

Catalyzing Local Innovation Ecosystems Towards the SDGs in Africa: The Role of Digital Innovation Hubs

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Keywords: local innovation, SDGs, Africa, digital innovation hubs, sustainable funding

Abstract

Digital innovation is a critical driver of socio-economic development in Sub-Saharan Africa (SSA). This article examines the pivotal role of Digital Innovation Hubs (DIHs) in fostering innovation ecosystems that directly support the Sustainable Development Goals (SDGs). Based on research conducted across Ghana, Nigeria, Uganda, and Tanzania, the study identifies six key roles of DIHs: building communities, upskilling talent, providing infrastructure, connecting startups to investment, incubating businesses, and advocating for enabling policies. The findings highlight how DIHs significantly contribute to SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 5 (Gender Equality), and SDG 17 (Partnerships for the Goals). Despite their impact, DIHs face challenges such as limited funding, capacity gaps, and difficulties in collaborating with governments. This article calls for sustainable funding, targeted capacity building, and stronger partnerships to enhance DIHs' role in advancing the SDGs and strengthening local innovation ecosystems.

Introduction

In recent years, digital innovation has become an increasingly important driver of Sub-Saharan Africa's (SSA) social and economic development. The region has the largest mobile growth rate in the world, with over 43% of the populationⁱ having access to a mobile phone. In 2022 alone, it is estimated that the mobile economy supported 3.6 million jobs and contributed \$170 billion to SSA's GDP.ⁱⁱ Furthermore, the African digital sector is attracting growing amounts of diverse funding, estimated at \$6.5 billion in 2022.ⁱⁱⁱ

Digital technologies are also enabling solutions to the region's pressing social challenges. There is a growing pool of entrepreneurs who are developing locally-led solutions that contribute to achieving the SDGs. For example, based in Kenya, Pezesha is a digital platform addressing financing gaps for SMEs; Farmerline created a platform connecting farmers to agricultural markets across West Africa; and LifeBank, started in Nigeria and known as the "Uber for blood", delivers life-saving blood supplies to hospitals.

The emergence of these solutions is underpinned by thriving innovation ecosystems, which include actors such as investors, development funds, philanthropic partners, policymakers and government actors, corporate partners, ecosystem enablers, and Digital Innovation Hubs (DIHs). Still, African innovation ecosystems face structural challenges such as limited funding, skills gaps, and unfavorable policy environments. This is hindering the potential for digital innovations to sustainably create impact at scale. Existing research suggests that one way to promote SDG-focused digital innovation in Africa is to strengthen the innovation ecosystem by resourcing and building the capacity of DIHs.

Our study aimed to understand more clearly the role of DIHs in the development of African digital ecosystems, their direct contribution to the SDGs, and how the work of DIHs can be strengthened to drive sustainable development.

Research Questions and Methodology

As part of [AfriConEU](#), a three-year project implemented between 2021 and 2024 to establish the first transcontinental networking academy for African and European DIHs, we carried out a 6-month research across Ghana, Nigeria, Uganda, and Tanzania to understand the role and needs of African DIHs as well as how they can be better supported.

Our research encompassed desk-based research; 60 virtual, semi-structured, one-to-one qualitative interviews with hub leaders and managers, entrepreneurs, investors, ecosystem builders, and network organizations; four country-specific virtual roundtables attended by a cross-section of actors; and two surveys—an ecosystem survey completed by 266 respondents, and a DIH capacity needs survey completed by 32 hub leaders.

Our research sought to answer the following questions:

1. What role do DIHs play in the development of the digital ecosystems in Ghana, Nigeria, Tanzania, and Uganda?
2. If and how does the work of DIH contribute to the SDGs?
3. How can the role of DIHs be strengthened to promote digital innovation towards the SDGs?

Key Findings

African DIHs are key enablers for innovation towards the SDGs

We found that DIHs in Africa are directly contributing to the SDGs by enacting diverse roles in the development of their local innovation ecosystems.^{iv}

Specifically, our findings reveal six roles that African DIHs play in nurturing innovative solutions but also in catalyzing local digital ecosystems.

