



Digital Entrepreneurship



Digital Entrepreneurship in Africa

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Abbreviations and Acronyms

AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank
AU	African Union
CIS	Commonwealth of Independent States
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IFC	International Finance Corporation
IMF	International Monetary Fund
IP	Intellectual Property
ITU	International Telecommunication Union
LDCs	Least Developed Countries
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
TVET	Technical and Vocational Education and Training
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VC	Venture Capital
WHO	World Health Organization
WIPO	World Intellectual Property Organization

Acknowledgements

This report was developed by the United Nations Development Programme (UNDP) Istanbul International Center for Private Sector in Development (ICPSD) in partnership with the HP Foundation and the African Union Commission. The conceptualization and development of the report were led by ICPSD Technical Specialist Gökhan Dikmener and assisted by ICPSD Partnership Analyst Cansu Güngör.

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The report team would like to thank the partner organizations and the peer reviewers for their engagement and feedback. UNDP ICPSD would also like to express its gratitude to: Tomas Sales, Special Advisor, Private Sector Development, Engagement and Financing UNDP Africa Sustainable Finance Hub for the guidance and insight he offered throughout the research process.

The manuscript was edited by Beyond Jargon LLC and designed by Ersoy-Ersoy Design Group.

Preface



The HP Foundation believes everyone should have access to the tools and digital literacy they need to participate fully in today's economy. We support digital entrepreneurship in Africa through [HP LIFE](#), our free IT and business skills training program for entrepreneurs and small business owners, and also through collaboration with governments, international organizations and other institutions.

In 2016, the HP Foundation partnered with UNIDO (United Nations Industrial Development Organization), USAID (United States Agency for International Development) and the Italian Development Cooperation on the Mashou3i project to promote youth employment in Tunisia. By September 2022, more than 34,000 Tunisians had taken HP LIFE online courses and over 6,000 jobs had been created.

In 2017, the HP Foundation and the United Nations Development Programme's (UNDP) Istanbul International Center for Private Sector in Development (ICPSD) established the "Entrepreneurial Skills Development Initiative for Sustainable Development Goals" with the aim of enabling and accelerating entrepreneurship in Africa. To date, the initiative has reached more than 10 countries, supporting institutions in localizing entrepreneurial skills development and advancing the deployment of those skills.

Through these and other initiatives, our work on the African continent continues to gather pace. We are proud to focus on accelerating digital equity and encouraging the growth of entrepreneurship in Africa.

This report focuses on the role of digital entrepreneurship in the sustainable development of Africa, identifying the most promising sectors for development and exploring the opportunities and challenges in each. The findings and conclusions provide an important framework for further collaboration with other stakeholders in Africa. We look forward to continuing to play our part in this essential work.

Matt Buckley

Head of the HP Foundation

Foreword



The emergence of digital technologies has revolutionized the entrepreneurial landscape, empowering entrepreneurs to overcome traditional limitations and engage on an unprecedented scale. These technologies have provided access to broader markets and larger audiences, regardless of geographical constraints.

Africa, with its vibrant and rapidly evolving digital ecosystem, presents a compelling case for the exploration of digital entrepreneurship. The continent has been experiencing a surge in technology adoption and innovation. Start-ups and entrepreneurs are leveraging digital tools and platforms to create innovative solutions tailored to local needs. Now is the time for more

comprehensive research that examines the specific factors influencing digital entrepreneurship in African contexts.

Digital Innovation and Entrepreneurship is one of the foundational pillars of African Union's Digital Transformation Strategy for Africa. It is also an essential element to achieve the goals of the United Nations 2030 Agenda for Sustainable Development and Agenda 2063, the African Union's development blueprint. Two key initiatives, Women and Youth Financial and Economic Inclusion (WYFEI 2030) and 1 Million Next Level, aim to empower African women and youth through advocating for the unlocking of financing for entrepreneurs and strengthening of their capacity. It is therefore critical to understand the unique challenges and opportunities faced by digital entrepreneurs in Africa in order to drive inclusive economic growth, job creation and sustainable development on the continent. By expanding the literature on digital entrepreneurship to include African perspectives, we can gain valuable insights into the strategies, barriers and success factors that shape entrepreneurial endeavours in Africa.

This report underscores the importance of collaboration, knowledge sharing and creating an enabling environment to fully unleash the potential of digital entrepreneurship across the continent. Readers will also find case studies that shed light on the specific challenges and opportunities faced by African entrepreneurs in harnessing the power of digital technologies.

I would like to thank the authors and contributors who have dedicated their efforts to make this report possible. I also extend my gratitude to our partners, the UNDP Istanbul International Center for Private Sector in Development and HP Foundation, for co-producing this report. Together we will explore and understand the transformative potential of digital entrepreneurship in Africa, paving the way for a future of inclusive growth and prosperity.

Prudence Ngwenya

Director, Women, Gender and Youth Directorate
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Foreword



Unlocking the potential of digital entrepreneurship provides opportunities to surmount sustainable growth challenges and achieve transformation across the African continent. Encouraging digital entrepreneurs can accelerate achievement of the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda for Sustainable Development.

Technological improvements restructure the entire lifecycle of products or processes (also known as value chains) in almost all sectors, fostering sustainable growth and development. For example, digital entrepreneurship efforts in agriculture offer tremendous benefits to increase productivity and food security.

Education, health, agriculture and finance hold many opportunities for digital entrepreneurs employing the latest technological advancements in these sectors. The key is to focus on the sectors that can enhance the contribution of digital entrepreneurship to sustainable development.

Like so many places around the globe, challenges created by the COVID-19 pandemic pushed entrepreneurs and consumers to conduct business differently in Africa. COVID-19 has posed numerous challenges in terms of the health and socioeconomic, political, psychological and emotional well-being of people in Africa. It has only added to those challenges already limiting the achievement of sustainable development. During the pandemic, digital platforms and digital tools created opportunities to address these challenges. Now is the time to harness these opportunities and unleash the potential of entrepreneurs.

Innovative strategies need to focus on joint efforts by all stakeholders that facilitate digital entrepreneurship and support entrepreneurs. Skills development is another necessary aspect of strengthening entrepreneurs and promoting digital entrepreneurship in Africa.

This report illustrates how digital entrepreneurship could contribute to achieving the SDGs through concentration on the most promising sectors. The study also provides suggestions on how to aid creation and advancement of entrepreneurial activities so that they may become economic drivers in Africa. These suggestions may be useful for governments, companies, local authorities, civil society organizations and other actors.

I would like to congratulate the HP Foundation for their dedication to entrepreneurship, commitment to entrepreneurial skills development and global success with HP LIFE. Since 2017, ICPSD and the HP Foundation have partnered to advance entrepreneurial skills development to achieve the Sustainable Development Goals. UNDP thanks the HP Foundation and the African Union Commission for their partnership, continuous support and for their contributions to this report.

The report complements existing UNDP work on sustainable development and inclusive growth and augments related efforts of other international organizations.

