



BUILDING A RESILIENT INNOVATIVE AFRICA

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Foreword

After years of steady economic development and the emergence of an exciting, dynamic, and transformative innovation ecosystem across the continent, Africa's job creating entrepreneurs have been dealt a blow by the sudden emergence of a global pandemic.

Having spent many years working with African innovators, entrepreneurs, and enablers, it is clear to me that all four corners of the continent have been transformed. From Kenya to Nigeria, Morocco to South Africa, a mix of good public policy, third-sector initiatives, education reforms and improved public and private sector financing, has enabled the continent's growing body of innovators to come to the fore as game-changers. From fintech to agri-tech, African innovators have developed African solutions to African challenges that deliver social impact, jobs, and value chain creation. Africa has taken its place as a competitor on the world stage. Then, in 2020 everything changed.

The extraordinary nature of the pandemic has brought hardship across many parts of the world, destroying entire supply chains, and plunging many sectors into an irreversible decline. Millions of SMEs within the informal sector are out of the reach of state interventions that many in the developed economies enjoy – furlough schemes, grants, tax holidays and more. The pandemic has hindered short-term growth prospects for innovators and entrepreneurs just getting started.

As an Africa-focused communications consultancy that profoundly appreciates and values the continent's entrepreneurs for their innovation spirit, Djembe Consultants aims to shed light on how COVID-19 is impacting them right now and on the ground. This report, in partnership with the continent's largest network of African innovation hubs, tell a story of extraordinary resilience that has given rise to new ideas and solutions to entrenched African challenges and to COVID-19 itself. It is a narrative of fierce resistance to the forces of uncertainty brought about by the pandemic.

Entrepreneurs are at the heart of every free economy in the world. They are the single most important contributor to job creation, invention, taxes, ideas, and the social mobility that every community wishes to see bestowed upon the next generation. Seen through the lenses of Africa's young entrepreneurs as well as some of the continent's foremost experts, this report offers powerful and inspiring insights on the unique opportunities inherent in Africa's journey through one of the world's most challenging and complex moments in history.

Mitchell Prather
CEO - Djembe Consultants



Introduction

The year 2020 has been an interesting one globally. World economies were practically brought to a standstill due to the sudden and unexpected COVID-19 pandemic. Globally, the backbones of economies, the micro and small-to-medium enterprises, were hardest hit. In Africa, this is mainly the informal sector, which represents up to 90% of some African economies.

Amidst the bleak outlook however comes hope and positivity, driven largely by the continent's survival DNA, always resilient to internal and external shocks of all shapes and forms. Behind this resilience is the continent's youthful demographic, one that is constantly creating, innovating, and looking ahead.

Despite the turmoil, many African innovators have risen to the challenge to become part of the continent's COVID-19 solution. Many innovators and entrepreneurs have rapidly evolved their business models towards greater online sales, diverse delivery methods, digital alternatives and solutions to help fight the virus and its impact. We have also seen policymakers and governments step up to varying degrees across the continent, with a vast range of emergency measures and solutions, from soft loans to lowering of interest rates.

There is however much more to be done in terms of driving innovation inclusivity on the continent. From securing access to data, to reimagining education, investing in R&D, and scaling African entrepreneurs beyond borders, Africa must stay focused. Now more than ever, engaging Africans to speak with one voice on building a resilient and innovative Africa is paramount in the quest to realize both the UN Sustainable Development Goals (SDGs) and the African Union Agenda 2063, while embracing the impending single market that the African Continental Free Trade Area (AfCFTA) will give rise to.

This Insights Report, 'Building a Resilient Innovative Africa,' in collaboration with Djembe Consultants, is a tribute to the continent's innovation spirit and youthful ingenuity. It offers a collection of rich perspectives from leading African-focused development institutions, innovations hubs, private sector enablers, role models and more who speak with one voice in support of Africa's youth, entrepreneurs, and innovators. It offers workable actions that African leaders can adopt to steer the continent on the path to transformation.

AfriLabs takes this opportunity to recognize the hardship that many Africans have faced in recent times, but we also invite Africans of all creeds to keep looking forward and be a part of the journey to a resilient, innovative Africa.

Anna Ekeledo
Executive Director, AfriLabs

Executive Summary

As an African-focused communications consultancy with deep connections and ties to African innovation and start-ups ecosystems, Djembe Consultants has been keeping a close watch on how the COVID-19 pandemic is impacting African innovators and entrepreneurs. We have partnered with AfriLabs, the leading pan-African network of 225 innovation hubs across 47 African countries to develop this report with the objective of understanding what is really happening within these ecosystems across the continent during a time of unprecedented international crisis.

We spoke to 1,000 entrepreneurs, innovators, and start-ups from across Africa to gauge their sentiments on how they were being affected by COVID-19 and what matters to them most at present. This report gives insights to the realities on the ground, from how the pandemic is affecting sources of funding and opportunities to scale, to how lockdowns and containment measures are impacting informal sector entrepreneurs who are so vital to African economies, and how the public and private sectors can step up to safeguard African innovation resilience through inclusive policies and measures.

This report also brings together the expert perspectives of some of the continent's most informed individuals who are at the helm of developments that impact the African innovation and start-ups ecosystems across education, inclusivity, investment, policy, technology, research and more. Their points of view provide deep insights into the challenges and opportunities that the continent faces as it grapples with the realities of the 'new normal'. It brings together rich perspectives from scaling innovations and entrepreneurship, to transforming education towards a skills-based model of collaborative learning and powerful calls for policy enhancements to help women and youth in the informal sectors.

Framed within the context of important milestones for the continent, including the impending AfCFTA, UN SDGs, and the African Union Agenda 2063, this report provides a unique and timely grassroots look at how the continent's public and private sectors can step up to support the world's fastest growing and youngest population who continue to rise above challenges and remain steadfast on the path to a resilient, innovative Africa.

Scaling Homegrown Innovations Beyond Borders

Scaling a growing business across borders in Africa is difficult at the best of times with well-known constraints ranging from weak cross-border logistics and transport infrastructure, to high tariffs, multiple language barriers and limited access to investment capital. These familiar challenges are even harder for women to overcome and harder still for those in Africa's vast informal sector. The experts that have taken part in the development of this study explain how all these factors have become magnified since COVID-19 closed borders and crushed investment. Government initiatives to alleviate some of the burden on entrepreneurs appear to be only delivering limited relief and require more tailored approaches to meet the needs of entrepreneurs, both in the formal and informal economies.

There is optimism that the AfCFTA when it formally launches will serve to ease some of the structural and practical hurdles that existed before and during COVID-19, provided decision makers address key challenges pertaining to how the free trade area will support informal markets.

Strengthening Policy Development to Encourage R&D and Innovation

There is significant room for improvement in R&D funding and strategy across the entire African continent. The country-level adoption of the African Union's [Digital Transformation Strategy \(DTS\)](#) has been slow since it launched in February 2020 owing to the current crisis. However, findings indicate that COVID-19 will accelerate progress in the digital economy, with technology getting ready to play a much larger role in key growth sectors such as agriculture, education, healthcare, and ICT. As such, stronger and more transparent structures, policies, and funding for innovation-focused R&D is required on the continent to build innovation resilience.

The role of R&D in education innovation has special focus, particularly in the wake of COVID-19. Appropriate platforms, frameworks, programs, and policies must work concurrently and cohesively to address this challenge. Innovative financing options are required so that education and training is accessible to all Africans.

Driving Innovation Inclusivity – Women, Youth, and Informal Markets

The standout concern for the continent's innovation future rests in the ability of African countries to prioritize inclusivity ranging from gender gaps in terms of entrepreneurship funding, to widespread access to internet, data and digital learning in both urban and rural Africa.

Even before COVID-19, women and youth were largely disenfranchised. It is even harder for those within the informal sector who form 90% of African economies, and who remain invisible during times of economic crisis.

Experts engaged in authoring this report say that key measures to drive innovation inclusivity must take into account variables ranging from co-creation of policies with key innovation stakeholders such as hubs, to gender responsive budgeting, universal data access and connectivity, and reframing education to adapt towards a skills-based model with a focus on preparing youth for the 21st century world of work.

The Innovators

Of the 1,000 African innovators and entrepreneurs who responded to our survey, the majority (47%) are aged 23-30, which is unsurprising given the young demographic of the continent and the natural inclination of this age group towards innovation and entrepreneurship.

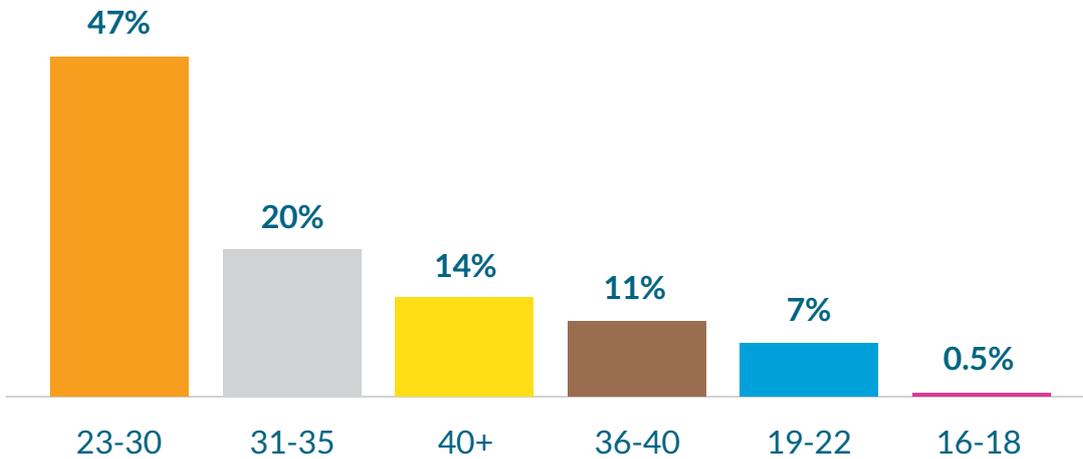


Fig. Age breakdown of survey respondents

The majority of the respondents are male, an outcome that could potentially corroborate some of the findings and insights in this study that point towards a systemic bias and lack of inclusivity within the African innovation and entrepreneurship ecosystems.

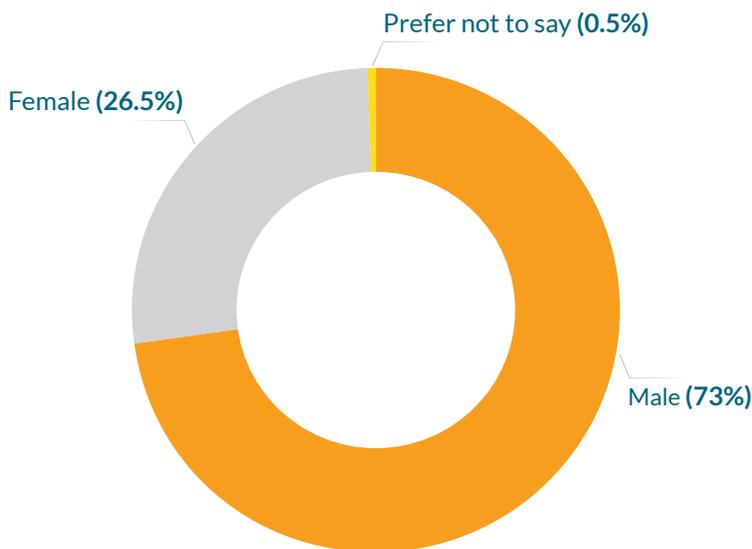


Fig. Gender breakdown of survey respondents

Innovation Hotspots

Mirroring the innovation hotspots on the continent, the majority of respondents are from Kenya, followed by Nigeria, Ghana, and Uganda. This further corresponds to research carried out by the African Union in its African Innovation Outlook 2019 report, which shows that Kenya and Uganda have the highest proportion of innovation entrepreneurs. This word cloud also further reflects observations in this report that some of these countries have higher levels of innovation activity in terms of policies relating to R&D and enactment of start-up laws.



Education and Skills

Most respondents (54%) are educated at bachelor's level. However, less than 10% of Africans go to university after secondary school. Increased focus is needed to equip young Africans at all levels of education with the necessary skills for future job markets.

