Saharan Africa operate under conditions classified as obstructed or repressed. In some cases, citizens face legal or political restrictions that limit their ability to organise, advocate, or challenge public institutions. These restrictions reduce the effectiveness of digital participation tools by constraining the civic action necessary to translate information into accountability.

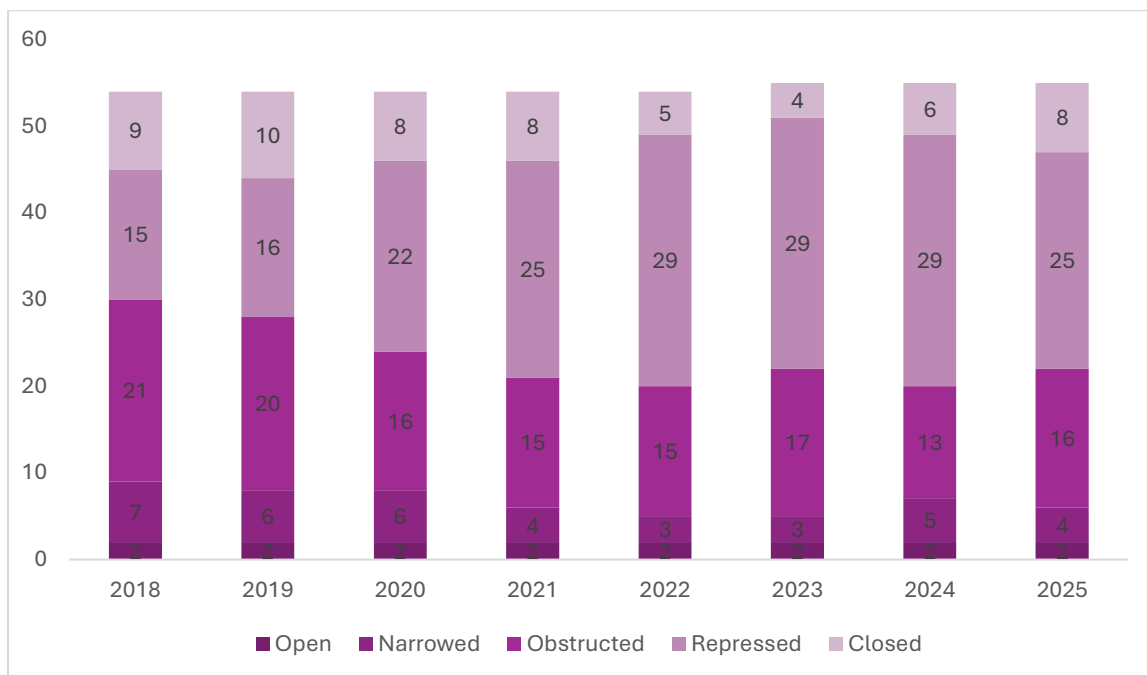


Figure 6: Distribution of Population by Civic Space Classification in Africa

Source: Civicus Monitor

The relationship between civic space and civic technology is particularly important because technology alone does not generate accountability outcomes. Gaventa and McGee (2013) argue that transparency initiatives are most effective when citizens possess the capacity to act on information and when institutions are responsive to citizen demands. Similarly, Fox (2015) distinguishes between tactical approaches that rely on information disclosure alone and strategic approaches that combine information, collective action, and institutional responsiveness.

Beyond formal restrictions, digital civic participation is increasingly affected by online controls. Internet shutdowns, platform restrictions, surveillance measures, and laws regulating online expression have become recurring features in several African countries. Such measures directly affect citizens' ability to access information, communicate, organise collectively, and utilise digital platforms designed to support participation and accountability (Roberts, 2021; CIVICUS, 2024).

The pattern of internet shutdowns in Africa reveals a link between digital infrastructure and political suppression. According to Access Now and the #KeepItOn coalition, 2024 saw a record-breaking global total of 296 shutdowns across 54 countries, with African states among the most frequent offenders (Access Now, 2025). Shutdowns are notably concentrated around periods of protest and political contestation. Documented African cases include Ethiopia, where connectivity restrictions in the Tigray and Amhara regions have persisted since 2020 and 2023, respectively, and Uganda, where a Facebook block imposed during the 2021 elections remained active through 2024 and into 2025. (Access Now, 2025). The pattern shows that digital repression is deployed as a deliberate strategy for disrupting civic infrastructure precisely during heightened political contestation, when civic intervention is most needed (Roberts, 2021).