1. Creating a **community** and space where like-minded innovators and other ecosystem actors can connect.
2. Developing the **talent pool** and skills needed to drive innovation. DHI specifically is also playing an important role in addressing digital divides for women and youth.
3. Providing spaces and **infrastructure** (internet and electricity) for entrepreneurs to innovate.
4. Connecting startups to **investment**.
5. Accelerating and incubating startups, and **supporting entrepreneurs** in developing their business ideas into viable ventures.
6. Educating governments and bringing ecosystem actors together to develop enabling **policies for innovation** and technology.

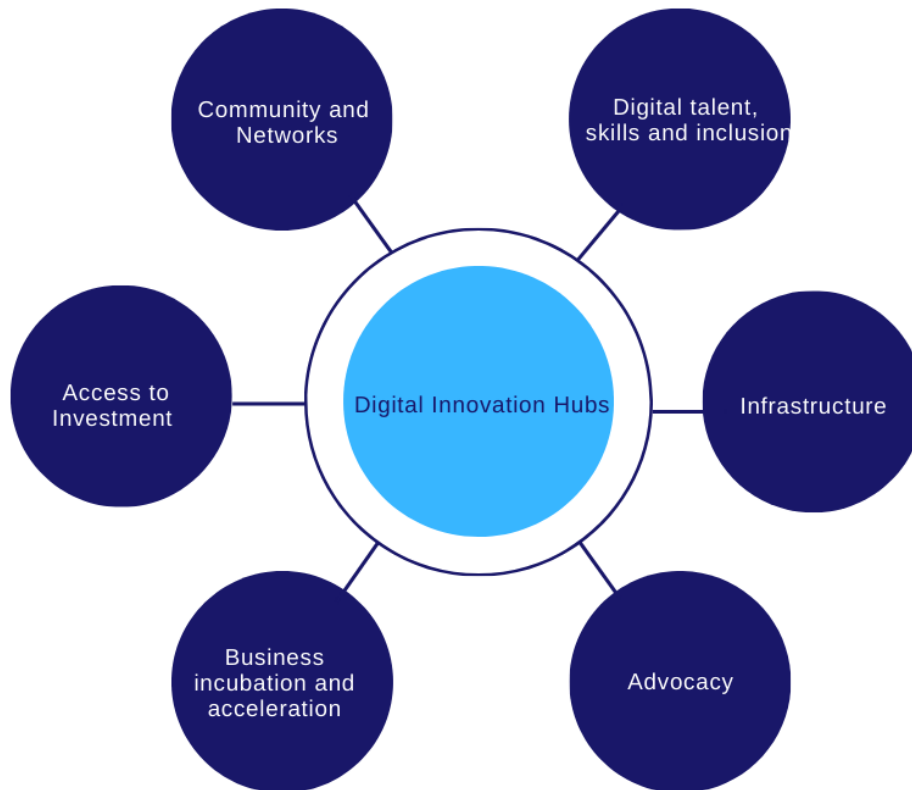


Figure 1: Roles of African DIHs in the innovation ecosystem

How African DIHs contribute to the SDGs

Our analysis highlighted four ways in which African DIHs, through these roles, directly contribute to the SDGs.

First, African DIHS are contributing to SDG 9, which seeks to “*build resilient infrastructure, promote sustainable industrialization and foster innovation.*”

DIHs role as community builders contributes to **target 9.3:** *Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.* While their ability to provide technological infrastructure relates to **target 9.8:** *Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.*

One hub leader in Tanzania noted:

“Innovation hubs are basically at the core of the innovation ecosystem. They are conveners, they work with governments, they work with development partners, they work with private companies, they serve entrepreneurs directly, and they work with policymakers. In Tanzania right now, hubs are at the center of the conversation and discussion around innovation in the country.”

Moreover, the work DIHs do around policy and regulation goes beyond the traditional DIHs’ work, and it directly contributes to **target 9.7:** *Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.*

As one investor in Tanzania commented:

“There is a need to educate policymakers on the importance of nurturing digital industries and getting them to understand that these industries, if optimized, will be able to help solve problems that are affecting millions of people in a short amount of time. I think innovation hubs are well-positioned to play this role because you can create an environment where public decision makers and those deploying innovation can sit down to discuss what needs to be done.”

Second, through their digital upskilling programs. African DIHs are contributing to **SDG 8:** “*Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*” and specifically to **target 8.3:** *Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.*

“In the close to five years that we have been in operation, we have probably gotten more people into technology jobs than anyone else across the region. We do what we call talent acceleration, which is basically getting people the skills they need to fit into the global workforce.”