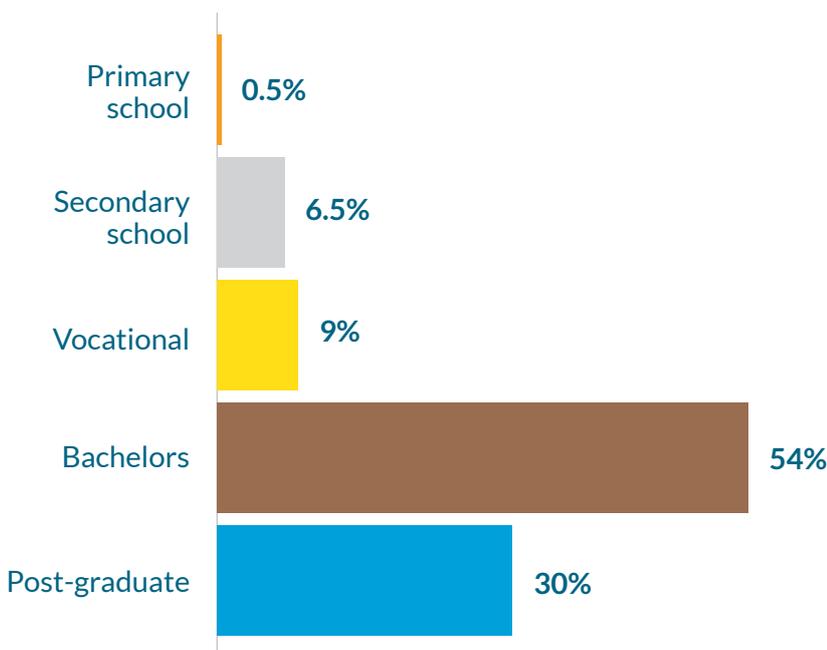


Fig. Breakdown of 1,000 respondents by education

Business Development Stages

When asked what stage of development their businesses were at, the majority (29%) state that they are at Commercialization Stage, followed by Idea Generation and Mobilization, and Diffusion and Implementation. This provides for an interesting variety of perspectives, with some entrepreneurs finding themselves effectively ready to launch when COVID-19 hit, presenting them with very specific challenges.

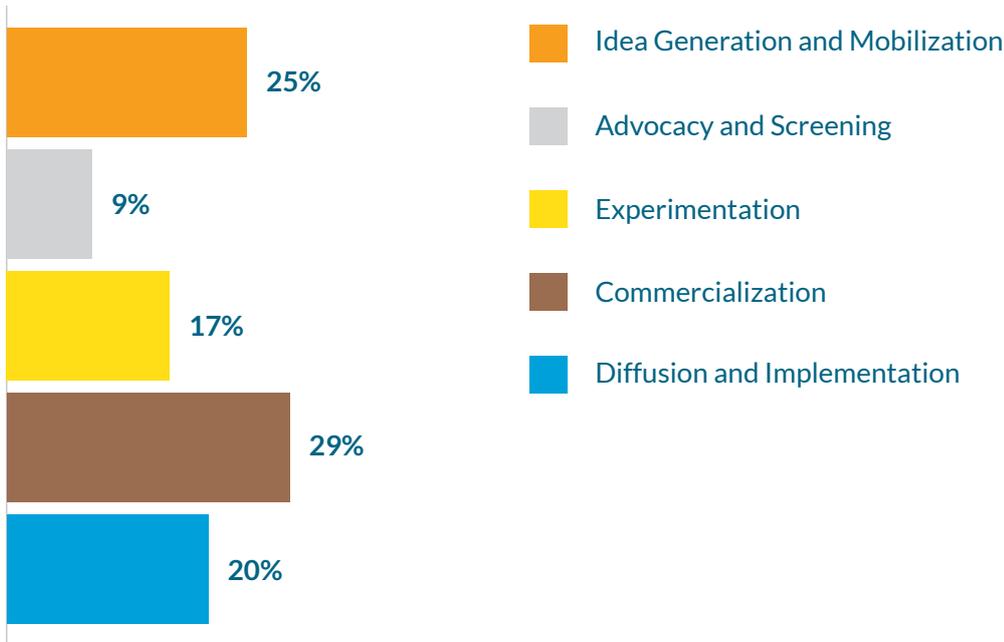


Fig. Breakdown of 1,000 respondents by development stage

Of the 1,000 respondents to our survey, 46% had already established their businesses – a high proportion considering that only 29% (see above) are at Commercialization Stage. This means that 170 of the entrepreneurs who responded had already established their businesses before even being able to trade.



Fig. Percentage of established businesses

Global SME Dominance

SMEs represent the job creators, taxpayers, innovators, and value chain drivers of the world's economies. They are approximately 90%¹ of all the world's businesses. They create over half of all jobs and in the United States, 99.9% of all businesses are SMEs – 30.2 million small businesses that employ 58.9 million people.²

In the emerging economies SMEs contribute up to 40% of national GDP. That figure rises considerably when informal SMEs are included. On a global level, SMEs create seven out of every ten jobs – yet in all markets access to finance is a constraint to growth. The SME funding gap in the developing world is in the region of \$5.2 trillion³ – 1.4 times the current level of global MSME lending and in the emerging markets we need nearly 3.3 million new jobs every month by 2030 to absorb the growing workforce.

With such a clear linear relationship between SME success, job creation and economic growth, it is astonishing that such a vast SME funding gap exists within the global economy. In the context of COVID-19, the stakes have never been higher. SMEs are fundamentally critical to the sustenance of the world economy. They are the single most important enabler of innovation in industries such as medicines, digital technologies, agriculture and financial services, amongst others. Not since the first industrial revolution has there ever been such an urgent need to nurture home grown innovation for the development of a thriving SME sector.

In Africa, SMEs operate in a two-tiered economy, a formal one and an informal one. Like the global economy, SMEs are important drivers of growth in countries across sub-Saharan Africa, accounting for up to 90% of all businesses in these markets. These factors lay bare a stark reality alongside important opportunities.

Through collaboration between stakeholders from across the innovation ecosystem, and good policy from national governments, there is a significant opportunity to dramatically increase economic activity. By nurturing the scalability of businesses within the informal sector, stakeholders can achieve inclusive economic growth, where hundreds of millions of informal workers and millions of informal SMEs reap the rewards of operating within the formal economy.

¹World Bank, *Understanding Poverty, SME Finance*: www.worldbank.org/en/topic/sme/finance

²US Small Business Administration Office of Advocacy, *2018 Small Business Profile*

³International Finance Corporation, *MSME Finance Gap: Assessment of the Shortfalls and Opportunities in Financing Micro, Small and Medium Enterprises in Emerging Markets*.ch

Scaling Homegrown Innovations Beyond Borders

International expansion remains comparatively elusive to many of the respondents to this survey, with only 22% having accessed markets outside of their home countries. Of this number, 74% say they are currently exploring the possibility of entering other markets. The hurdles to cross-border growth are, however, significant according to our panel of experts. These include tariffs, weak travel connections, language barriers and bureaucratic hurdles when opening business bank accounts in foreign countries.

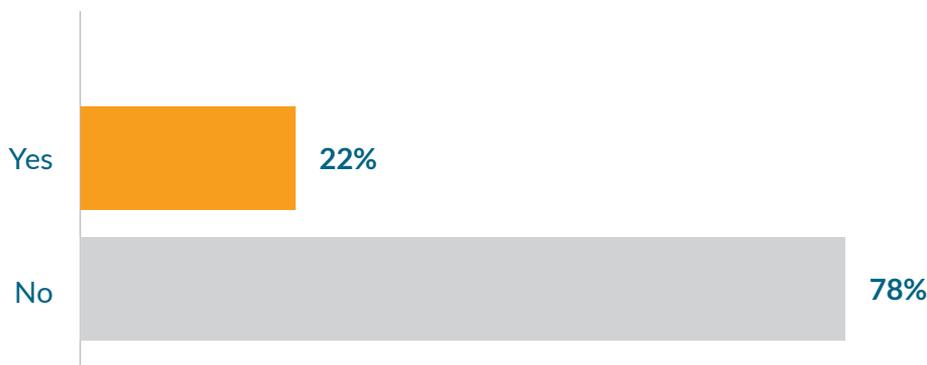


Fig. Currently operating internationally

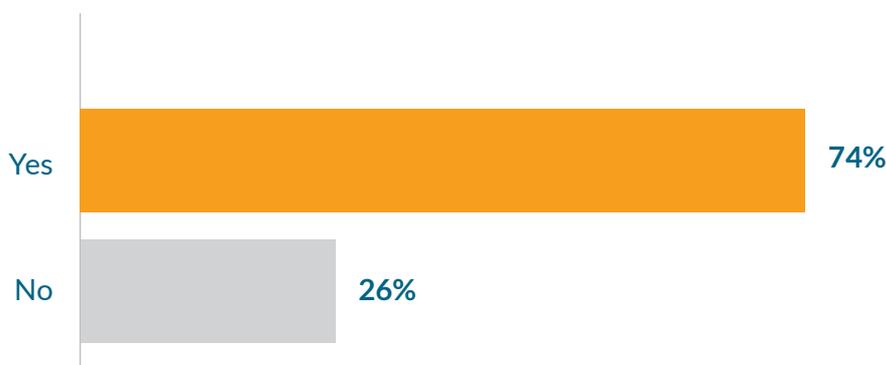


Fig. Exploring international expansion

Pauline Koelbl, Founder & CEO, AfriProspect & ShEquity explains how individually, most African countries offer small markets. Therefore, further collaboration between African countries is required to enable the scaling of homegrown solutions. This requires harmonized trade policies across borders, which give preference to African-made solutions and allows them to remain competitive in comparison with imported solutions. Without such support, African innovators will continue to struggle to scale because they must compete with bigger and well-funded foreign companies.



“From an investment perspective, those innovators and entrepreneurs who start their ventures with a growth mindset and clear plan to scale have more chances of raising capital. Investors want to see traction and scale opportunity. They need to be convinced that there is enough demand in other markets for the proposed solution. If the solution is needed at a pan-African level and there is a clear plan to make it happen, investors will be more interested because having a billion potential customers means greater return on investment.”

Pauline Koelbl
 Founder & CEO, AfriProspect & ShEquity

Drivers and challenges of international expansion

With the AfCFTA looming close, we sought to understand the key drivers for young start-ups seeking to expand to other markets. The majority (38%) say that market research indicates growth potential in these foreign markets, while an almost equal but lesser number say they wish to enter new markets because they believe their business is easily scalable with only incremental costs associated.



Fig. Drivers and motivations for market expansion

Of the 26% of entrepreneurs and start-ups not currently exploring scaling across borders, the majority (44%) say funding challenges as the key reason, while a significant number say they are focusing on good opportunities in their home markets instead of looking abroad. A small percentage say they feel they are held back by a lack of management experience.



Fig. Reasons why some entrepreneurs are not seeking cross border expansion

The COVID-19 effect on attitudes towards scalability

Across the continent, the pandemic has given rise to an explosion of new innovations with young start-ups and SMEs eager to support their country with solutions ranging from agritech to e-health, e-commerce, fintech and more. Most of the start-ups and entrepreneurs surveyed say they are likely to need or be able to scale their business in the wake of COVID-19.

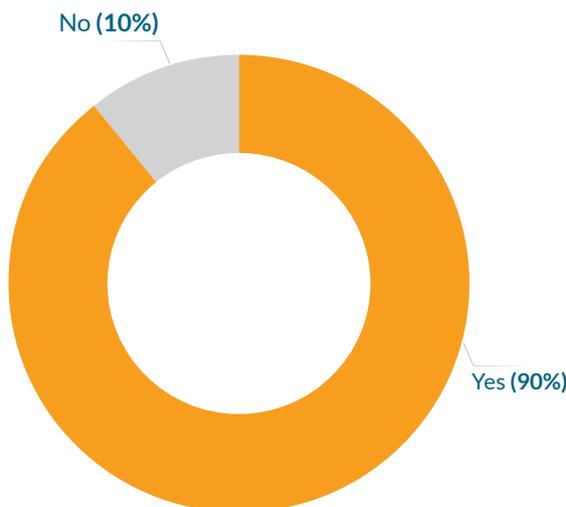


Fig. Number of innovators likely to need to scale their businesses in the wake of COVID-19

Across the world, government support in the wake of COVID-19 has been fundamental to the survival of millions of businesses. In Africa, policymakers and governments have stepped up to varying degrees with a range of emergency measures and solutions, from soft loans to the lowering of interest rates, and furlough schemes. However, sentiments from our study as indicated below suggest that these measures may not be effectively reaching or meeting the needs of young African entrepreneurs in these challenging times.

Awareness and effectiveness of government support

While the majority of the entrepreneurs surveyed (51%) indicate that they are aware of state support, they have not found them to be adequate in meeting their current needs. Almost a quarter of them are unaware of any support whatsoever being available to them.