This creates vulnerability for civic organisations. Platforms designed for crisis mapping, electoral observation, or public accountability are most likely to be disrupted when they are most needed. Under these restrictive conditions, several civic technology responses have emerged. Encrypted communication tools and decentralised data architectures are employed to reduce centralised platforms' vulnerability to targeted takedowns (Access Now, 2025). Some organisations operating in repressive environments have also explored diaspora-hosted infrastructure to ensure continuity under legal pressure or during shutdowns (Roberts, 2021).

Despite these workarounds, operating within repressive civic technology environments remains significantly more difficult and riskier. Countries with more open civic environments consequently tend to host stronger civic ecosystems, more active civil society networks, and a greater concentration of participation-focused digital initiatives. In contrast, restrictive environments limit the development, sustainability, and influence of civic technology actors (Roberts, 2021).

5. Ecosystem Support and Sustainability

Digital infrastructure and civic space create the conditions for civic technology participation, but the sustainability of civic technology initiatives depends heavily on the strength of ecosystem support structures. These support systems include funders, innovation hubs, accelerators, research institutions, technical communities, media organisations, and intermediary networks that provide the resources and capacity organisations need to operate and grow.

Over the past decade, Africa's civic technology ecosystem has benefited from the emergence of innovation hubs and support organisations across the continent. Institutions such as CcHub, Civic Hive, iHub, and the Civic Tech Innovation Network have contributed to talent development, organisational support, collaboration, and knowledge exchange (AfriLabs, 2024; AfriLabs & Briter Bridges, 2019; Zisengwe, 2024; Iyer, 2024). These actors play an important role in helping organisations navigate operational challenges, build technical capacity, and connect with potential partners and funders.

Despite these developments, sustainability remains One of the most persistent challenges facing civic technology organisations (Iyer, 2024). Research and ecosystem assessments consistently identify funding constraints as a major barrier to growth and long-term impact, with funding concentrated among a relatively small number of well-established actors. In contrast, smaller organisations often struggle to secure resources to sustain operations or scale successful interventions (AfriLabs & Briter Bridges, 2019). This challenge is particularly acute for organisations operating in less mature ecosystems, where access to funders, support networks, and partnership opportunities may be limited (AfriLabs & Briter Bridges, 2019). Many organisations rely heavily on grants, donor funding, and project-based financing, with limited access to flexible institutional funding that supports core operations, staff retention, product maintenance, and long-term strategic development (Iyer, 2024; AfriLabs & Briter Bridges, 2019). This creates a recurring pattern: new tools and platforms are launched, often with donor support, but many struggle to secure the resources required for maintenance, iteration, and scale, and, in some cases, become inactive once project funding ends, regardless of their demonstrated public value.

The structure of funding itself compounds this challenge. Many civic technology initiatives address public-interest objectives — accountability, transparency, civic participation, access to Justice, and digital rights — that are difficult to monetise through conventional commercial models without compromising their mission (Iyer, 2024). The scale of donor dependence was further exposed by the 2025 US federal funding freeze, through which the Trump administration terminated approximately 86% of USAID awards globally, representing around \$80.5 billion in cancelled funding (DevelopmentAid, 2026).

Unlike adjacent technology sectors such as fintech, healthtech, or agritech, there is no consolidated tracking of civic technology funding equivalent to the investment databases that monitor other sectors, meaning the full scale of this challenge cannot be precisely quantified. Civic technology is typically donor-funded rather than equity-based, making the sector structurally vulnerable (Karuri-Sebina, 2022; Chatwin & Mayne, 2020). According to Partech Africa's Annual Africa Tech Venture Capital Report, African tech startups raised \$4.1 billion in total funding in 2025, with 86% of funding concentrated in the top five sectors — fintech, cleantech, e-commerce, enterprise, and healthtech (Partech Africa, 2026). Civic technology received no meaningful category within this framework.

In response to these limitations, a range of alternative sustainability models have been explored. The Civic Tech Innovation Network has published a dedicated civic tech funding playbook to help organisations navigate the challenge of building more sustainable financing models, including social enterprise models where organisations generate income through consultancy, training, or technical

services (CTIN, 2023; Karuri-Sebina, 2022). Hybrid funding models that combine earned income with long-term institutional grants from philanthropic actors represent the most common approach among more stable civic technology organisations (Bracy & Berkowitz, 2017).

6. Conclusion and Implications

The analysis found that each of the three enabling conditions plays a distinct but interdependent role in shaping civic technology outcomes. Digital infrastructure creates the technical foundation for participation, but gaps in affordability, digital literacy, and connection quality mean that coverage does not reliably translate into meaningful engagement. Civic space determines whether that participation can produce accountability outcomes. In cases where freedoms of expression, association, and assembly are curtailed, even well-designed tools are constrained in their reach and impact. Ecosystem support structures, including funding mechanisms, innovation hubs, and collaborative networks, shape whether organisations can sustain operations long enough to achieve scale.