Sahba Sobhani

UNDP ICPSD Director



Executive Summary

Poverty, inequality and unemployment remain persistent challenges hampering efforts to achieve the goals of the United Nations 2030 Agenda for Sustainable Development and the African Union Agenda 2063. To accomplish their goals, the countries of Africa will need to:

- ▶ Continue to develop Africa's entrepreneurship ecosystem;
- ▶ Engage in more sustainable and productive growth;
- ▶ Capitalize on the transformative power of smartphones and digital technologies; and
- ▶ Harness the development potential of its bulging youth population.

Entrepreneurship is key to meeting the aspirations of Africa's optimistic and vibrant population.

Sub-Saharan Africa has been at the forefront of the mobile money industry for over a decade. During the pandemic, Africans increasingly used mobile phones and mobile money services, which enhanced financial inclusion and accelerated the use of digital services. Government-imposed lockdowns led to a huge surge in data traffic especially through mobile (cellular) phone usage. As a result of the COVID-19 pandemic, the continent has become more connected to the Internet than ever before: usage of 3G phones and Internet access has increased in both rural and urban communities.

Enhancing digital resources and creating the right ecosystem for digital transformation can strengthen digital entrepreneurship and contribute to sustainable development in Africa. This report highlights the untapped potential, key challenges and opportunities for digital entrepreneurship in Africa. It utilizes a systematic sectoral approach to recommend priority sectors. According to the analysis conducted in Chapter 2 of this report, the most promising sectors for digital entrepreneurship are as follows: educational technology (EdTech), financial services technology (FinTech), health technology (HealthTech) and agricultural technology (AgriTech).

The report showcases examples in each of these key sectors. The examples illustrate how both digital entrepreneurship and entrepreneurs are contributing to the achievement of the 2030 Agenda for Sustainable Development and the African Union Agenda 2063. They contribute by making priority sectors more innovative and utilizing digital technologies available throughout Africa. For example, EdTech enterprises such as uLesson and Etudesk can help improve access to quality education and reduce the costs of providing education.

Entrepreneurship is key to meeting the aspirations of Africa's optimistic and vibrant population.

*Miss Ahunna Eziakonwa with student innovators of the African Development University (ADU) in Niger.
Photo: UNDP*





Fifteen recommendations are offered as ‘next steps’ to strengthen digital entrepreneurship, promote skills training and contribute to the achievement of the Sustainable Development Goals (SDGs) and Agenda 2063 in Africa:

1 Provide digital entrepreneurs in Africa with increased public support to further strengthen entrepreneurship and digital skills literacy and training, especially for youth, women and marginalized groups.

2 Provide an enabling environment for digital enterprises to thrive, and level the field for all financial service providers in Africa, acknowledging the widespread use of mobile money.

3 Support a platform for skills sharing and networking where Africans in the diaspora will be able to collaborate with tech hubs and digital entrepreneurs.

4 Establish an information and communications technology (ICT) and entrepreneurship training centre in each school, especially in rural areas to facilitate digital adoption across the many countries on the continent.

5 Encourage business associations, chambers of commerce and similar organizations to commit to providing digital skills trainings to business owners, to prioritize uptake of digital technologies.

6 Promote the integration of digital entrepreneurship into projects and programmes on digital transformation.

7 Share case studies among actors in the digital entrepreneurship ecosystem related to initiatives in Africa.

8 Convene different stakeholders around the digital and entrepreneurial skills development agenda as part of efforts to strengthen the business ecosystem.

9 Provide skills training for digital entrepreneurs on how to incorporate governance structures into their business models, to facilitate effective leadership and decision-making.

10 Enhance the skills of entrepreneurs required to develop structured business plans, implementation plans, social media monetization strategies and financial projections.

11 Encourage potential investors to integrate the provision of technical assistance to key ecosystem actors into their investment strategies.

12 Convene the various stakeholders in the business ecosystem around the digital and entrepreneurial skills development agenda.

13 Promote advocacy by digital entrepreneurs and their support organizations for broader and more affordable Internet access, as this would increase the number of potential customers for their products and services.

14 Increase the adoption of alternative credit scoring systems, based on mobile money transactions, to improve access to finance for entrepreneurs.

15 Follow an ecosystem development approach to promote digital entrepreneurship for the achievement of the SDGs and Agenda 2063. Such methodologies should leverage the potential of actors in the digital entrepreneurship ecosystem and foster entrepreneurship through bringing stakeholders together.

The report concludes that the COVID-19 pandemic, in addition to its negative impacts, had a transformational impact on digital entrepreneurship in Africa, promoting the use of digital services by both entrepreneurs and consumers. Digital entrepreneurs have played a key role in Africa's COVID-19 recovery by limiting the impact of the pandemic and supporting efforts to build forward better through various interventions. Many of these interventions have been spearheaded by African youth.

Given the increased usage of smartphones and various digital technologies, the region is poised for stakeholders to take up the task of strategically contributing to development of digital entrepreneurship in Africa. This will amplify contributions to the Sustainable Development Goals, and build resilience to prevent losses from development gains made on the continent in recent years. Youth and women have a strategic role in driving the continent's digital transformation agenda through digital entrepreneurship.





AFRICA REVIEW



Introduction

Africa is among the world's fastest-growing continental economies (table 1).¹ Nevertheless, overall economic performance has not been sufficient to achieve sustainable growth and development. In addition, regional variations in economic performance occur. In the last decade, Eastern Africa has been leading in performance, followed by Western Africa.

Table 1: Annual average growth rate of continents and regions

	1992–1995	1995–2000	2000–2005	2005–2010	2010–2015	2015–2020
America	3.29	4.06	2.62	1.15	2.21	0.97
Asia	4.63	3.74	5.19	5.51	5.19	3.75
Europe	0.93	2.90	2.12	0.83	1.09	0.75
Africa	1.24	3.38	5.43	5.50	3.10	2.05
Northern Africa	1.65	3.89	4.81	5.31	-0.66	2.59
Eastern Africa	2.90	3.50	4.36	6.89	6.97	4.68
Central Africa	-1.98	2.89	7.28	6.58	4.80	-0.21
Southern Africa	2.62	2.60	3.82	2.98	2.45	-0.33
Western Africa	-0.03	3.26	7.52	6.50	5.96	2.11
World	2.77	3.58	3.22	2.49	2.95	1.98

Source: UNCTAD Stat (2021)

In Africa, the impact of COVID-19 has the potential to exacerbate the status quo and push millions more below the extreme poverty line.² Vulnerable groups, such as children, young people, women, migrants, refugees and persons with disabilities, are more susceptible to living in poverty.

African economies, like the rest of the world, were negatively affected by the emergence of COVID-19 in 2020, which resulted in a subsequent slowing of the global economy. Lockdowns and restrictions imposed by all governments due to the pandemic led to a decline in the manufacture of goods, trade volumes, investments, tourism and other revenue-generating activities across the continent.³ Higher-skilled and higher-paid workers started working from home, while lower-paid blue-collar workers in the tourism, restaurant services and transportation did not have this option. The pandemic contributed to the economic inequality, poverty and unemployment that remain key challenges and could hamper efforts to achieve sustainable growth and development.

Africa has many development challenges and tackling them remains a priority. The main challenge is how to achieve structural transformation by utilizing African resources, including human capital. Another challenge is how to increase the job and value-creation capacities of its economies.