- Hub leader in Nigeria

In addition to upskilling individuals to develop technology products and careers, hubs are also crucially helping to impart digital skills to small, non-digitized businesses in order to bring them into the digital economy.

“We also focus on small businesses that want to utilize digital technologies, either for improving their business models or becoming more resilient. For instance, last year, we trained close to 600 small business owners around aspects of how they can utilize the different tools to still stay operational during the lockdown.”

- Hub leader in Uganda

This work directly contributes to **target 8.3**: *Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.*

Hubs are also playing an important role in addressing digital divides for women and youth. Our conversations with hub leaders highlighted the efforts hubs are making to address digital divides for women and youth. 94% of the hubs we surveyed indicated that they currently run specific programs targeting women. Furthermore, during the pandemic, hubs have been developing solutions to help women and youth continue to access support online.

For example, during the pandemic lockdowns, Social Enterprise Ghana partnered with a telecom company to zero-rate their digital courses on their website, resulting in a significant uptick in the number of young people taking part in their online courses. In Uganda, Amara Hub made its training content more accessible by creating bite-sized, shareable content that requires minimal data or bandwidth, while iSpace Ghana provided laptops and catered to data access needs to enable female participants to continue with their digital programs.

*This work directly links to **target 8.5**: by 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value, and **target 8.6**: by 2020, substantially reduce the proportion of youth not in employment, education or training.*

Third, our findings highlighted how the work that DIHs are doing contributes to the SDGs at a secondary level by supporting local digital entrepreneurs in making progress towards the SDGs through their innovations. Many of the African DIHs we analyzed had social or environmental missions at the core of their work. This is evident, for example, in the work description of Emerging Communities Africa, a DIH based in Nigeria whose mission is “We support the creation and development of sustainable, globally competitive tech startups and SMEs to solve social challenges in sectors like agriculture, education, health, food, arts, transport or security in suburban and rural emerging communities in Africa.”

Moreover, we found that through dedicated programs, DIHs are contributing to digital

innovation in the areas of Gender (**SDG 5**), Climate Change (**SDG 13**), and Health (**SDG 3**). For example, HapaSpace Ghana works with startups to employ a green approach within their operations; Buni hub Tanzania leads the Divaz program, supporting women-led startups; and Outbox Uganda supports young people to establish businesses that address challenges in sexual reproductive health.

Lastly, by taking an active part in international programs, African DIHs contribute to **SDG 17**, which is focused on “revitalizing the global partnership for sustainable development.”

One hub leader described how their hub is helping to connect the innovation ecosystem in Ghana, noting,

“We realized that there were a lot of people trying to develop products and services in various parts of the country, but they were working alone. Additionally, many feared sharing their ideas with others and thus worked in silos. One of our efforts has been to bring these individuals together, especially those working in the same value chain or on similar products, and also connect them to the global ecosystem and other stakeholders.”

For example, African DIHs HapaSpace Ghana, Buni Hub Tanzania, Emerging Communities Africa, and Outbox Uganda were part of the consortium that implemented the AfriConEU project. The project worked to strengthen and reinforce the digital innovation ecosystems in Africa by targeting existing Digital Innovation Hubs (DIHs) and supporting them through capacity building and networking activities. This was done through the establishment of the “AfriConEU Networking Academy,” an innovative mechanism for connecting and sharing best practices, experiences, and resources between DIHs in Africa and between DIHs in Africa and the EU, in a comprehensive, replicable, and self-sustaining way.

Through programs such as the AfriConEU, African DIHs contribute to **target 17.6**: “*Knowledge sharing and cooperation for access to science, technology, and innovation. Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation, and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms.*”

Together, our findings bring to the fore how fundamental the work that African DIHs do is to ensuring that local digital innovation ecosystems are making progress towards meeting the SDGs. Moreover, given that technology innovation underpins so many of the SDGs, we argue that African DIHs significantly contributed to the SDGs beyond the four ways discussed above.

African DIHs face unique challenges as intermediaries for SDG-driven innovation

Our findings, however, also revealed key challenges that limit the impact of hubs as catalysts for innovation in addressing the SDGs.^v

Funding and Sustainability Challenges

Many of the African DIH leaders we spoke with said that one of the biggest [challenges](#) they face is accessing sufficient resources to support their work and build sustainable organizations. Our findings revealed that often, when funding is directed towards DIHs, it is done in ways that do not sustainably promote local ecosystem growth. For example, funding directed towards DIHs is primarily focused on program delivery and outputs, with not enough being dedicated towards core costs and human resource investments needed for hubs to strengthen their organizational structures.