6.1 Trade-offs Between Enabling Conditions

Empirical evidence reveals meaningful trade-offs among the three dimensions. Organisations operating in restrictive environments but with access to strong ecosystem support are better equipped to adapt their operations under political pressure, developing workarounds such as encrypted communications, decentralised architectures, and diaspora-hosted infrastructure (Roberts, 2021). However, ecosystem support cannot fully substitute for curtailed civic freedoms. The presence of peer networks and funding does not restore the conditions necessary for civic technology to function as a mechanism of public accountability where the state actively suppresses dissent.

Similarly, strong digital infrastructure can generate the technical conditions for meaningful participation, but in the absence of civic space, it cannot translate into effective accountability outcomes. Countries with relatively high digital capacity but restricted civic freedoms have not shown proportionate improvements in participatory governance. North Africa illustrates this clearly. Morocco, Algeria and Egypt rank among Africa's top performers for mobile internet speed. However, in a civic technology ecosystem mapping by TechCabal Insights, North and Central Africa each account for fewer than 5% of the continent's 219 mapped civic technology organisations, a share well below West and East Africa despite comparable or superior connectivity (TechCabal Insights, 2026). Without the political conditions for institutional responsiveness, digital tools cannot function as accountability mechanisms.

This points to a hierarchy among the three enabling conditions. Of the three, civic space may be foundational in a way that the others are not. It is possible to build civic technology without perfect infrastructure or robust ecosystem support. However, it is very difficult to achieve meaningful governance outcomes through civic technology when civic freedoms are systematically curtailed. Infrastructure and ecosystem support amplify what civic technology can achieve, but civic space determines whether it can achieve anything at all.

6.2 Policy Recommendations

The evidence presented in this paper carries several implications for governments, international funders, and ecosystem builders operating in the African civic technology context.

For governments, the foundational priority must be the protection and expansion of civic space. The government should invest in digital connectivity and broadband infrastructure, including reducing the rural-urban digital divide, developing open data systems, and strengthening digital identity. However, these investments are undermined where they are not accompanied by legal and regulatory frameworks that protect freedom of expression, association, and assembly. The arbitrary use of internet shutdowns, the weaponisation of cybercrime and anti-terrorism legislation against civil society, and the harassment of civic actors represent direct attacks on the infrastructure on which civic technology depends. Governments committed to accountability outcomes should treat the protection of civic freedoms not as peripheral to digital development strategy, but as central to it.

For international funders, the evidence points to the need to rethink financing models. Short-term, project-based grants are poorly suited to the kind of ecosystem growth that civic technology requires. Organisations cannot invest in staff, systems, and operational capacity when funding is tied to narrow deliverables and short cycles. Funders should consider shifting toward multi-year institutional grants that enable organisations to build core competencies, such as technology development, monitoring and evaluation, communications, and financial management, that determine long-term viability (Bracy & Berkowitz, 2017).

For ecosystem builders, the priority should be on building effective, sustainable, and connected organisations. This includes investing in peer learning networks and communities of practice that allow organisations to share knowledge, tools, and strategies across contexts. Partnerships with journalism schools, policy institutes, and universities can strengthen the sector's knowledge base and create pathways for evidence generation that is currently underdeveloped. On sustainability, organisations should explore hybrid funding models that combine donor funding with earned income streams — through consultancy, training, or technical services — to reduce, though not eliminate, donor dependence (Bracy & Berkowitz, 2017; CTIN, 2023). Penplusbytes, for example, has evolved from a media training organisation to a provider of technology, training and consultancy services, illustrating how civic technology organisations may seek complementary revenue streams while pursuing public-interest objectives (Amoah, 2018)

6.3 Emerging Trends and Future Directions

Several emerging trends are likely to reshape the enabling conditions for civic technology in Africa over the coming years and deserve attention from researchers and practitioners. The rapid expansion of generative artificial intelligence tools presents both opportunities and risks. AI-enabled tools can reduce the cost of certain civic technology functions such as automated analysis of procurement data, translation of government documents into accessible language, and rapid synthesis of citizen feedback. However, AI-generated disinformation, deepfake content, and algorithmic content curation can undermine the information environments on which civic technology depends, and AI-enabled surveillance systems present new threats to activist and organisational security (Access Now, 2025; Roberts, 2021). Platform governance represents a second significant frontier. The decisions made by major social media platforms regarding content moderation, algorithmic distribution, and data access directly shape the civic technology landscape, particularly for organisations that rely on social media for outreach, campaign coordination, or monitoring. These applications extend civic technology into new domains while raising questions about enabling conditions, whether digital infrastructure, civic space, and ecosystem support are adequate to support these more complex and technically demanding use cases.

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