The United Nations 2030 Agenda for Sustainable Development and the African Union Agenda 2063 emphasize the role of the **private sector** in achieving inclusive and sustainable development, and underline the importance of **promoting entrepreneurship** in Africa. Efforts need to focus on improving the

The main challenge is how to achieve structural transformation by utilizing African resources, including human capital.



Innovators explaining their concepts during the Hack4SDGs competition (2021).
Photo: UNDP

entrepreneurial ecosystems in which businesses operate. Such efforts should also ensure that entrepreneurs have the necessary skills to take advantage of market opportunities. Advancement of new technologies, automation and digital transformation create favourable conditions in which entrepreneurs can thrive. The promotion of productive entrepreneurship for young people could help Africa benefit from its demographic dividend.

Digital entrepreneurship could be a vehicle to advance Africa's transformation and achieve the Sustainable Development Goals (SDGs). This report focuses on investigating the following research question: **How can digital entrepreneurship contribute to the achievement of the SDGs in Africa?**

This report applied an inductive theory development approach. Although the discourse on entrepreneurship ecosystem has been extensively covered in the entrepreneurship literature, the concept of digital entrepreneurship remains relatively new and very few attempts exist to clearly define it.⁴ Availability of literature on African digital entrepreneurship and its impact on the SDGs is limited. This report provides useful insights on the relationship between digital technologies, SDG achievement and entrepreneurship. Its objective is to strategically contribute to shaping the trajectory of digital entrepreneurship on the continent.

Chapter 1 discusses how and why digital entrepreneurship is an African priority. Chapter 2 introduces the contribution of the emerging sectors of digital entrepreneurship in Africa towards the SDGs, and the challenges and opportunities of digital entrepreneurship on the continent. Chapter 3 presents sector-specific challenges, and introduces examples that illustrate how digital entrepreneurs have attempted to overcome these bottlenecks. Chapter 4 discusses the impact of COVID-19 on digital entrepreneurship, and the contribution of digital entrepreneurship in building resilience on the continent during the pandemic. Chapter 5 presents the recommendations and general conclusion of the study.

The promotion of productive entrepreneurship for young people could help Africa benefit from its demographic dividend.

Chapter 1:

Digital Entrepreneurship in Africa



Photo:
Miha Creative, Shutterstock

1.1. Is digital entrepreneurship an African development priority?

The introduction of advanced technologies is helping to bring about rapid **digital transformation**. This transformation presents opportunities to harness digital technology and innovation in integrated and inclusive ways that benefit Africa's citizens. The importance of digital transformation is recognized by all United Nations organizations at global level especially in Africa. Africa's development challenges require comprehensive solutions that ensure support to vulnerable groups to become more productive and innovative.

Digital transformation is reshaping value chains and contributing towards reaching the SDGs. The use of digital technologies can assist in accelerating progress towards every one of the 17 global goals, according to the International Telecommunication Union (ITU).⁵ This progress is advancing through **digital entrepreneurship**.

From robotics to virtual reality to artificial intelligence, digital technologies are changing the way modern people live and work; this is described as the 'fourth industrial revolution'. UNDP, for example, has launched an initiative titled 'Africa Leading the 4th Industrial Revolution' (AL4IR)⁶ to promote responsible adaptation and use of technologies as an inclusive development tool. The initiative aims to drive the responsible adoption and use of emerging technologies for Africa's transformation and growth. In a June 2021 announcement about the initiative, Ahunna Eziakonwa, UNDP Regional Director for Africa, made the link to sustainable development: "UNDP is betting on Africans to take the lead in the fourth industrial revolution. By harnessing and advancing technologies that can steer the continent towards achieving its development goals faster, better and through a greener approach, Africa's role and leadership in this industrial revolution will not only transform lives and institutions but will also ensure that no one is left behind."

The UNDP financing project for African start-ups titled 'Timbuktoo' provides another example of support for digital transformation. Timbuktoo aims at providing early-stage risk capital for ventures in their journey to becoming global enterprises of Africa. The project will establish several hubs in Africa and each hub will be specialized in specific sectors such as educational technology (EdTech), financial services technology (FinTech), health technology (HealthTech) and agricultural technology (AgriTech).

The growth of Africa-based digital entrepreneurs with potential to contribute to SDG achievement requires a conducive environment for digital entrepreneurship and sustained relationships with several stakeholder groups. UNDP utilizes an ecosystem development approach⁷ to maximize the private sector's contribution to the SDGs. The ecosystem development approach coordinates business ecosystem members and provides potential to increase innovative solutions through bringing necessary stakeholders together within a complex network or an interconnected system.

Digital technologies are changing the way modern people live and work; this is described as the 'fourth industrial revolution'.





Astria Fataki, Ecosystem Specialist of “timbuktoo” presenting “timbuktoo” at the North Africa Startup Summit (2022). Photo: UNDP Africa

UNDP’s ecosystem development approach coordinates business ecosystem members and provides potential to increase innovative solutions through bringing necessary stakeholders together within a complex network or an interconnected system.

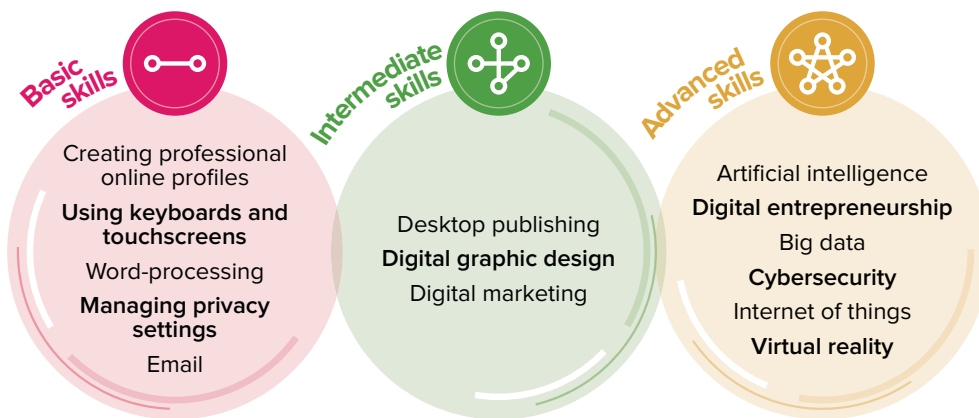
UNDP has utilized the ecosystem development approach in a number of initiatives. For example, the Lesotho Scaling Inclusion through Mobile Money Platform was launched in 2017 with 16 stakeholders. As a result, a mobile financial services action plan was developed in key areas: product development and mobile money applications; policy, legal frameworks and incentives; financial education; and capacity development of agents and merchants. In the same year, the HP Foundation and the United Nations Development Programme (UNDP) Istanbul International Center for Private Sector in Development (ICPSD) established the ‘Entrepreneurial Skills Development Initiative for Sustainable Development Goals’ with the aim of contributing to entrepreneurship development in Africa. To date, the initiative has reached more than 10 countries supporting institutions to localize entrepreneurial skills development and advance entrepreneurial activity.