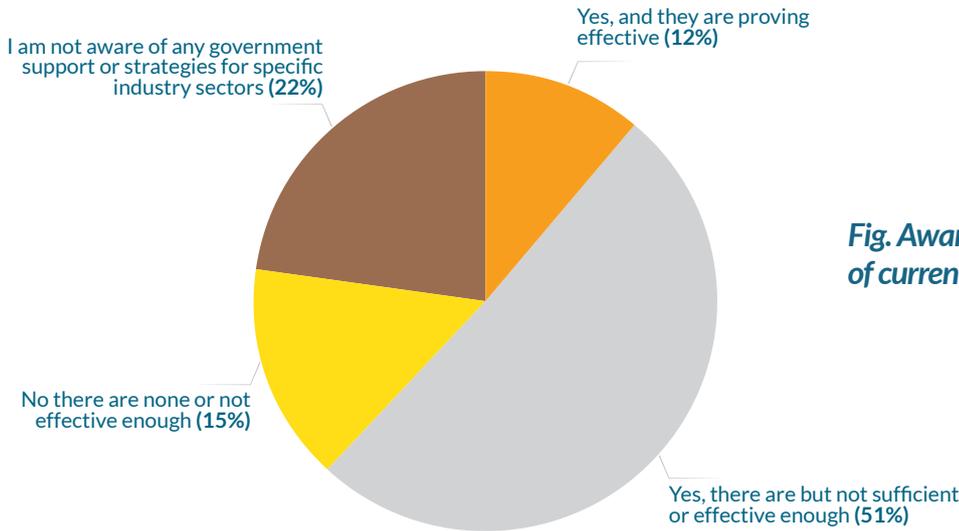


Fig. Awareness and effectiveness of current government support

The experts who have contributed to this report have echoed these findings, stating that despite the immediate reassignment of funding for COVID-19, governments must look to do more to support SMEs in the short-term because they are critically important for economic development, job creation and value creation along supply chains.

Dr. Anino Emuwa, Founder, Avandis Consulting, says that governments are fully aware that they need to intervene by providing incentives such as tax relief and capacity building support amongst others to accelerate innovation. She points to an example of a government initiative in Nigeria, Survivalfund.ng, which is aiding SMEs during COVID-19 with schemes to help meet critical payroll obligations, provide formalization support to register new businesses, and provide grants for SMEs to navigate during the pandemic. However, more of these initiatives are needed across the continent to address an immediate need among SMEs.



“African governments are reacting to the crisis, but they must do more to ensure funding and support are going to the businesses that really need it. COVID-19 has also created opportunities for innovation and expedited the adoption of digital and virtual technologies – especially for fintech in payment services and in e-commerce. This is a time for close collaboration to achieve mutually beneficial goals. Policymakers must move into action to create enabling environments for homegrown innovations to thrive including the availability and cost of funding.”

Dr. Anino Emuwa
 Founder, Avandis Consulting

AFRICA'S HOMEGROWN HEROES

LaStartup Factory

One of the biggest groups to be impacted by COVID-19 is start-ups. In Morocco, **LaStartup Factory** teamed up with StartupSquare to study the impact of the pandemic on the country's start-ups ecosystem. It found that the resilience of many start-ups has allowed them to adapt and mobilize to contribute to national efforts to curb the crisis. However, it found that only one in 10 entrepreneurs received support and that one in three believed they risked bankruptcy if the situation continues.

In response, LaStartup Factory teamed up on several regional initiatives to identify and support start-ups that can provide viable COVID-19 solutions and align them to potential investment opportunities. In collaboration with Maghreb Start-up Network, IncubMe (Algeria) and EY Tunisia, LaStartup Factory held the first regional virtual open innovation COVID-19 Maghreb Bootcamp.



Through the COVID-19 Maghreb Bootcamp, 20 start-up projects were identified across the solidarity, security, health, and crisis economy spectrums from Algeria, Libya, Morocco, and Tunisia. Examples include a tool by **AIOX Labs** for predictive identification of socio-economic events based on a comprehensive web scan, a digital platform by **Speetar** to connect patients and doctors in remote areas, an application by **Makelti** to reduce food waste through advance meal booking, and a chatbot by **lcompass** that intelligently breaks language barriers, especially in dialects.

In tandem, LaStartup Factory collaborated with the Ministry of Economy and Finance to launch the **Match and Invest program**, which focuses on investing in projects that provide concrete COVID-19 solutions. 25 start-ups from the 600 that applied to the program were selected to be connected to more than 40 angel investors such as Angels4Africa, MOBAN, and Kluster CFCIM, with guaranteed expanded financing opportunities.

Another initiative, HackCovid, which is led by the Moroccan Federation of Information Technologies, Telecommunications and Offshoring (Apebi) and supported by leading organizations such as OCP, Bank-AI-Maghrib, the World Bank, cnDP, INWI, IBM, and Microsoft, played a role in centralizing and showcasing the most promising technological initiatives that the Government can adopt in its fight against COVID-19.

These initiatives by innovation hubs demonstrate the ability of African start-ups in delivering real solutions and the importance of supporting them to scale their innovations.

LaStartup Factory is a network of innovation enablers in Morocco and Africa that accelerates collaboration between start-ups and corporates. With a presence in over 10 African countries, its network comprises 10,000 young talent, 2000 start-ups, 50 experts, 30 partners, and more than 25 investors.

Hub Perspectives

East Africa



David Ogiga
*Executive Director, Sote Hub
Voi, Kenya*

Sote Hub provides an open space for young innovators and start-ups to design market solutions to local challenges.

Earlier this year, hubs outside of Nairobi city collaborated with Konza Technopolis, a key flagship initiative under Kenya's Vision 2030 development plan, alongside other key partners, to host a challenge to respond to COVID-19 issues outlined by government authorities, with scalable solutions that can be co-created and adopted for use, matched by policy and financial incentives. The success of this event highlighted the need to intentionally support innovators in small towns and cities across Africa and that viable solutions can come from just about anywhere on the continent.

African innovation hubs are pipelines for local innovations that governments and large businesses should invest in. We need to identify and map the strengths and unique selling points of African hubs against the communities they serve. Hubs can also play a stronger role in identifying viable business models to make local communities a part of the homegrown solution building process. This will help local innovations to attract the right kind of support from external stakeholders such as the private sector who typically view hubs as not-for-profit entities that receive funding from other quarters.

On a policy level, Africa needs to regulate entrepreneurship programs to raise the standards of capacity building and skills transfer in accordance with global best practice. There should be a greater push to link incubators with the academia and research centers to enable collaboration, to test ideas at the national level, and to encourage the promotion of local innovations. This is the only way to build the capacity of grassroots innovators. In Kenya and other parts of Africa, start-up laws and acts are helping to create the kind of enabling environment for local innovators, but a much bigger continent-wide push is needed, especially now in view of COVID-19.

Going a step further, if African innovators are to be able to scale beyond borders, policy must remove barriers to trade. The AfCFTA will help with this but only if there are goodwill agreements between African governments to willingly open their markets to all Africans. This will require alignment across the entire trading spectrum ranging from market intelligence, to access to business information, and financing opportunities amongst others.

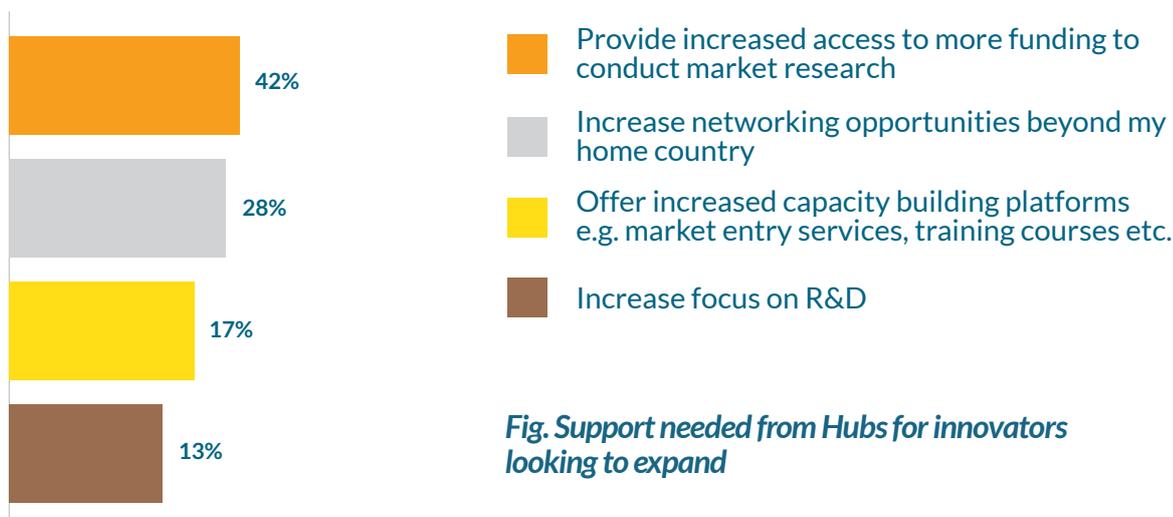
The role of innovation hubs in scaling start-ups beyond borders

African governments, in close alignment with the private sector and other key stakeholders, must accelerate their response to minimize the socioeconomic impact of the pandemic and to secure continued growth across important sectors such as health, food security and education.

According to a recent report¹ from AfriLabs and the research firm Briter Bridges, the continent now has an estimated 643 technology hubs, with half consisting of non-profit or donor-funded organizations. Additional research² from GSMA points to a 40% surge in the number of technology hubs in Africa in just one year - from 442 in 2018 to 618 in 2019. These ecosystems should be tapped into for harnessing homegrown solutions that even now can support governments to manage the impact of COVID-19.

African innovation hubs, in addition to bringing cost-cutting, problem-solving, and locally relevant answers, house tremendous knowledge and capabilities. More importantly they offer a steady pipeline of potentially workable local innovations that the public and private sector can invest in, nurture and scale.

Our study shows that the majority of entrepreneurs and start-ups (42%) see hubs as potential platforms to access funding, followed by networking opportunities, capacity building and R&D.



Insights from several regional hubs in Africa point towards the need for stronger synergies between themselves and the public and private sectors to support the scaling of homegrown innovation. Insights also include the need to support hubs that cater for local innovations that can play a role in lessening the impact of COVID-19, to embracing open innovation, and prioritizing innovations that are intricately linked to national development agendas and community needs.

What is highly evident is that COVID-19 has given rise to opportunities for some homegrown innovations to emerge. It is up to African governments and the private sector to be more strategic in tapping into this readily available innovation pipeline by working closely with hubs and making them a part of the continent's long-term, socioeconomic development masterplan.

¹ AfriLabs and Briter Bridges, *building a Conducive Setting for Innovators to Thrive*, October 2019.

² GSMA, *'618 active tech hubs: The backbone of Africa's tech ecosystem*, 10th July 2019.

Hub Perspectives

West Africa



Cyriac Gbogou
Executive Director,
OVillage, Abidjan, Côte d'Ivoire

OVillage offers a space for youth who want to learn about technology or who have an idea and need help to develop it. OVillage produces social innovation projects based on open source software.

Innovation hubs in Africa, by nature of how we work and why we exist, provide avenues for inclusive innovation. There is great innovation happening across different spaces including education, agriculture, transportation and networking. However, ensuring that Africa's marginalized groups are supported to scale their innovations into profitable and sustainable homegrown enterprises that address the needs of local communities requires stronger policy intervention.

These policy frameworks must encourage or perhaps even mandate partnerships with public and private sector organizations to narrow the gap between homegrown innovations and access to enabling factors such as capacity development, skill transfer, knowhow, and seed funding amongst others. They can support these vulnerable groups directly or help the hubs that house them. For example, one of the key challenges that grassroots innovators face is the proliferation of cybercrimes. More work needs to be done to teach all SMEs how to optimize the use of technology in a safe manner.

Unfortunately, with COVID-19, hub operations have come to a near halt. Poor connectivity has made it challenging to work from home. Higher transport costs have added another barrier to the ability of innovators to connect with opportunities. The pandemic has stifled economies, yet we have seen little to no support for hubs that cater towards local innovations that can play a role in flattening the curve. Policymakers, such as the African Union for example, have provided the framework for continent-wide innovation to grow, however country-level adoption is required for local innovators to fully benefit, especially during these challenging times.

Potential sectors with the highest scaling opportunities

The highest number of respondents to our study are entrepreneurs from the agriculture sector. This is not surprising given that it is the continent’s largest industry employer. The sector offers enormous potential for value chain enhancement through high quality food production, innovative farming technologies, higher quality crop output and improved access to markets for millions of Africans working in agriculture, predominantly within the informal sector.