One hub leader summarised the challenge as follows.

“For most projects, the organizations that fund hubs to support entrepreneurs, the way they structure these programs is that a large chunk of the money goes towards startup support costs. They don't allow hubs to actually pay themselves. I think perhaps they don't see hubs as service providers who need to be paid for the projects they are working on. This is affecting sustainability.”

One entrepreneur highlighted how the limited capacity of DIHs directly affects the support they are able to provide to startups.

“The support that hubs provide is limited by their capacities. For instance, hubs will run programs and get startups involved. But many of these programs depend on funding, and when the program ends and the support is pulled, hubs are not able to keep supporting startups with coaching, mentoring, or guidance. They may wish they could do more, but they also lack the resources.”

We further found that the resource challenges that African DIHs face are exacerbated by the fact that hubs lack sustainable business models, leaving them reliant on grants and donor funding. While many DIHs had incoming generating activities like office space rental, events, and training, these only made up a small percentage of their revenues, as their primary users (startups, entrepreneurs, digital skills learners) have limited capacity to pay for these services. This affects the resilience of hubs, leaving them vulnerable to shifting priorities of funders and funding cuts.

Capacity and Expertise Gaps

Our study revealed that African DIHs lack capacity and expertise in key areas, specifically business development, investment facilitation, fundraising, and supporting women and youth. This is linked to the fact that the majority of hubs are still quite young, and as one informant highlighted, often the hubs supporting startups are startups themselves. Indeed, our own data found this to be the case. 80% of the hubs we surveyed across Ghana, Nigeria, Uganda, and Tanzania had been in operation for less than 5 years, with 35% of them being less than 2 years

old. One Government representative we interviewed commented:

“Many hubs have challenges with human resource capacity. Many of them have the zeal, but they don't have the required knowledge and understanding of how to groom and incubate a company and move it from the idea stage to the market, and help the entrepreneurs to sustain it.”

Our survey of 32 hubs across Ghana, Nigeria, Uganda, and Tanzania indicated that 62% of them had no or limited capacity in providing investment matching and advisory services, while 50% of the hub leaders we surveyed said they have limited or no capacity in grant proposal writing and fundraising. Our findings further highlighted a need for more support to improve Hubs' gender responsiveness and capacity to design programs that address systemic barriers for women.

One hub leader in Tanzania notes:

“Our programming is focused on 70% women. However, there are still gaps in terms of support for women. A recent study found that half of digital innovation hubs face a tough challenge when it comes to onboarding women. As a digital hub or space, you cannot sit back and wait for women to come. In some contexts, women are allowed to tap into digital and use technology, while in others, they are not. So how do we still penetrate such regions?”

Challenges in Collaborating Effectively with Governments

Lastly, we found that hubs face challenges in influencing and working effectively with governments. For example, one government representative in Ghana noted that a lack of specialization by hubs makes it difficult for the government to outsource enterprise development projects through hubs.

“If they [hubs] get their systems right, then things will move faster with the government, and the ecosystem will be strengthened. They need to have infrastructural capacity, logistics, human resource capacity, and the knowledge for them to be able to really support businesses. They also need to be able to specialize. You ask some of them, “What is your area of specialization?” and they say, “We can do everything”. We don't want to work with a hub that is trying to do everything. From agriculture to IT to tourism, some hubs think that they can do it all. There needs to be some level of specialization.”

The need for data to back up the recommendations that hubs are making to governments was raised as another issue that is limiting the policy advocacy efforts of hubs, as a hub leader in Nigeria noted:

“As an ecosystem, we need to be able to help the government see the economic value of what we are doing. We need to start having conversations around “How does this digital skills and entrepreneurship opportunity convert into revenue and tax. How does it turn

into some form of income for the country?”. We need to go at it from an investment standpoint and say for example “if the government invests a certain amount, this is where we can get to in the next two to three years”. Until we start to drive that kind of conversation, I don't think that we're going to see the level of interest that we need from the government.”