Digital entrepreneurship has the potential to utilize technological tools and deliver solutions that will promote sustainable development. Digital entrepreneurship should be at the forefront of Africa’s transformation strategy, and digital skills should be enhanced to reap the rewards of digital entrepreneurship. Entrepreneurs entering the market can find many opportunities to apply these digital skills and technologies to production processes. Such efforts can optimize resources, increase productivity, facilitate social change, ensure social inclusion and ultimately reduce poverty.

Digital entrepreneurship should be broadly defined as digitalizing a part or all of the entrepreneurial process of a business. The digital entrepreneurship business model integrates the use of digital technologies and innovation in order to develop products or services that may either be digital or physical.⁸

Using digital innovation is essential to compete in today’s global landscape, and technological transformation could have a positive impact in relation to promoting social inclusion and achieving Africa’s development priorities—especially if the widespread availability of digital and entrepreneurial skills is equitably promoted among entrepreneurs.⁹ Table 2 provides an illustration of various digital skills that are deemed critical by the Digital Transformation Strategy of Africa (2020–2030) adopted by the African Union.

Table 2: Digital transformation skills in Africa



Source: Adapted from African Union (2020)

Lack of skills is a major constraint on productivity and innovation, which consequently inhibits industrialization and impedes sustainable development.¹⁰ According to the International Finance Corporation (IFC), about 230 million jobs across Africa will require some level of digital skills by 2030, especially considering that the pandemic has forced many businesses to go digital to remain relevant.¹¹

It is crucial to equip digital entrepreneurs and their teams with digital and entrepreneurial skills through relevant technical know-how and practical skills development programmes. Technical and vocational education and training (TVET) and lifelong learning programmes play an important role in equipping future entrepreneurs with necessary skills. Public facilities could be repurposed for entrepreneurship training, and entrepreneurship could be integrated in education curricula. Mentorship programmes related to information and communications technology (ICT) and entrepreneurship will be essential across Africa, especially in rural areas. Initiatives such as the African Union's Promoting Entrepreneurship and Digital Innovation in Africa: 1 Million Next Level is Knocking Program and the Mentees' Hub are specifically tailored to meet the diverse requirements of different regions. Entrepreneurial training is an important element of creating more innovative entrepreneurial endeavours. The transformation of an entrepreneur's mindset has a positive potential impact on their business outcomes.

Digital transformation and ICT provide strategic growth enhancers and development enablers that create technology spill-overs to almost all other sectors.¹² By nature, technology is continuously evolving and therefore in constant need of innovative solutions. In this space, entrepreneurial opportunities for innovative businesses can become a source of accelerated growth and development.

Empirical evidence suggests that ICT plays a significant role in contributing to Africa's socioeconomic development. For instance, according to the International Monetary Fund (IMF), the average cost of a mobile phone (containing some features of a smartphone) decreased from more than \$200 in 2008 to approximately \$20 in 2018. From 2012 to 2017, the cost of 500 megabytes of online data fell from almost \$30 to \$5.¹³ Mobile phones have become the most popular form of personal technology on earth. Increasing

About 230 million jobs across Africa will require some level of digital skills by 2030.

Digital technologies play a significant role in propagating the fourth industrial revolution.

access to this technology will allow people to communicate with each other. Access to mobile phones will also provide access to services in various industries, including health care, education, finance and agriculture.¹⁴ The increased usage and affordability of ICT in Africa creates opportunities for young people and enhances entrepreneurial activity.

Africa is home to the world's youngest entrepreneurs, and its youth demographic is expected to increase in the upcoming decades. . According to the African Union's State of African Youth Report, Africa's youth population is estimated at 453 million in 2018.¹⁵ According to UNECA, it is expected to grow to over 830 million by 2050.¹⁶ The knowledge and innovation gaps that digital entrepreneurs can fill in Africa are numerous because of the high potential growth of ICT in Africa's peripheral markets. The increased usage of ICT among young people is another factor.

Digital entrepreneurship has the potential to help the continent benefit from opportunities brought by the fourth industrial revolution (the digital revolution that has been occurring since the middle of the last century). Digital technologies play a significant role in propagating the fourth industrial revolution. FinTech, for example, has revolutionized product designs and trade across market segments, enabling online transactions and financial services for individuals. Digitalization has further empowered entrepreneurs and businesses to reimagine impactful, sustainable business models that extend beyond the financial sector. Governments have embraced online platforms to enhance public service delivery. Blockchain technology has made significant strides in West Africa and Kenya, facilitating efficient property record verification, reducing fraud and expanding credit access in previously informal sectors.

Africa, with its substantial informal sector contributing to a significant portion of GDP, holds immense potential for job creation through increased financial inclusion, capital accumulation and investment.¹⁷ With 22 million Africans joining the workforce each year, the adoption of digital technologies is critical for countries to capitalize on their growing workforce and drive employment growth, as emphasized in the World Bank's report "Digital Africa: Technological Transformation for Jobs".¹⁸ Certain technological changes such as bioproduction, nanotechnology and material innovation may be less relevant in the African context at the current time, however.¹⁹ These new technologies could be available on the continent soon given the rapid increase in the adoption of digital technologies in Africa.



The United Nations 2030 Agenda for Sustainable Development and the African Union Agenda 2063 (the development agendas) are key development strategies, agreed to by African governments. Together, they aim to contribute to the achievement of inclusive growth and sustainable development. These Agendas take a human-centred approach and promote economic development that is socially inclusive and environmentally sustainable. Despite being drafted by different groups of stakeholders, they share common ground regarding targets and priorities. The extent of convergence among

the Agendas is 86.4 percent, according to UNDP, which is a strong indication of coordination among development stakeholders across the continent.²⁰

The role of digital entrepreneurship in fostering sustainable development in Africa is implied in the development agendas, as shown in Table 3. The United Nations 2030 Agenda for Sustainable Development promotes the development of a conducive ecosystem where policies support entrepreneurship, creativity and innovation to facilitate the growth of enterprises. Similarly, the African Union Agenda 2063 has an objective to catalyse skills and actively promote science, technology, research and innovation. The African Union’s Digital Transformation Strategy for Africa (2020–2030) identifies Digital Innovation and Entrepreneurship as one of the four foundational pillars for a prosperous, inclusive, digitally-transformed continent.²¹

The development agendas highlight the critical role that entrepreneurship and innovation can play in supporting sustainable development in Africa. Digital entrepreneurship is crucial in the creation of jobs and development of new industries when appropriate policies are in alignment with global and regional development aspirations.

Table 3: Entrepreneurship in the development agendas

	<p>Goal 8.3: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services</p>
	<p>Section 72 C: Catalyse education and skills revolution and actively promote science, technology, research and innovation, to build knowledge, human capital, capabilities and skills to drive innovations and for the African century</p>

The 2030 Agenda offers a sustainable future for the continent. Digital entrepreneurship has the potential to support efforts to achieve the SDGs. Through the SDGs, 380 million new jobs can be created, and annual market opportunities worth an estimated \$12 trillion can be realized across the globe by 2030.²² For Africa, achieving the SDGs by 2030 would create \$1.1 trillion annual market value and 85 million new jobs.²³ In order for digital entrepreneurship to contribute to creating new jobs and markets in Africa, digital resources²⁴ should be enhanced. Public sector action is crucial to reach these outcomes. It is not enough, however. Strong public and private sector engagement is needed to nurture African digital entrepreneurs that have the capacity to seize market opportunities globally and become drivers of growth on the continent.