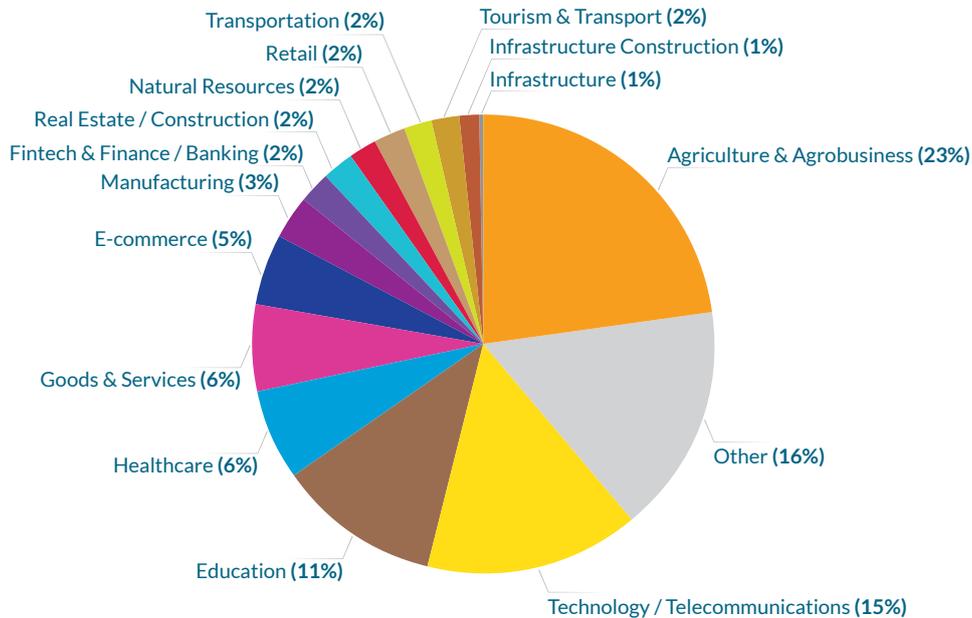


Fig. Breakdown of respondents' current sector

While the continent offers numerous opportunities for young start-ups to scale beyond borders, the African agriculture sector is where some of the most inspiring innovations can be seen. According to *Business Insider*, venture capitals' interest in African agritech start-ups has spiked since as far back as 2016 with over US\$20million raised in investment from 80+ start-ups focusing on supply chains and optimizing output for farmers³.

COVID-19 is further giving rise to a spike in innovative agritech solutions on the continent with Kenya, Nigeria and Ghana dominating the market at present. Through Djembe Consultant’s own network of innovators and start-ups, we are witnessing an explosion of agritech solutions and artificial intelligence to help farmers better manage potential risks and disasters such as droughts, pests and diseases with the aim of improving sustainability, efficiency and profitability. For example, [Hello Tractor’s](#) award-winning software helps equipment owners manage their entire operations, from monitoring their assets, scheduling jobs and managing their crews, to route optimization and fuel management. Meanwhile, [Sanku](#) is supporting communities vulnerable to malnutrition by equipping and incentivising small-scale, local millers to fortify their flour via technology-led methods, as well as adding micronutrients that are scientifically proven to improve health and vitality in foods commonly consumed by Africans.

Besides playing a role in transforming the future of African agriculture, these types of agritech innovations are particularly important in helping governments ensure food security during the COVID-19 crisis. African public and private sector investors should therefore consider targeted programs to help scale African agritech entrepreneurs.

³*Business Insider Africa - Innovative African agritech start-ups worth investing in*

AFRICA'S HOMEGROWN HEROES

Okuafo Foundation

With a focus on sustainable agriculture technologies for farmers, Okuafo Foundation has been bridging the gap between rural farmers and access to reliable information and real-time support. At scale, their solutions will help prevent a disaster like the fall armyworm outbreak that occurred in Ghana in 2017, impacting the agriculture industry with a loss of approximately **\$64 million**.

Okuafo Foundation's community intervention projects are also aimed at helping rural farmers process their harvests using renewable energy powered machines, reducing their reliance on more traditional energy sources such as diesel and kerosene. They also enable smallholder farmers in disadvantaged communities to increase efficiency and productivity, to ensure families have access to nutritious food all year round.



A recipient of the 2020 Zayed Sustainability Prize, the UAE's pioneering global award in sustainability, the Okuafo Foundation was awarded \$600,000 in prize funds to enhance their existing solution and develop other sustainability projects that serve thousands of farmers across Africa, starting in Ghana. The funds are being invested towards building a near real-time map of Green House Gas (GHG) emissions from agricultural activities to gather useful data that will help governments and policymakers in designing climate change policies to ensure that the major players in GHG emissions are targeted for support.

Now more than ever, the threats presented by COVID-19 on vulnerable communities call for improved digital measures with greater accuracy and access, which includes translating content into multiple languages to be accessed by different countries in Africa. In addressing this need, Okuafo Foundation is focusing on research and development of low-cost technologies for sustainable agriculture as well as training field agents who can train small scale farmers to use their technology to improve farming yield while staying safe during these uncertain times.

Okuafo Foundation's solutions enable rural farmers, without the need for internet connectivity, gain insights into what is happening on their farms and detect pest infestations early on. Its mission is to contribute to the United Nations' Sustainable Development Goal 2, which seeks to End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture.

Barriers to entrepreneurship

Much research has been conducted on the barriers to growth in Africa. Many obstacles stand in the way of entrepreneurs on the continent. According to the African Union’s Africa’s Development Dynamics: Achieving Productive Transformation⁴, they include a lag in innovation and technology, weak regional integration and insufficient logistics infrastructures, an unattractive business climate, and financing difficulties.

The majority of respondents to our survey (61%) say that the biggest barrier to becoming an innovator or entrepreneur is access to capital, followed by government policies and bureaucracy, corruption and lack of business transparency.

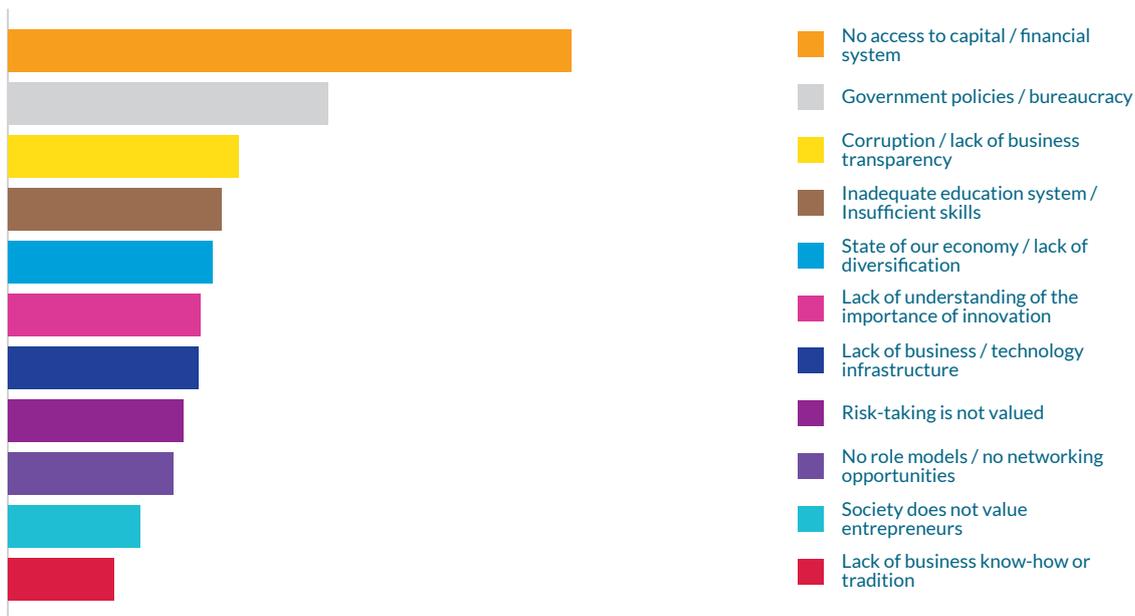


Fig. Respondents’ barriers to becoming an innovator or entrepreneur

Prudence Nonkululeko Ngwenya, Head of the Division of Human Resource and Youth Development at the African Union Commission (AUC) shares that the fundamental gap of matching the African resilience and innovation aptitude with funding, capacity development and knowhow requires stronger collaboration between the governments and the private sector. She says that while the AU is well-placed to sense these gaps and connect stakeholders, it is the public and private sector entities in Africa that must take greater strides to create the enabling environments to incubate, accelerate, scale and fund homegrown innovations.

Meanwhile, Ody Akhanoba, Manager of Strategy and Innovation, Afreximbank, says that COVID-19 has accelerated and intensified the need for development finance to step up their proposition to enable Africa’s vast youth populations to leverage technology and scale homegrown innovations. He adds that they have a role to play in making risk capital more readily available and to be able to deploy risk equity into innovation in a fast-changing world.

In this regard, the commencement of the AfCFTA, which was due to launch officially in July 2020, but is now set to launch in January 2021, creates expanded opportunities for scaling African innovation and start-ups. The extent to which it will support cross-border African enterprise, however, hinges on many variables.

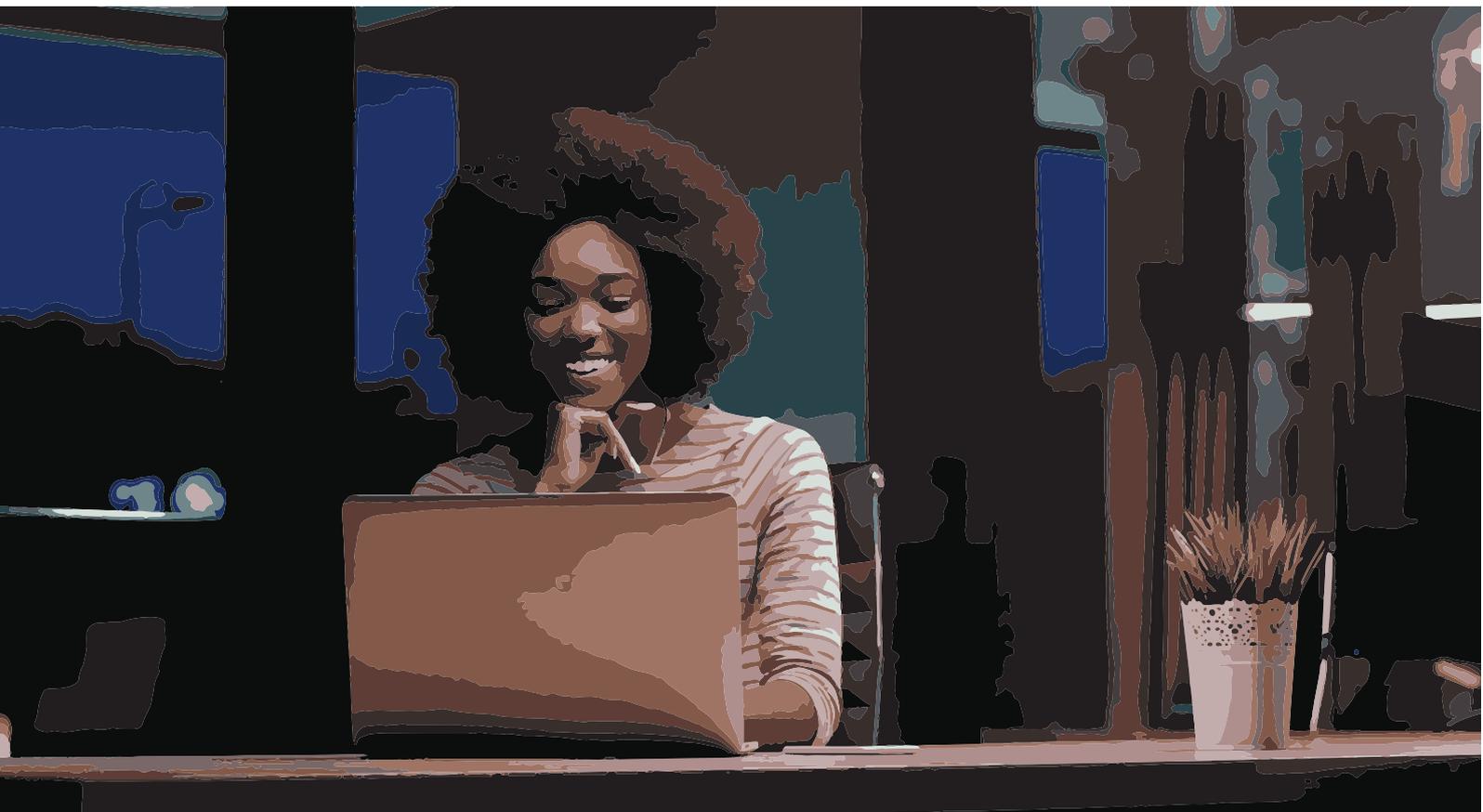
⁴African Union, Africa’s Development Dynamics: Achieving Productive Transformation, 2019, page 200.

Scalability and the role of the AfCFTA

The AfCFTA is set to create a single market with a cumulative GDP of \$1.5 trillion, which together forms amongst the eight largest economies in the world. For businesses of all shapes and sizes, it provides a new continent-wide easing of trade restrictions that range from the harmonization of standards to relaxations on travelling across borders.