Moreover, many hub leaders we spoke to recognized the need for collaborating with other hubs. It was noted, for example, that hubs could have a stronger influence on government policies and provide more holistic support to startups by working together. However, we found that, as previously discussed, because many hubs are largely dependent on grants, competition for funding opportunities is affecting joint efforts and collaboration.

One hub leader in Uganda noted,

“Right now, there's a lot of competition in terms of who's going to win this or that funding or project. I think it would be better to bring us together at one table ... There is a need as an ecosystem to not only drive these conversations with the government in a joint voice, but also to present clear findings and research, factual proof that can support the demands for better policies.”

Recommendations

Our discussion above highlights the vital role that DIHs are playing in enabling digital Innovation towards the SDGs in Africa. We also shed light on some of the challenges that African DIHs face that are limiting their impact. Below, we outline our recommendations for strengthening and building the capacity of African DIHs to more effectively play their role as enablers of SDG-driven innovation.

1. Provide funding that supports the sustainability and long-term impact of the hubs.

As much as African DIHs need to develop diversified and sustainable revenue streams, there is recognition that donor funding and grants will continue to play an important role in enabling hubs to do their work. This is because entrepreneurs and startups, who are the core beneficiaries of hubs, often cannot afford to pay market rates for the services that hubs provide. Additionally, hubs are playing ecosystem-building roles, such as advocating for policies essential to the development of the ecosystem to support SDG-driven innovation. This foundation-building work cannot be commercialized, and therefore, donor and philanthropic funds will continue to play a critical role in supporting DIHs.

However, as discussed above, current funding mechanisms, which are primarily short-term and program-focused, are affecting the sustainability of hubs and limiting their impact. **To address these gaps, funding for hubs should support their sustainability and long-term impact.** Specifically, more funding needs to be allocated towards

covering hubs' core costs as well as developing their internal capacity and infrastructure. Additionally, funding for hubs should focus on long-term outcomes and place less emphasis on maximizing short-term outputs.

2. Build hubs' capacity in key areas of business development, investment facilitation, and fundraising.

Support for African DIHs should focus on strengthening their internal capacity and skills. Addressing these gaps is especially crucial in a context where hubs do not have enough resources to invest in their internal capacity and are, in many cases, newly established. In particular, we identified business development, investment facilitation, and fundraising as key areas where many hubs have capacity gaps. Specifically, hubs need support developing internal expertise on how to take new products to market, such as product development, market research, and user testing, as well as in key aspects for growing and scaling businesses, such as finance and strategy. Equally, the capacity for facilitating investments, such as being able to take equity and invest in funds, is crucial for developing the long-term sustainability of hubs. In addition, capacity in fundraising is key because, as previously noted, donor funds will continue to play an important role in supporting the work that hubs do.

3. Build evidence and support hub networks to strengthen collaboration with governments.

As noted earlier, one of the challenges that hubs face in effectively engaging with governments is the lack of data and evidence to drive the policy agenda. Support in this area could include sharing learnings of policies that have worked successfully to drive digital innovation elsewhere in the world, for example, technology investment tax incentive schemes; facilitating joint information gathering on the economic contributions of the digital economy and hubs; as well as providing expertise in drafting policy recommendations and supporting the dissemination of learnings from the data gathered. Furthermore, Hub networks such as Ghana Hubs Network, Startup Uganda, Tanzania Startup Association, and Innovation Support Network Nigeria are playing a crucial role in bringing DIHs together and facilitating joint initiatives, including carrying out research and policy advocacy. However, many of these networks are newly established and are led by busy hub leaders who have other pressing priorities running their own hubs. Supporting these networks, for example, through the provision of technical assistance and financial support, can help to strengthen their role and create greater impact.

Conclusion

In this paper, we showcase how African DIHs have a unique and significant contribution to enabling innovation towards the SDGs. However, we also shed light on the obstacles that are hindering DIH's ability to create a long-term, sustainable impact on the SDGs. Specifically, support for DIHs currently focuses on short-term gains and quantifiable outputs, which limits the

potential of DIHs as catalysts for local SGD innovation ecosystems. We highlight three ways in which DIHs can be better supported, including more long-term funding, targeted capacity building, and strengthening DIH collaboration with local governments. We posit that for the SDGs to be achieved, the international development sector needs to shift its focus towards building the foundation for local innovation ecosystems.

Full report - https://africoneu.eu/wp-content/uploads/2022/11/AfriConEU_D2.1_FV.pdf

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