In order for digital entrepreneurship to contribute to creating new jobs and markets in Africa, digital resources should be enhanced.

1.2. Africa's digital entrepreneurship ecosystem

More people start businesses in Africa than in other developing regions, such as Asia or Latin America.²⁵ Of approximately 400 million global Small and Medium Enterprises (SMEs), 40 million are housed in Africa.^{26,27} The entrepreneurship ecosystem can have a significant influence on the attitudes and perceptions of aspiring entrepreneurs. Entrepreneurs value the potential of a supportive ecosystem, not only as a business model, but as an innovation platform. This creates a conducive environment for innovators to try out ideas²⁸ and contribute to solutions through partnerships and collaborative arrangements. A vibrant entrepreneurship ecosystem across the continent is critical for Africa-based digital entrepreneurs to thrive.

Photo: Aude Rossignol/UNDP



Africa's current digital entrepreneurship ecosystem has evolved tremendously over the years, though it has an uneven level of maturity of across the continent. Four countries (Egypt, Kenya, Nigeria and South Africa) constitute 60 percent of Africa's total digital commercial activity. An additional eight countries account for 25 percent, and the remaining 42 countries account for 15 percent.²⁹ Other African countries could adapt best practices from the leading countries, to enhance their respective digital entrepreneurship ecosystems. Key actors in the digital entrepreneurship ecosystem play an important role in entrepreneurship development. These actors include governments, digital entrepreneurs, investors, banking, academic institutions, business incubators, telecommunication operators and the digital society.³⁰ A thriving digital entrepreneurship ecosystem will enable Africa-based digital entrepreneurs to drive job creation. It will position entrepreneurs not just as consumers of digital technologies, but also as creators of it. This role will ensure the entrepreneurs' of the continent will have a significant voice in the policymaking process by placing human capital at the heart of policymaking.³¹ Ultimately, this shift will shape the future of digital technologies' contribution to sustainable development on the continent and beyond.

Africa's current digital entrepreneurship ecosystem has positioned itself to fully unlock the digital entrepreneurial potential of the continent, including through growth in the development of tech hubs, start-ups and data centres. For instance, FabLab of Kenya has developed mSafari, a people tracker that tracked the spread of infections during the height of the COVID-19 pandemic.³² All of this growth in innovative technologies has occurred with less support from policymakers than from civil society.³³ This indicates that the African digital entrepreneurship ecosystem is vibrant, and has sufficient force within, to keep it growing.

Linkages between the public and private sectors in Africa have become stronger recently. Due to the COVID-19 pandemic, the African public sector and private sectors have come to understand that there are benefits to creating formidable partnerships around digital technologies, to address new development challenges.³⁴ Governments now know that they require technological innovation from the private sector. The private sector now understands that government assistance is necessary to create a friendly business environment, especially when market demands decline.

African digital enterprises are actively lobbying their governments to put in place more business-friendly regulations.³⁵ Senegal (in 2019) and Tunisia (in 2018) paved the way for other African countries to create business-friendly regulations such as Ethiopia, Ghana, Kenya, Rwanda and Uganda, which are in various stages of their legislative processes.³⁶ These regulations are designed as part of a broader government policy to support the growth of entrepreneurship and make their entrepreneurship ecosystems more attractive for investment.

Since 2012, sub-Saharan Africa has had the highest number of business-friendly regulatory reforms addressing the most common operating constraints faced by enterprises. These reforms include improving procedures and reducing

The education sector is also part of efforts to mainstream digital transformation and digital entrepreneurship.

the time required to start and operate a business, register properties, obtain credit and pay taxes.³⁷ These reforms could play a pivotal role in creating an enabling environment for digital entrepreneurship in Africa.

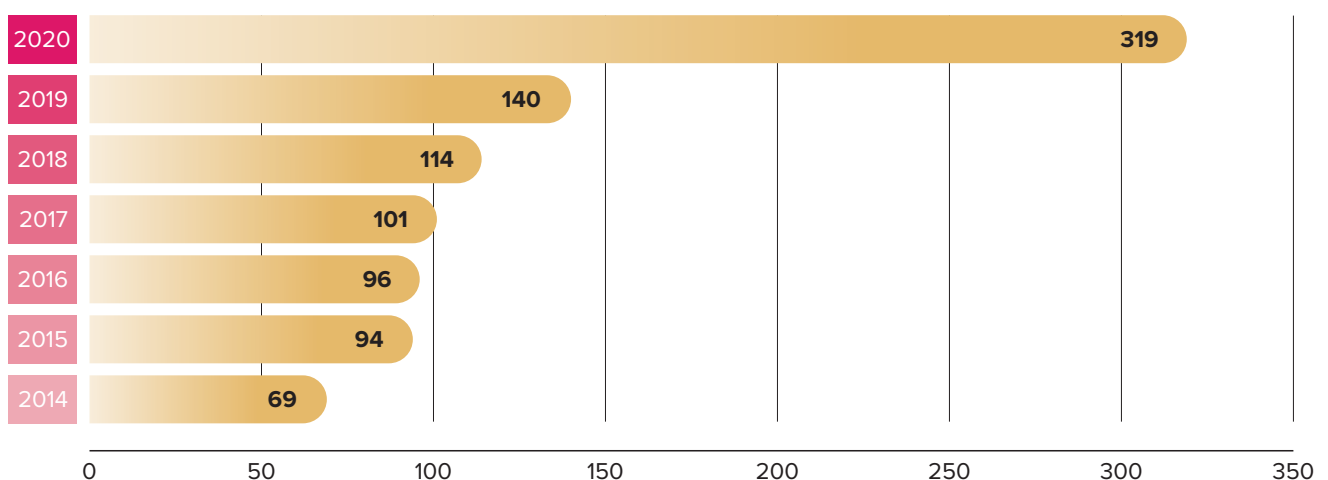
Nigeria, Kenya and South Africa are among top African countries with the most developed start-up ecosystems.³⁸ The majority of start-ups in Nigeria operate in the financial services technology sector. An estimated 90 percent of start-up funding in Nigeria comes from this sector.³⁹ These initiatives are taking advantage of the country's large population and the underbanked community.

The education sector is also part of efforts to mainstream digital transformation and digital entrepreneurship. Kenya has the largest number of coding schools on the African continent. These schools have made a global impact in the development of entrepreneurship curricula and training programmes. In sub-Saharan Africa, education has spurred interest in entrepreneurship activities, contributing to the upswing in economic activities in the region.⁴⁰ The role of academic institutions cannot be overemphasized given that 80 percent of the continent's labour-force is between 15 and 25 years old.⁴¹

Kenya launched a Digital Economy Blueprint in 2019 as part of the country's contribution to the Smart Africa Alliance, which is working to digitize the economies and trade of 24 countries across the continent.⁴² The aim is to transform Africa into a single digital market based on a sustainable digital ecosystem.⁴³ The Smart Africa initiative demonstrates the commitment of African governments to making the continent a hub for smarter technologies, through digital business and innovation-driven entrepreneurship.