Akhanoba says that the AfCFTA is a step in the right direction as the large corporates will now be able to grow their own intra-African markets, and value chains will increase in volume and quality. According to him, researchers have indicated that the Services industry, for example, loses \$80 billion every year from importing services from abroad when they are readily available in a neighboring African country. The AfCFTA is therefore an opportunity to educate entrepreneurs about the new single market and what goods and services are available for cross-border enterprise.

However, experts we spoke to including Akhanoba have also pointed out that because the AfCFTA is designed to cater towards the formal sector, the vast majority of African SMEs who run small businesses in the informal sector are likely to be left out initially - until measures are taken to specifically address the needs of the many millions working in the informal sector. Potential measures range from incentivizing informal SMEs to make it attractive for them to formalize to harmonizing fiscal policies particularly in sales and corporation taxes as well as import duties, creating regulations and guidelines to simplify business registration processes, including language barriers, and minimizing bureaucracy. These measures would truly help SMEs operating in the informal sector.





“With only around 7% of SMEs in Africa operating formally, the vast majority are not poised to benefit from the AfCFTA. Therefore, policymakers must first identify viable means to move the 93% of SMEs towards formalization by developing a value proposition with incentives in place to make formalization appealing. An obvious one would be leveraging technology to build technical platforms for these SMEs to access finance and information on how to expand their markets as SMEs in the informal sector would find this attractive.”

Ody Akhanoba
Manager of Strategy and Innovation, Afreximbank



“Banks and financial institutions are currently not integrated across borders in Africa, making it challenging for smaller businesses to open even a simple bank account in a foreign country, in addition to challenges on currencies, interest rates and taxes. African port systems, with their bureaucracy and tariffs imposed on imports and exports, pose further challenges for cross border trade. Official documents should be made available in the commonly spoken languages on the continent, such as English, French, and Portuguese. As it matures, the AfCFTA must therefore aim to create regulations and guidelines to simplify these processes and minimize bureaucracy across all touch points.”

Dr. Anino Emuwa
Founder, Avandis Consulting



“Creating a regional home-grown innovation framework is important, which is what the new AfCFTA intends to provide to enable African businesses to scale beyond borders. Having a pan-African framework for intellectual property (IP) rights is also important to ensure that African innovations are protected through standardized policies. Right now, we have two systems, one in west Africa (OAPI) and another one in southern African countries (ARIPO). The AfCFTA could create a unified, legally backed IP system at a pan-African level to ensure that African innovators can protect their inventions.”

Pauline Koelbl
Founder & CEO, AfriProspect & ShEquity

Hub Perspectives

North Africa



Thiziri Boukhalfa

Content Manager, Sylabs, Algiers, Algeria

Sylabs works for the inclusion of entrepreneurial initiatives, especially young people, in the Algerian economic landscape.

The COVID-19 pandemic has presented opportunities for marginalized businesses to grow. Local start-ups and SMEs demonstrated their capacity to rise to the challenges posed by the pandemic and find ways to continue to serve their communities. They should be given more opportunities to create homegrown solutions that meet local needs. For African governments, this is a clear message that they do not necessarily always need to import solutions.

African innovation hubs understand well the local context and have invested a lot of time working to strengthen local innovation ecosystems. In doing so, they have earned the trust of their communities but more support is needed from other public and private sector stakeholders to catalyze the work that is already being done or to fill in the gaps in areas where more expertise is required.

Policymakers and other innovation enablers should favor homegrown innovation and provide the means for start-ups to scale. SME-friendly policies are needed to encourage informal markets businesses to formalize. The current policy environment in Africa unfortunately discourages informal business from formalizing their operations.

As countries prepare to implement the AfCFTA, they should ensure that the needs of African SMEs and innovators are not overlooked otherwise the arrangement will have no impact for this all-important growth sector. SMEs and informal businesses must not be left behind. This may mean the review of procurement policies and regulations that incentivize formalization, including access to financing and market expansion. In short, the free trade area must find a way to ensure that SMEs and the informal markets are not merely consumers of the agreement but that they are active participants in terms of trade and enterprise.

Strengthening Policy Development to Encourage R&D and Innovation

Levelling up R&D in Africa

Research-led innovation in a continent as young as Africa, and one that is driven by a natural aptitude to create, is key to value chain creation, economic growth, and job creation. Experts that were interviewed all agree that innovative solutions based on relevant, African-focused research have the power to transform the continent and unlock its innovation potential across the key areas of ICT, energy, pharmaceuticals, agribusiness and many more sectors. Yet, the level of research and development (R&D) in African countries remains low. There remains a mismatch between innovation and research.

According to Kevin Chika Urama, Senior Director, African Development Institute, African Development Bank Group, the regionalization of markets and value chains has become a priority for African governments, and we can expect to see competition from foreign firms reduce over time. Africa is a large market with tremendous opportunities. He reiterates that to fully leverage these new opportunities there is a need to enhance national innovation ecosystems, which in many African countries are not robust enough yet.

Urama explains how on average, Africa invests around 0.42 percent of its GDP on science and R&D, whilst developing countries invest between two to four percent. There is therefore an immediate need for policy to step up and influence investments in R&D, without which the continent will continue to produce low patent levels. Presently, the few patents for innovations developed on the continent are typically (and swiftly) bought by foreign firms with the capital to do so. This needs to change in order for Africa to benefit from its own R&D.

The AUC's Ngwenya explains how policy is critical to unleashing the continent's innovation potential. As part of its work towards creating an enabling environment, in February 2020 the African Union adopted the [Digital Transformation Strategy \(DTS\)](#) to help ensure that the continent is poised to benefit from a digital revolution for socio-economic development.

Ngwenya also suggests that so far, the DTS framework that has been set and agreed upon by member states has not seen the level of adoption required, owing largely to the redirection of resources resulting from COVID-19. As a next step, as Africa grapples with the fallout from the pandemic, the AU will continue to identify new pathways to support member states in their adoption of these digital policies at the country level.



"In the past decade, Africa has witnessed an increase in innovation and R&D. A few African countries have made innovation a national priority, which has led to an increase in investment across the continent. South Africa, Kenya, Nigeria, and more recently Rwanda and Botswana have made significant strides in driving innovation and R&D and serve as roadmaps to follow. As a result, these countries are beginning to rate highly in global innovation rankings. Although other African member states recognize the importance of innovation, investment constraints have posed challenges to their innovation agenda."

Prudence Nonkululeko Ngwenya

Head of the Division of Human Resource and Youth Development at the African Union Commission (AUC)

AFRICA'S HOMEGROWN HEROES

Honoris Medical Simulation Centre



COVID-19 dealt a significant blow to a continent that for many years has faced a shortage of highly experienced medical personnel and equipment. The rapid spread of the virus necessitated a fast response, with the acquisition of PPE, diagnostics, devices, and medicines all of which represented major priorities. Life-saving devices such as ventilators have proven to be in short supply globally, with many of the world's poorest nations struggling to acquire the equipment. There continues to be a drastic shortage of emergency supplies and expertise across the African continent.

At the forefront of addressing these challenges is The **Medical Simulation Centre** a leading African medical training institution by Honoris United Universities (HUU), with a mission to train students and offer medical education within the framework of continuing professional development for healthcare professionals.

In a project led by Professor Nidhal Rezg from Universit Centrale in Tunisia, a HUU member institution, Director of the Medical Simulation Centre and a leading surgeon, Professor Chadli Dziri, MD, and anesthesiologist Dr. Mamoun Ben Cheikh, provided consultation on the design to successfully produce a prototype for a non-invasive ventilation system. The prototype was made available as an **open-source software** without patent, and using commonly accessible and inexpensive components, making it affordable and easy to produce globally. The non-invasive kit includes a protective 3D-printed face mask that connects to an electric insufflator – the body of which can also be 3D-printed. Attached to the insufflator is an oxygen tank that delivers a predetermined, fixed concentration of oxygen.

Further actions by the Center to support the fight against COVID-19 will include the development of a non-invasive ventilation system for patients suffering from breathing difficulties and the provision of virtual simulation using augmented reality to train health sciences students to deal with patients who suffer from COVID-19 symptoms. This form of training is critical in helping strengthen medical preparedness and resilience for future global pandemics in Africa.

The Medical Simulation Centre by Honoris United Universities was developed in coordination with international experts in 2018, using advanced technologies. The 2500 m² site in the heart of Tunis houses four simulation types - advanced mannequin technologies in a hospital setting, scenario-based simulations, actor-based simulations, and innovative virtual reality technologies. It is one of only three simulation centers in Africa to be accredited by the US Society for Simulation in HealthCare

Investing in R&D to build innovation resilience

The role that R&D plays in innovation, invention, enterprise, and economic growth is unquestionable. Stronger structures, policies, and funding for innovation-focused R&D is required on the continent.

Building and safeguarding innovation resilience on the continent requires the steering of public and private sector funding in a conscientious and transparent manner towards research and development across key sectors referenced in this report.

When asked about the top three issues that impact the resilience of the continent's innovation sector, over half (55%) of the innovators and entrepreneurs cite investor funding as the single biggest issue that needs to be addressed. The second and third most prominent issues that respondents wish for governments to address are fostering entrepreneurship and eradicating corruption.

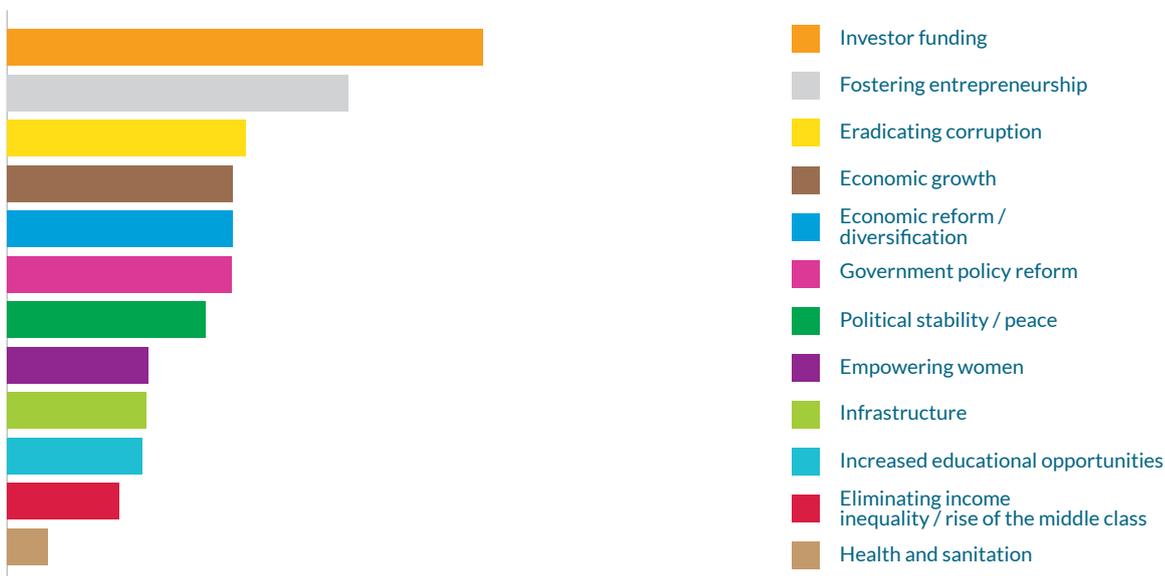


Fig. Issues that Governments can address to build a more resilient innovation sector

Insights from the experts involved in developing this report echo these sentiments. According to Mozilla's Director, Innovation and Public Policy, Africa, Alice Munyua, policymakers are responding by incentivizing innovation alongside recovery efforts through, for example, ramping up support and funding, as well as supporting entrepreneurs with ideas to keep the economy going in a safe manner as governments ease the lockdowns. However, as we have seen in previous sections of the report, many entrepreneurs and innovators are not aware of such measures or not finding them adequate.

Munyua explains that COVID-19 will accelerate progress in the digital economy, and with technology getting ready to play a much larger role in key growth sectors, the focus on funding and support is paramount and that greater transparency is required, especially when putting measures in place that might be considered intrusive.



"A lot of us in the technology sector will be defined by what we do right now, how we respond and contribute to recovery efforts. There are specific policy dilemmas in areas like privacy, data sharing, content moderation, where open societies traditionally place a high value on individual rights and freedoms. In the face of an urgent and unprecedented global crisis, it will be appropriate to reconsider how these policy trade-offs are balanced, but we must do so consciously."

Policymakers must ensure transparency over both decisions and consequences and of coordinated policymaking that balances innovation and privacy protections. There should be room for public to participate and question misuse of COVID-19 funds like in the case of some countries."