Venture capital (VC) networks support the continent's entrepreneurial activity. South Africa is home to some of the most developed VCs on the continent, including Naspers, one of the world's largest investors in tech companies.⁴⁴ In the past six years, Africa has produced 11 unicorns (a private start-up company with a valuation of over \$1 billion).⁴⁵ VCs in Africa have continually played a significant role in supporting start-ups and digital enterprises. Figure 1 below illustrates the steady rise in VC deals in Africa.

Figure 1: Number of venture capital deals in Africa, by year (2014–2020)



Source: African Private Equity and Venture Capital Association (2021)

Although the value of investment from 2019 to 2020 dropped from \$1.5 billion (2019) to \$1.1 billion (2020), the number of deals more than doubled in 2020.⁴⁶ During the toughest times of the pandemic, VCs rallied around African businesses (including digital enterprises) by continually providing home-grown financial support to start-ups. This shows the commitment of Africa’s VC industry in supporting African enterprises.

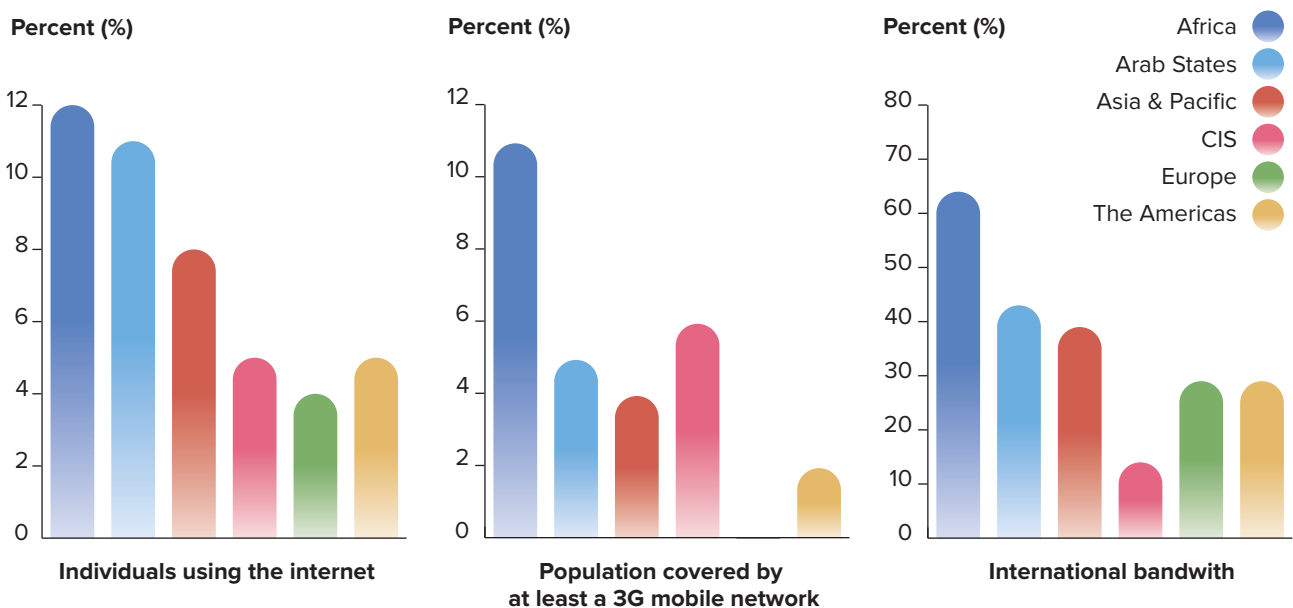
Technological innovation hubs have been key in facilitating partnerships and driving innovation to support digital ecosystem actors. Africa currently has over 1031 (from 643 in 2019) innovation hubs operating in 53 countries.⁴⁷ The growth of these hubs is a positive indication of the level of development in Africa’s digital entrepreneurship ecosystem. Tech hubs are hotbeds for innovation. They deliver key services, products and solutions.

Usage of technology and digital entrepreneurship increases access to services, which further supports entrepreneurial activity. For instance, an increased use of alternative credit scoring can lead to commercial loans. The increasing number of mobile money payment methods have emerged as a different path for the unbanked population to facilitate liquidity.⁴⁸

Telecommunications operators are key actors in the digital entrepreneurship ecosystem. Without a well-functioning connectivity infrastructure, Africa will be unable to leapfrog and fully reap the benefits of the mobile revolution that is transforming the world. Access (and quality) of Internet and mobile technologies is rapidly increasing across Africa. Digital penetration on the continent is growing faster than most regions in the world. Figure 2 indicates that Africa has the fastest growth rate of individuals using the Internet; largest population covered by at least a 3G mobile network; and most international bandwidth.



Figure 2: Compound annual growth rate of digital penetration in Africa: Selected key indicators across global regions, 2017–2019⁴⁹



Source: Endeavor (2022)

Mobile users in sub-Saharan Africa are projected to increase from approximately 340 million users in 2021 to 474 million users in 2025.

Recognizing the importance of telecommunications sector, countries and actors are working towards building a sound digital infrastructure. Morocco has one of the best technology infrastructures (from download speed to network readiness), and in 2019, its government signed a \$1 billion deal with Marco Telecom as part of its plans to proactively invest in the country's digital infrastructure.⁵⁰ In addition, Meta Platforms, Inc. and its partners signed an agreement to build one of the world's largest subsea cable networks in Africa at about 37,000 kilometres long.⁵¹

The rise in fibre-optic cable usage across Africa is promising, and could have a great impact in bridging the digital divide. Mobile users in sub-Saharan Africa are projected to increase from approximately 340 million users in 2021 to 474 million users in 2025.⁵² Africa's Internet economy has the potential to contribute nearly \$180 billion to the continent's economy by 2025, about 5.2 percent of the continent's Gross Domestic Product (GDP).⁵³ Also, with Africa's growing digital economy, 3 million new jobs are expected to be created on the continent through online marketplaces, by 2025.⁵⁴

Africa's youth are its primary consumers of digital products. The number of cities in Africa has risen from 3,300 to 7,600 cities between 1990 and 2022, and their accumulated population has grown by 500 million people.⁵⁵ Projections indicate that the continent will grow by 900 million inhabitants by 2050.⁵⁶ Many of these young people will be clustered in cities with a reasonable amount of spending power. In the next 10 years, Africa's biggest 18 cities will be spending \$1.3 trillion, and about 80 percent of population growth on the continent will be in urban centres, forming large metropolitan areas.⁵⁷ By 2030, more than 1.7 billion consumers on the continent are forecast to spend a total of \$2.5 trillion.⁵⁸ This illustrates Africa's potential, based on market size and spending capability.

The achievement of sustainable development in Africa could be greatly accelerated with the help of productive entrepreneurs and a well-developed digital entrepreneurship ecosystem.

GoGirls ICT is a Juba, South Sudan based non-profit initiative founded by a group of dedicated young women in the fields of computer science, hacktivism and peacebuilding.
Photo: UNDP South Sudan



Chapter 2:

Promising Sectors for Digital Entrepreneurship in Africa



Photo:
Suwin, Shutterstock

2.1. Emerging sectors of digital entrepreneurship in Africa


This study recommends focusing on the most promising sectors through understanding their contexts and considering that each sector has a distinct entrepreneurial environment.⁵⁹ Sectors differ in their potential contributions to GDP, digital entrepreneurship, innovation and sustainable development in a country. A sectoral and contextual approach to entrepreneurship is key to an effort to achieve the development agendas in Africa. Our analysis highlighted that the most promising sectors are those with the greatest potential to support the development agendas:




- ▶ Educational technology (EdTech): the use of digital technologies to facilitate learning;
- ▶ Financial services technology (FinTech): the use of digital technologies to provide financial services to enhance its use and delivery to customers;
- ▶ Health technology (HealthTech): the use of digital technologies to improve all aspects of the health care system; and
- ▶ Agricultural technology (AgriTech): the use of technology in agriculture, horticulture and aquaculture, for increasing profitability, crop quality, harvest volume and productivity.



Table 4 illustrates how the United Nations 2030 Agenda and the African Union Agenda 2063 have similar visions when it comes to the most promising sectors that could promote the continent's sustainable development.

Table 4: Promising sectors and their contributions to Africa's development agendas

	United Nations 2030 Agenda	African Union Agenda 2063
EdTech 	<p>Target 4.1: Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes</p> <p>Target 4.2: Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education</p> <p>Target 4.3: Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university</p> <p>Target 4.6: Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy</p>	<p>*Africa's human capital will be fully developed, through sustained investments on early childhood and basic education, higher education, science, technology, research and innovation</p> <p>*Elimination of gender disparities at all levels of education</p> <p>*Access to postgraduate education will be expanded and strengthened</p> <p>*Africa's youth will have full access to education, training, skills and technology</p>

	United Nations 2030 Agenda	African Union Agenda 2063
FinTech 	<p>Goal 1: End poverty in all its forms everywhere</p> <p>Target 8.10: Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all</p> <p>Target 9.3: Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit and their integration into value chains and markets. Also, Increase the access of small-scale industrial and other enterprises, in developing countries, to financial services, including affordable credit and their integration into value chains and markets</p> <p>Goal 10: Reduce inequality within and among countries</p>	<p>*Rural women will have access to productive assets: land, credit, inputs and financial services</p> <p>*Economically empower women and youth by enhancing access to financial resources for investment</p> <p>*Build continental capital markets and financial institutions</p> <p>*Render fully operational appropriate continental financial mechanisms/institutions</p>
HealthTech 	<p>Goal 3: Ensure healthy lives and promote well-being for all at all ages</p>	<p>*Better access to health services (especially for vulnerable groups)</p>
AgriTech 	<p>Target 2.3: Double the agricultural productivity and incomes of small-scale food producers</p> <p>Target 2.4: Ensure sustainable food production systems and implement resilient agricultural practices</p> <p>Target 2.a: Increase investment in rural infrastructure, agricultural research and extension services to enhance agricultural productive capacity</p> <p>Target 2.b: Correct and prevent trade restrictions and distortions in world agricultural markets</p>	<p>*Africa's agriculture will be modern and productive, using science, technology, innovation and indigenous knowledge</p> <p>*Modern agriculture for increased production, productivity and value addition contributes to farmer and national prosperity and Africa's collective food security</p>

Source: United Nations 2030 Agenda and African Union Agenda 2063

Promising sectors that can drive digital transformation have been prioritized by policymakers in the African Union's Digital Transformation Strategy for Africa (2020–2030).⁶⁰ This strategy was undertaken with the aim of harnessing digital technologies and innovation to transform Africa, eradicate poverty and ensure Africa's ownership of modern tools of digital management.

A comparative sectoral approach towards identifying the most promising sectors for digital entrepreneurship should include considering the level of competitiveness for digital enterprises, potential socioeconomic and environmental impacts, and ability to support to Africa's development agendas. Table 5 compares the four identified sectors relative to their level of potential.

These four priority sectors can contribute to Africa's development agendas and become a conduit through which digital entrepreneurship may flourish. All four sectors are not necessarily priorities for all countries. Nevertheless, EdTech, FinTech, HealthTech and AgriTech are key sectors across the continent. They are receptive to development of entrepreneurial activities due to robust opportunities and low barriers to entry. Also, while this study adopted a sectoral approach, it recognizes that the digital entrepreneurship environment requires an ecosystem that leverages the potential of various stakeholders.

Table 5: Comparison of potential promising sectors

Competitiveness for enterprises	EdTech	FinTech	HealthTech	AgriTech
Market opportunities for Enterprises	Medium (2)	High (3)	Medium (2)	High (3)
Enabling environment of the sector	Medium (2)	Medium (2)	Low (1)	Medium (2)
Access to skills to start and sustain a business	Low (1)	Medium (2)	Low (1)	High (3)
Access to capital to start and sustain a business	Low (1)	Medium (2)	Low (1)	Low (1)
Competitiveness grade	6	9	5	9

Economic, social and environmental impacts	EdTech	FinTech	HealthTech	AgriTech
Potential to create added value	High (3)	High (3)	High (3)	High (3)
Potential to generate employment	High (3)	High (3)	Low (1)	High (3)
Inclusiveness potential	High (3)	High (3)	High (3)	High (3)
Social and environmental impacts	High (3)	Medium (2)	High (3)	High (3)
Impact grade	12	11	10	12

Strength of support to the development agendas	EdTech	FinTech	HealthTech	AgriTech
2030 Agenda	8	7	6	4
Agenda 2063	5	6	4	6
Alignment grade	13	13	10	10

Notes:

Subcomponents of competitiveness and impact dimensions are graded by giving values of 1 (low), 2 (medium) and 3 (high). Then the subcomponent grades are summed up to reach the grade for each sector.

Alignment with the Agendas were graded as such: for the 2030 Agenda each main goal has a value of 5, each additional subgoal has a value of 1 and for Agenda 2063 each mention has a value of 1.

2.2. Potential challenges and opportunities

The growth of digital entrepreneurship in Africa comes with unique challenges and opportunities for the African people. The continent holds diverse countries with different business systems, which makes it essential to examine countries individually. However, the following section presents trends in the various emerging tech sectors across the continent. This aim is to identify key challenges and opportunities that could inform policymakers as they endeavour to create an enabling environment for digital entrepreneurship throughout Africa.

Internet coverage is particularly low, with only 26 percent coverage in sub-Saharan Africa.