Alice Munyua

Director, Innovation and Public Policy, Africa at Mozilla



"COVID-19 has accentuated just how innovation-oriented young Africans are. The continent has seen an incredible range of digital-based platforms and tools designed to alleviate the impact of the pandemic across important sectors such as health and agriculture. This is a signal for policymakers to play a stronger role in providing adequate infrastructure for Africans to create and innovate. R&D is therefore crucial."

Kevin Chika Urama

Senior Director, African Development Institute, African Development Bank

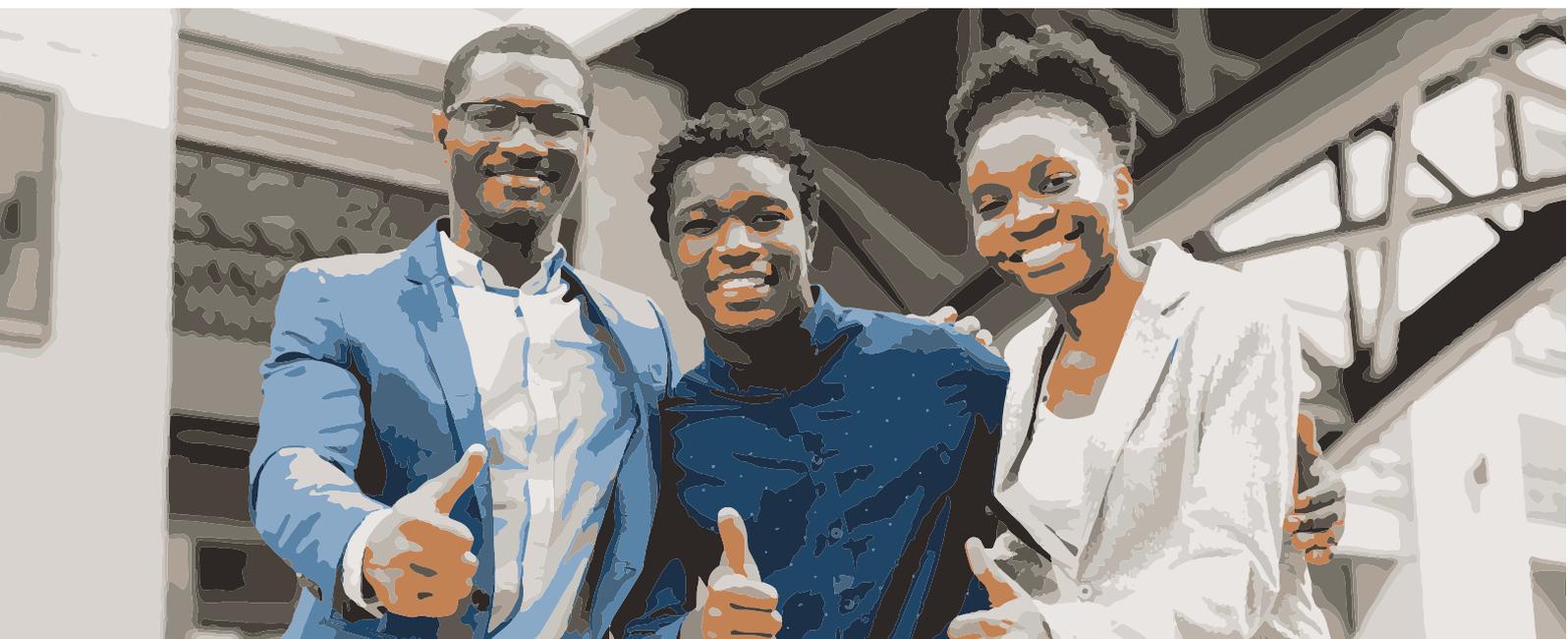
Innovating to fight COVID-19

Our panel of experts unanimously agree that the pandemic has given rise to new innovations. These include recent technologies and services that help in the fight against the virus itself. There is research showing that Kenya, Nigeria, South Africa, and Uganda are amongst the top 80 countries globally that are innovating to combat the impact of COVID-19. These findings mirror the Innovation Hotspots findings in the Executive Summary section outlining the countries from which we received the highest number of entrepreneurs and start-ups responses. This underscores the need for youth-led innovation in Africa to be placed at the forefront of economic development because it will allow the continent to benefit from the global economic potential SMEs offer as drivers of job creation, tax receipts, innovations, and value chains.

The African spirit of innovation – from handwashing to robot doctors

Some of the most unusual but innovative and creative ideas to tackle COVID-19 and the problems that it has caused have come from unlikely places – with many embodying the African spirit of innovation that belies an inherent resilience in the face of adversity. Examples include a wooden handwashing machine invented by a nine-year-old Kenyan schoolboy, which uses a foot pedal so that users do not have to touch surfaces. The foot pedal dispenses liquid soap and tips a bucket of water. The nine-year-old called Stephen⁹ lives in Mukwa village in Bungoma country in western Kenya – which has not reported any cases of the virus.

Other COVID-fighting inventions include a solar-powered hand-washing sink, featuring a hand sensor and 25-second alarm from Ghana. A wooden money sanitizer has been invented in Kenya, which cleans notes that are passed through a slot in the wooden machine, while in Tunisia, authorities deployed makeshift police robots on the streets of Tunis in April to help enforce lockdown measures. The robots, called PGuards, can identify whether an individual is illegally walking the streets and question them. Engineers in Tunisia have also created an online platform¹⁰ that can scan lung X-rays to determine if a person may be suffering from coronavirus.



⁹BBC News: Coronavirus: Kenyan boy who made hand-washing machine awarded, 2nd June 2020

¹⁰Afri-Update, Tunisia researchers use AI, x-rays to create online virus scan tool, April 17th 2020

AFRICA'S HOMEGROWN HEROES

RADIFY - an AI solution by Envisionit Deep AI

Africa is the youngest continent in the world, where pneumonia is the number one killer of children under five years of age, and where occupational lung diseases is prevalent. COVID-19 poses an increased threat to an already fragile system with under-resourced and overused healthcare facilities. The chest X-ray is the first line of investigation for pneumonia, the chief cause of COVID-related deaths, but with the demand for testing, prohibitive costs, and shortage of radiologists, it is vital for the healthcare sector to adopt technology to streamline processes.

The volume of X-rays, CT scans and MRI's generated have always outpaced the number of qualified radiologists. Using artificial intelligence, *Envisionit Deep AI* leverages machine learning and the expertise of specialist resources to provide an AI platform called **RADIFY**. RADIFY detects 20 major abnormalities on chest X-rays including COVID-19 pneumonia. It processes over 2000 X-rays per minute, making it 2000 times faster than a human being thus streamlining diagnosis and eliminating misdiagnoses through human error. It helps healthcare facilities to detect and prioritize cases for further testing and assessment.

In response to the COVID-19 outbreak, RADIFY was offered free of charge to support hospitals, doctors and other public and private organizations using X-rays in the identification and treatment of the virus. RADIFY is available as a cloud-based solution where images can be dragged and dropped for processing as well as an onsite solution where it is integrated into existing IT infrastructure at a hospital. The RADIFY AI software and COVID platform was installed at hospitals in Northern Cape and Gauteng in South Africa and integrated with Picture Archiving and Communication Solutions (PACS), used for teleradiology remote and online support.



EDAI is an innovative medical technology company that utilizes AI to transform medical imaging diagnosis. It was established in 2019 by Dr. Jaishree Naidoo, a pediatric radiologist. In February 2020, EDAI joined the Venture Scaling Program with Founders Factory Africa and Netcare to grow and scale the business across the continent.

Building economic resilience through education innovation & policy

Perhaps one of the most important areas where R&D plays a role is in education innovation, which goes well beyond any education model Africa has known in the past. The educational establishment is, of course, a historically important player in research and development. The experts we spoke to explain, however, that this is lacking in Africa, not only in state investment but within academia. They all agree that there is a serious need to build environments that specifically focus on research, innovation, risk-taking, critical thinking and problem solving because these are the core skills that African youth need to flourish in today's ever-changing global economy.

African Development Institute's Urama states that education policy around primary, secondary and tertiary levels also has a role to play in driving R&D on the continent. Policy should be such that African education systems empower Africans to create and innovate, and not just serve.



"There is a need to move away from the focus on degrees and certificates, which look good on paper but do not support the technical, industry-oriented education needed to lift many Africans out of poverty. Furthermore, African languages, references, and case studies should be valued more and utilized to remove barriers to education and training in business development, which is a role for R&D. This will go towards making Africa more aspirational and instilling a culture of Africans valuing more of what is intrinsically African, including language, culture, currency, and role models.

The fourth industrial revolution (4IR) has enormous transformative potential in driving the creation of homegrown innovations. COVID-19 has further shown where these opportunities lie but the continent needs to step up R&D to harness this potential. We are seeing many universities on the continent developing incubators, which are ideal for researching social innovation opportunities, but this must be done on a much larger scale."

Kevin Chika Urama

Senior Director, African Development Institute, African Development Bank

Joseph Nsengimana, Director for the Mastercard Foundation's Centre for Innovative Teaching and Learning in ICT corroborates this view and calls for further education policy and R&D to reframe how education and training are imparted in Africa, as this is crucial to the continent's innovation future. There is a need to reimagine primary and secondary education, as well extra curricula training, to ensure that the education the young people receive is relevant and applicable to industry needs.



“Since only around 9% of young Africans go to university, there is a need to equip the youth masses in Africa with the skills that enable them to obtain gainful employment, and the right kind of adaptable mindset to become their own job creators. There is also a need for policy to look at the ‘opportunity youth’ – those who are 16 and above who are neither in school nor in work, and to drive them towards skills-based programs that allow them to enter the world of work or start a business. The scale of industrial change demands 21st century skills of critical thinking, communication, collaboration, and creativity. R&D outcomes must ensure that the formal education provided to the young people across the continent imparts these skills.”

Joseph Nsengimana

Director for the Mastercard Foundation’s Centre for Innovative Teaching and Learning in ICT

One of the primary figures leading the charge to transform higher education towards a collaborative, skills-based model is Luis Lopez, the CEO of Honoris United Universities, which is the first and largest pan-African network of private higher education institutions. Lopez explains that the network has developed a makerspace platform called the iLeadLAB within the Honoris network’s REGENT Business School institution, one of the leading providers of business and management education in South Africa. In settings such as this, students have space to learn, to make courageous choices, adopt different thinking and develop the 21st century workplace skills that they need to succeed in today’s digitalized global economy.



“This is an academic model that asks, ‘Do you want to be right or do you want to be successful?’ This is a fantastic way for young people to think about success and it enables the individual to build their entrepreneurial capabilities. In tandem, however, must be the implementation of a second track of education – a ‘new formal’ education, which shifts how children are taught and assessed away from repetitive, rigid learning towards a model that engenders ‘mastery’ and creative thinking, away from the qualitative notion of a good or bad grade, away from a ‘pass’ or ‘fail’ system and towards one that continuously assesses a student’s progression.”

Luis Lopez

CEO, Honoris United Universities

From a policy level, Ngwenya explains how the [Innovating Education in Africa \(IEA\)](#) initiative, which is integral to the [AU's Continental Education Strategy for Africa \(CESA 16-25\)](#), advocates education innovation and calls for collaboration and adaptation by member states, Regional Economic Communities (RECs) and partner agencies. The IEA helps to identify innovative approaches that can be supported, upscaled, replicated or further developed across the continent.



“There is a struggle in Africa for educational policies that reflect the demands of the 21st century workplace. Appropriate platforms, frameworks, programs, and policies must work concurrently and cohesively to address this challenge. Innovative financing options are required so that education and training is accessible to all Africans. Every resource: indigenous, endogenous, international, new, and emerging technologies must be maximized to enhance the quality of education and learning outcomes on the continent. Education should remain relevant in the face of rapid societal changes to which it needs to adapt. COVID-19 has accelerated the need for African stakeholders to deploy education systems that enhance productivity, efficiency, and employability.”

Prudence Nonkululeko Ngwenya
Head of the Division of Human Resource and Youth Development at the African Union Commission (AUC)



Driving Innovation Inclusivity: Women, Youth and the Informal Markets

Africa's women entrepreneurs in the age of COVID-19

Inclusivity stood out as one of the most pressing issues. The December 2019 Mastercard Index of Women Entrepreneurs (MIWE) suggests that the highest number of women entrepreneurs globally are found in Uganda and that women account for four out of every ten business owners in the country. The study suggests that women are more likely to succeed as entrepreneurs out of necessity, particularly in countries like Angola, Botswana, Brazil, Ghana, and Malawi, where there is a disparity in access to the internet, technology, funding, and restrictive cultural and social norms.

Pauline Koelbl, Founder & CEO, AfriProspect & ShEquity, agrees and says that the informal sector thrives even without modern innovations and technology because it exists solely to address local day-to-day needs. However, she warns that the pandemic threatens to make access to capital for women even more scarce.



“Even before the pandemic hit there was a female-male funding gap of \$42 billion because of systemic bias as the continent’s male entrepreneurs who are perceived to be in the lower risk category continue to be favored. From an investment perspective, although policymakers are trying to drive inclusion for women and youth, there is more talk than action. Women still struggle to access early-stage funding, which is why investment companies like ShEquity, that invest in women-owned enterprises, exist.”

Pauline Koelbl
Founder & CEO, AfriProspect & ShEquity

Oulimata Sarr, the Regional Director of UN Women adds that because of its hand-to-mouth nature, the informal markets in Africa are so crucial that they simply cannot afford to shut shop. She calls for Africa’s public and private sector, as well as development entities, to come together to ensure that these vulnerable groups continue to be able to trade despite challenges posed by COVID-19.

Every expert that we interviewed for this report agreed that COVID-19 will disrupt progress on the UN SDGs, with most agreeing that new strategies need to be developed to ensure the continuity of women-led entrepreneurship in Africa.

Here, the AfCFTA too calls for deeper probing as pointed out by Emuwa. She is clear that for the African informal female entrepreneur to truly benefit from AfCFTA and to grow her businesses across borders, there need to be incentives to formalize operations in simple and cost-effective ways.



“The informal sector is the largest employer in Africa, and heavily skewed towards women-led enterprises, many of which are trading informally across borders. Free trade zones, which is effectively what the AfCFTA is, are by design targeted at the formal sector, not the informal. To address this, we must reframe how we think of those in the informal markets - not as people deliberately avoiding formalization but because of a system that is complex and expensive to enter.”

Dr. Anino Emuwa
Founder, Avandis Consulting

Gender responsive budgeting

Driving innovation inclusivity on the continent must however take a long-term view beyond the implications of COVID-19, although the pandemic will redefine the future of informal markets in Africa. The UN Women’s Sarr reiterates the need for African governments to adopt and implement gender-responsive budgeting (GRB), an initiative propagated by the UN Women since 1997, which seeks to ensure that the collection and allocation of public resources is carried out in ways that are effective and contribute to advancing gender equality and women’s empowerment.

GRB should be based on in-depth analysis that identifies effective interventions for implementing policies and laws that advance women’s rights. It provides tools to assess the different needs and contributions of men and women, and boys and girls within existing revenues, expenditures and allocations and calls for adjusting budget policies to benefit all groups. This form of budgeting, along with legislation, and other practical policy measures can address gender bias and discrimination. It is a step not only towards accountability to women’s rights, but also towards greater public transparency and can shift economic policies leading to gains across societies.



“There is a lot that needs to be done to drive innovation inclusivity on the continent. The informal markets in Africa are largely led by women, many of whom are youth who should be in school or learning a vocational skill to be gainfully employed when they become adults. Governments must therefore first seek to implement gender-responsive budgeting so that they can keep track of the spend on women and ensure that funds are being channelled towards gender gap priorities including health, education, and economic empowerment. Even something as straightforward as ensuring that schools have separate restrooms for girls allows them to remain at school.”

Oulimata Sarr
Regional Director, UN Women

Policy co-creation

Africa’s young innovators and entrepreneurs are intrinsically linked to the innovation DNA of the continent. This necessitates understanding their perspectives on the potential solutions to driving innovation inclusivity in Africa, particularly in the informal markets where the majority are women and youth whose life chances and livelihoods have been disproportionately impacted by COVID-19.

The majority of our innovators and entrepreneurs feel that the creation of expanded market opportunities for homegrown businesses is the key to driving innovation inclusivity on the continent, followed by the provision of support services and the curation of capacity development programs to address the unique challenges of operating in the informal markets.



Fig. Policy priorities for driving inclusivity in informal markets

These priorities outlined by our innovators and entrepreneurs are all areas that African innovation hubs, which are modeled on a system that is inherently inclusive, can help move forward in terms of helping to frame policy discussions. However, these innovation hubs are not being tapped into sufficiently by African governments and decision-makers. This claim is further echoed by the high proportion of survey respondents who do not feel there is enough support from the private and public sector to drive greater inclusivity within hubs and the wider innovation ecosystem.

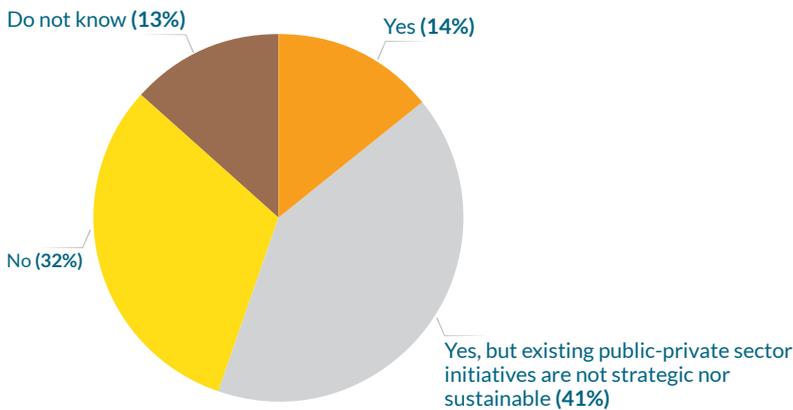


Fig. Respondents' opinions towards private and public sector support to drive greater inclusivity within hubs

As such, there is a greater need to facilitate the participation of African innovation hubs in creating policies that narrow the gap between homegrown innovations and access to enabling factors such as capacity development, skill transfer, knowhow, and seed funding amongst others.



“Governments must not lose sight of the need to continue to invest in innovation and technology for the youth because it is this demographic that is going to help African countries achieve the SDG goals and ultimately, technology is what will be leveraged to achieve them. COVID-19 has provided us with opportunities to rethink the path to resilience and to reprioritize the continents’ resources.”

Ody Akhanoba
 Manager of Strategy and Innovation, Afreximbank

Hub Perspectives

Southern Africa



Etelvino José Armando

Executive Director, Iniciativa para Democracia e Cidadania, Maputo, Mozambique

IDC is a civil society organization that identifies itself with the objectives and pillars of the United Nations Convention Against Corruption, specifically preventive anti-corruption policies and practices. Since its inception, IDC has launched a range of activities aimed at combating corruption.

The COVID-19 pandemic has caused young innovators and entrepreneurs to push barriers and develop new approaches on how to solve challenges for their communities. At a time when we are seeing new ideas come out of a period of crisis, it is important for policymakers and innovation enablers to ensure there are no barriers to innovation. The fragmented nature of innovation with multiple stakeholders calls for increased collaboration and appreciation of the strengths that each brings to the table.

When the pandemic first hit in Mozambique, we quickly convened other hubs in our network to create a community support plan, with initial efforts focused on the manufacturing of freely available masks and provision of water. Stronger collaborative efforts are required across other sectors, with governments and corporations, hubs, and local innovators working towards a common goal. This is not to say that African innovation hubs are not being supported by the public and private sector. We are, but this could be done with a lot more impact by developing and sharing of locally available skills and by the embracing of roles.

Hubs play a role in clearly identifying what the needs of the marginalized communities are, whilst the public and private sector must ensure inclusivity and embrace open innovation. The ecosystem also needs to be more intentional in how innovation is supported, with those that are closely linked to national development agendas and community needs being prioritized.

Corruption specifically must be nipped in the bud as historically this has been the greatest culprit in excluding marginalized communities in Africa. Even when there are resources available for these vulnerable groups, decision makers do not channel them appropriately. Curbing corruption would begin the process of true inclusion in the innovation space.

The AfCFTA presents opportunities for African innovation to scale beyond borders, but policymakers must first create favorable environments for SMEs and innovators to benefit from it. This will happen if policy in Africa is seen purely through national development lenses. We must begin to insist that policymakers are not businesspeople with personal interests at play.

A top down bottom up approach

Experts who have contributed to this report agree with our young innovators and entrepreneurs and call for a radical shift in how policymakers look at the innovation ecosystem. The co-creation of public policy for start-ups between the public, private and government sectors are more likely to deliver laws that are inclusive in nature.

There is however, movement in the right direction with the various start-up laws and acts that are being enacted in some African countries. Hanae Bezaad, Project Manager, Start-ups and Innovation Ecosystems at SMART Africa explains how the co-creation of public policies for inclusion, such as the current Rwanda Start-up Act, have a proven potential to work well in delivering inclusive innovation spaces. She believes that COVID-19 will only accelerate this trend.



“Policies must be geared towards empowering start-ups and small businesses through the prism of a top-down and bottom-up approach - one that is by virtue comprehensive and inclusive of all stakeholders from across the entire ICT start-up ecosystem. When we look across sub-Saharan Africa, we have seen public policy emerge through this top-down, bottom-up approach in Mali, Côte d'Ivoire, Benin and more.”

Through policy co-creation, SMART Africa has played a part in securing the enactment of new acts of law specifically designed to promote inclusive innovation and start-up ecosystems. Tunisia and Senegal enacted start-up acts in 2018 and 2019 respectively, and from there other African countries within the SMART Africa Alliance, such as Rwanda, followed suit. As a key enabler, SMART Africa aims to strengthen and catalyze this trend.”

Hanae Bezaad

Project Manager, Start-ups and Innovation Ecosystems at SMART Africa



Hub Perspectives

Central Africa



Abdelsalam Safi
*Executive Director, Wenak Labs,
N'Djamena, Chad*

Wenak Labs is an innovation and co-creation hub in Chad focused on social impact, skill acquisition, job creation, and youth engagement.

To ensure innovation inclusivity, policymakers and other innovation enablers should open their doors to the local innovation communities and be willing to listen to their views. Local innovators regardless of social status, gender or creed have regimental ways of working that get things done in the most effective ways possible. They are closely aligned to the needs of communities at a grassroots level. Policymakers and other innovation enablers should begin to view these innovation communities as equal partners in creating national solutions, but it is only through Africa's innovation hubs that they can facilitate this.

At present, many of these hubs are not sufficiently supported. In some African countries, public and private sector stakeholders still do not truly appreciate the value that African innovation hubs bring to ecosystems. These relationships must be consciously nurtured. The value of innovation communities in driving socioeconomic development in Africa cannot be denied but it is up to us hubs to develop new and innovative ways to showcase their impact. We need to do a better job of telling these stories.

For example, prior to the COVID-19 pandemic, Wenak Labs fabricated an Automatic Gel Distributor to promote hygiene and aid in the curbing of diseases. We had expected that this initiative would demonstrate the importance and potential of innovation hubs and their alignment with local innovation communities and grassroots needs, but it was not until after the pandemic hit that it became a locally manufactured product.

There is clearly still a lot of work to be done to strengthen public and private sector support for African innovation at the level needed. Policymakers have set the framework for innovation but adoption at the national level is needed for innovation hubs to start seeing the allocation of public funds to support their important work. The private sector must take an active part in working with hubs to drive homegrown innovation. We will then see the advance of marginalized groups where brilliant ideas are birthed.

Internet data is a human right

Without exception, every single expert that took part in the development of this report agrees on the vital role that data has played during COVID-19. Moreover, there is unanimity in believing that access to data is critical in education, skills development, collaboration and in developing the competencies that individuals need to even stand a chance of doing well as an entrepreneur.

The importance of data is not lost on governments. Sarr explains how policymakers should make universal access to data a priority on the continent and that it must be cheap and accessible to all. This is fundamental in encouraging innovation inclusivity.



“We are witnessing first-hand during the COVID-19 crisis how technology is an enabler of trade, education, and health information. With schools being closed and public awareness and education about COVID-19 being so important, mobile service providers in Africa can play a greater role in ensuring connectivity. Policymakers must explore funding and operational models like public-private-partnerships that bring service providers into the policy arena, and to help make internet access and data cheaper on the continent. If multinational technology firms can build hospitals in Africa, they can work with governments to ensure equal access to the internet.”

Oulimata Sarr
Regional Director, UN Women

This is a view shared also by Mastercard Foundation’s Nsengimana. He points out that in the current environment, MSMEs must digitize to survive. Those without a digital presence have suffered the most during the pandemic and will continue to be sidelined without access to internet and data, and it is therefore incumbent on governments through public-private-partnerships (PPPs) to close the gap.



“We must ensure that innovation inclusivity starts with access. There is a need for multiple interventions that intentionally target and empower women and youth and those in rural communities. Intentionality is key.”

Joseph Nsengimana
Director for the Mastercard Foundation’s Centre for Innovative Teaching and Learning in ICT

AFRICA'S HOMETGROWN HEROES

My Digital Skills by Soronko Academy



Soronko Academy is a leading technology and digital skills development center in Africa, pioneering the way for young people especially women and girls to realize their economic potential by equipping them with the technical and soft skills they need to attain dignified, fulfilling jobs and overcome the gender gap in technology. With the outbreak of the COVID-19 pandemic, now more than ever, there is a heightened emphasis on the need for digital and soft skills as many jobs are moving online and many more jobs are being lost across the world.

Launched at a critical time, Soronko Academy's online training and job matching platform **My Digital Skills**, in partnership with the Mastercard Foundation, has allowed young women to test their technical and soft skills to prepare for the job market. Importantly, as this platform was launched during the pandemic, it now incorporates a test for knowledge on COVID-19 alongside tips on best practice such as social distancing and handwashing. My Digital Skills also ensures that users are informed about treatment methods and centers across the country, providing guidelines and COVID-protocols according to national health policies.

Due to COVID-19 and the increase of social distancing practices, there is a high emphasis placed on young women to get up to speed on certain skills they may previously have been lacking to re-enter the job market. So far, the platform has seen 800 users register and take the test and has amassed 11,369 views since its launch in May 2020.

Through its wide geographic reach and suite of public and private partnerships, Soronko Academy cultivates the next generation of female innovators who leverage their critical thinking skills and entrepreneurial spirit to create solutions that address their community's most pressing problems.

The path to inclusive education in Africa

All the experts who have contributed to this report have underscored how COVID-19 has rewritten the rules of engagement when it comes to education in Africa. In the wake of the pandemic, the AU's Continental Education Strategy for Africa (CESA) will be closely scrutinized in terms of how effective it will be in reorienting Africa's education and training systems to meet the knowledge, competencies, skills innovation, and creativity required to support inclusive and sustainable transformation on the continent.



"COVID-19 has accelerated the need for African stakeholders to deploy education systems that enhance productivity, efficiency, and employability. Education should remain relevant in the face of rapid societal changes to which it needs to adapt. Access, quality, and equity in learning opportunities are baselines that cannot be overlooked."

Prudence Nonkululeko Ngwenya

Head of the Division of Human Resource and Youth Development at the African Union Commission (AUC)

Some African countries have demonstrated swift adoption. According to Nsengimana, the pandemic has acted as an accelerant to Education Technology or 'EdTech' adoption. The closure of schools has forced the EdTech sector to innovate to meet the increased demand for digital learning. An array of platforms are now being used to enable students to continue learning, including radio and television, SMS based solutions, and eLearning systems. In Kenya, the [Zeraki Learning](#) tool from Litemore saw approximately 1,000 downloads per month before the pandemic - but in the first month after schools in the country closed, they increased to 100,000. Similarly, in South Africa, [Siyavula](#) reported a 400% increase in the number of questions its automated platform sends daily to students who have subscribed, often free of charge.



"The solutions needed on the continent with regards to ensuring widespread adoption and access to digital education in both urban and rural Africa will require collaboration. Governments that partnered with telecommunications companies to offer free education content during the pandemic provided continuity for students to access content that would have been too expensive otherwise."

This showed us how we could liberate learning from the confines of school walls. It is important to see these types of public-private-partnerships continue so that learning content is made available across many platforms and is accessible at the point of need. If every child has access to a device and data, we can achieve equal access to education for all Africans."

Joseph Nsengimana

Director for the Mastercard Foundation's Centre for Innovative Teaching and Learning in ICT.

While agreeing that the key to education inclusivity on the continent is complete and affordable access to data for all, Honoris United Universities' Lopez feels that the value of face-to-face, real world collaboration must not be undermined. While COVID-19 has taught us the need to be prepared for a purely virtual education reality, for now a more balanced approach is needed.



“As societies grapple with the immediate challenges of COVID-19, there is a temporary challenge of physical proximity – which naturally acts as a stress on ordinary education because the physical interaction is not allowed to happen. Yet face-to-face, real world collaboration is critically important in the development of a curious, solutions-oriented mobile mindset. It is very hard to achieve this purely through a digital medium because it lacks the highly personal, peer to peer collaboration that comes from feedback face to face. Despite this, however, we are seeing virtual hubs evolve as a result of the fact that youth are forced by circumstance to come together digitally: this is far from perfect but it is a short-term solution that in itself demonstrates an agility and ability to quickly adapt and gain the peer feedback they need but in a digital environment.”

Luis Lopez
CEO, Honoris United Universities



Conclusion

While the pandemic is presenting challenges, the drive for innovation remains strong right across Africa. Given the dominance of SMEs in the global economy and the preponderance of the informal sector on Africa's economy, the region now faces a unique opportunity to unleash the potential of SMEs to dramatically increase overall economic prosperity. This enormous potential combined with a strong African innovation DNA indicates that the time to build a resilient innovative Africa is now.

This is a process of change that cannot happen overnight because of the stretched resources that every African nation faces. The conclusions of this Insights Report provide a practical roadmap to nurture African innovation. The objective is to broaden support from all quarters, from African governments to multinational corporations, and highlight opportunities to build the desired resiliency in the regional innovation ecosystem.

Strengthening Foundations

Broad-based support from networks of influential stakeholders is needed now more than ever to safeguard SME sector resilience in both the formal and informal markets. This calls for measures to ensure the continuity of trade, innovation, and enterprise despite challenges posed by COVID-19. Work must therefore be done to strengthen the foundations of the innovation ecosystem in Africa and make it more resilient in the face of adversity.

This Report highlights important policy developments such as the enactment of start-up acts and laws in African countries such as Senegal, Tunisia, and now Rwanda, and the increased focus on innovation R&D in countries such as Kenya, Nigeria, South Africa and Botswana amongst others. These developments serve as important foundations for greater adoption across other African countries. Together, African innovation stakeholders, including the diaspora, have the capacity to drive innovation inclusivity amongst women and the informal markets. As most African entrepreneurs are women, supporting them through the multitude of challenges attached to building capacity greatly increase their chances of success.

Celebrating African Innovation Heroes

COVID-19 has provided the continent with opportunities to do things differently and to reimagine the African SME as the single most important enabler of widespread socio-economic development. The 'Homegrown Heroes' section of the Report represents only a small microcosm of the thousands of African success stories that are part and parcel of the continent's innovation DNA. The time has come to draw from this wealth of inspiration that already exists on the continent and to nurture a culture of valuing all that is intrinsically African, including language, culture, currency, and role models to pave the way for growth inclusion, and innovation.

Supporting Innovation Hubs

As the 'Hub Perspectives' sections highlight, hubs did not wait for the COVID-19 pandemic to subside. They collaborated closely within their innovation ecosystems to immediately address the challenges that the pandemic created, finding home-grown innovative solutions while assisting their members in addressing business critical issues. We have seen, through the incredible speed at which so many African innovators and entrepreneurs have moved to create new digital solutions to COVID-19, that access to digital tools are an extremely important enabler. Indeed, they are crucial.

Strengthening the abilities of Africa's innovation hubs to actively encourage and nurture this type of home grown innovation should be a priority not just for governments but also for industry players. This can be achieved by encouraging stronger public and private sector alignment with hubs, increasing funding and capacity development support as well as in the co-creation of enabling policies and environments to support local innovations.

Reimagining Policies Across Africa

COVID-19 may have created new hurdles and challenges, but it also presents opportunities for African decision makers to reassess priorities without losing sight of the continent's targets for the UN SDGs. Realizing these goals requires a continued focus on policies and measures that drive inclusivity.

Never has the need for a fundamental rethinking of SME and entrepreneurship policies been greater. Policymakers must shift towards viewing short-to-medium term interventions for SMEs as a matter of national priority – a new post-COVID form of SME 'welfare' that saves jobs and stimulates growth at source. The creation of an enabling national strategy to support SMEs will provide policymakers in Africa with an opportunity to develop bold reforms to help the hundreds of millions of informal workers move towards formalization. Right now, government, private sector, trade finance institutions, and other innovation ecosystem enablers and stakeholders have a role to play in collaborating to provide attractive incentives for informal SMEs to move towards formalization, especially in light of the impending commencement of the AfCFTA.

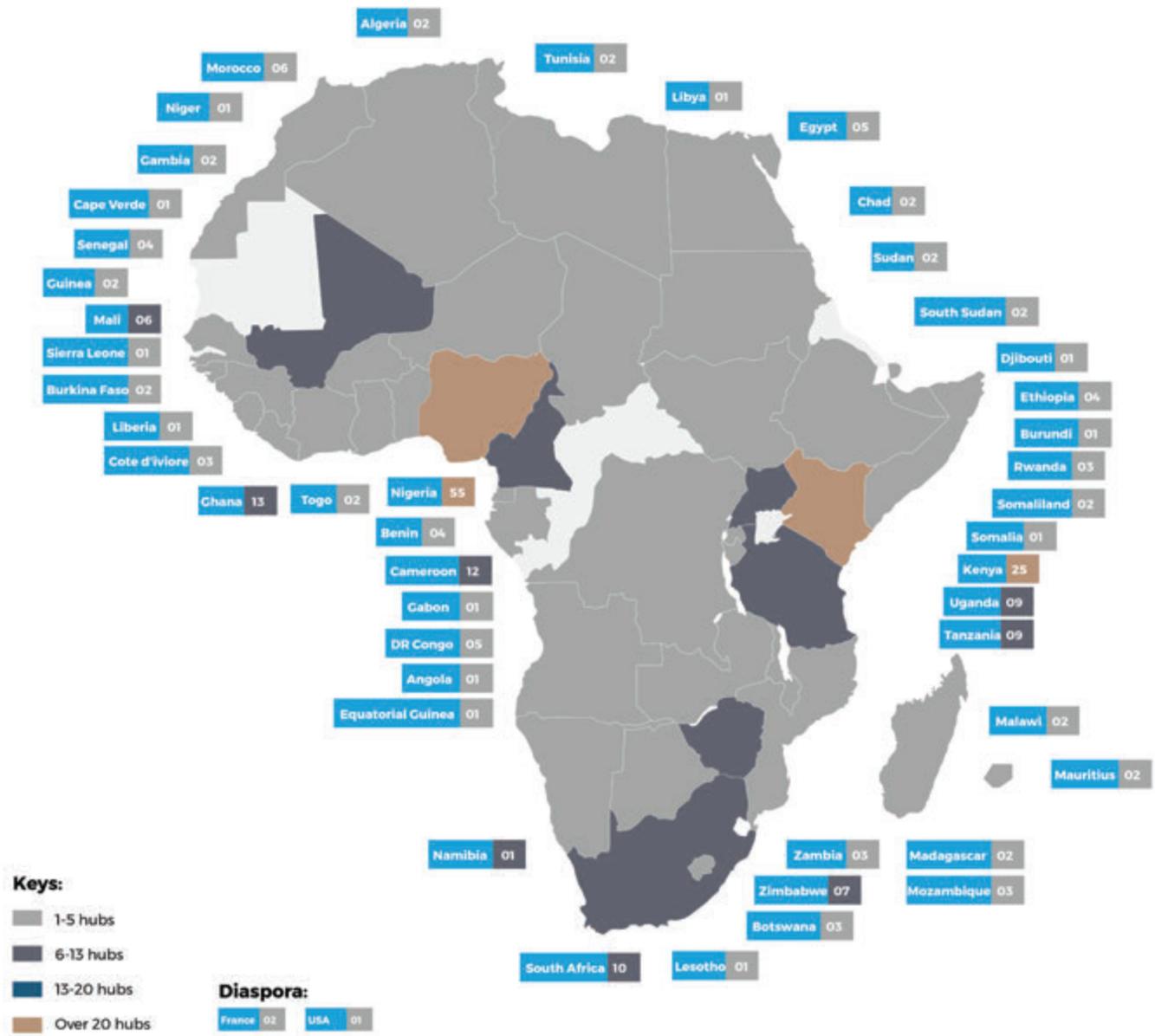
For Africa, the AU Agenda 2063 serves as the ultimate roadmap to a future of innovation resilience. Given the continent's young demographic, the role of policies in driving education innovation, such as those outlined in the AU's Continental Education Strategy for Africa, is of paramount importance. There are opportunities for African governments to enlist the support of multinationals and other private sector entities to facilitate the adoption of these policies at national levels, first and foremost through the provision of widespread access to internet and data. The opportunity exists to bring the important youth segment into the formal economy through the provision of skills-based education models that reflect the demands of the 21st century workplace.

This report comes at a time when the true long-term impacts of COVID-19 remain unknown. The insights and recommendations within it are intended to provide a broad roadmap for the near to long-term future, based on what we know today, and what matters today.

Contributors



AFRILABS 225 MEMBER HUBS IN 47 AFRICAN COUNTRIES



Djembe Consultants and AfriLabs thank all the enablers, entrepreneurs, experts, hubs, and innovators who have contributed their valuable insights to this report.



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