2.2.1. Potential challenges to digital entrepreneurship in Africa

Internet access and affordability

Connectivity to the Internet plays a huge role in digital entrepreneurship. However, across Africa, Internet coverage is particularly low, with only 26 percent coverage in sub-Saharan Africa, as of the end of 2019, based on the compound annual growth rate.⁶¹ Such low connectivity impacts the usage and scale up of the key digital tools driving the fourth industrial revolution. Efforts must be made to ensure universal Internet access across the region. Although the cost of mobile Internet is gradually falling on the continent, its affordability is still questionable. For instance, a 1 GB plan in sub-Saharan Africa is equivalent to 6.8 percent of monthly income, while in South Asia, it is about 1.2 percent of monthly income.⁶²



Photo: Novikov Aleksey, Shutterstock

Insufficient use of e-payment systems

While the online delivery sector is rapidly growing, some consumers remain hesitant to use e-payment systems, which accounts for only 7 percent of transactions in Africa.⁶³ This lack of trust is mainly due to perceived insufficient online security for shoppers, which can be resolved with the existence of effective consumer protection policies. Some customers may have other reasons for not using e-payment systems, however, such as being unbanked in rural areas. Other customers or vendors may prefer cash-on-delivery transactions. In 2021, the share of cash-on-delivery payments among online shoppers was highest in Morocco (74 percent) and lowest in South Africa (9 percent).⁶⁴

Inadequate infrastructure

Inadequate infrastructure is a fundamental issue that could prevent digital entrepreneurship from reaching its full potential. In the health care sector, energy access is a vital enabler of health care service delivery, but sub-Saharan Africa has the lowest energy access rates in the world.⁶⁵ Within homes, the unavailability of energy promotes the use of unhealthy traditional fuel sources such as kerosene and other combustible fuels.

Provision of national address systems and infrastructure across the continent is crucial to facilitate the delivery of goods to clients and consumers. Although the prospects of e-commerce in Africa are bright, this is an important bottleneck that could undermine efficiency and effectiveness, and ultimately prevent the continent from benefiting from the yields of digital transformation.

Lack of sufficient data sets for precision agriculture

The limited availability of data sets for artificial intelligence is a challenge for precision agriculture on the continent. Africa generally lacks sufficient tailored low-cost publicly available data sets to train algorithms and identify patterns in images meant for detecting crop diseases.⁶⁶ If these data sets are made accessible and tailored (labelled and classified according to local crops), the use of precision agriculture will become more prevalent across Africa.

Lack of awareness related to intellectual property (IP)

Insufficient intellectual property access and protection constrains participation in digital trade. A large proportion of entrepreneurs in developing countries are not aware of how to protect their ideas and earn income from them through commerce.⁶⁷ The legal framework of African countries should be strengthened to protect copyrights and trademarks in the digital era. Enterprises that embrace intellectual property rights stand a better chance of realizing growth, income and employment than enterprises that are unaware of how intellectual property can enhance their businesses, according to the World Intellectual Property Organization (WIPO).⁶⁸

2.2.2. Potential opportunities for digital entrepreneurship in Africa

Optimism of the African youth

A sense of 'Afro-optimism' remains high among young people on the African continent, a trend reported in a survey conducted by the Ichikowitz Family Foundation.⁶⁹ This optimism is mainly driven by the strong sense of individual responsibility, entrepreneurialism and confidence in an African identity. Sixty-one percent of survey respondents believed that their respective countries are creating a culture of innovation and entrepreneurship.⁷⁰ Young Africans are determined to shape the destiny of their continent, and this optimism should not be underestimated.

Provision of national address systems and infrastructure across the continent is crucial to facilitate the delivery of goods to clients and consumers.

Mobile money usage

Digitalization through e-commerce and digital financing has provided Africans with an exceptional opportunity for reducing trade costs and

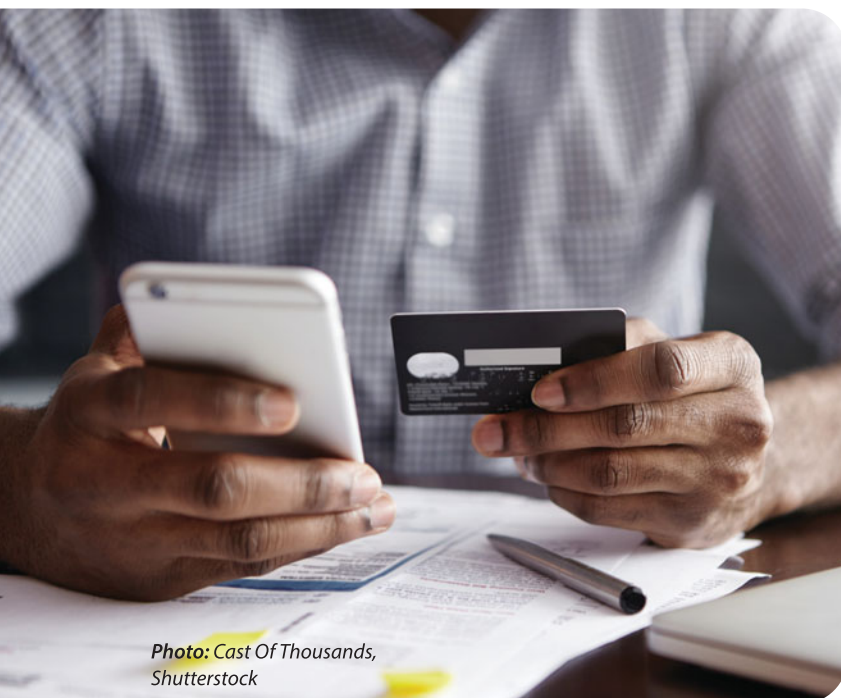


Photo: Cast Of Thousands, Shutterstock

leapfrogging into the fourth industrial revolution. Sub-Saharan Africa has been at the forefront of the mobile money industry for over a decade, with 605 million registered accounts in the region by the end of 2021.⁷¹ Sub-Saharan Africa had the highest number of registered and active mobile money accounts globally as of 2021. Sub-Saharan Africa also has the highest transaction volumes and value compared with any other region in the world.⁷² This is an asset for Africa's sustainable development, as it will ensure financial inclusion and innovation in an already-developed financial infrastructure. The result could be more innovative financial products and services. Table 6 provides a comparison of Africa's mobile money market with the other regional and global markets.

Table 6: Regional mobile money accounts and transactions in 2020

Region	Registered Accounts	Active Accounts	Transaction Volume	Transaction Volume (US\$)
Global	1.2 billion	300 million	41.4 billion	767 billion
East & Pacific Asia	243 million	52 million	5.4 billion	111 billion
Europe & Central Asia	21 million	4 million	234 million	4.0 billion
Latin America & the Caribbean	39 million	16 million	701 million	19.8 billion
Middle East & North Africa	56 million	3 million	146 million	10.5 billion
South Asia	305 million	66 million	7.5 billion	131 billion
Sub-Saharan Africa	548 million	159 million	27.4 billion	490 billion

Source: GSMA, *State of the Industry Report on Mobile Money (2021)*

Increase in digital literacy

Basic digital skills provide many advantages, including capacity to operate computers and smartphones; set up online accounts and profiles; access and store information online; access online resources and communicate digitally.⁷³ Digital literacy rates go hand-in-hand with access to digital means.⁷⁴ This suggests that an increase in Africa's access to the Internet represents (at minimum) an increase in the basic digital skills rate. Although Africa has one of the lowest Internet access rates in the world, there has been a steady growth of Internet users in recent years. From 2013 to 2020, the number of Internet users has more than doubled, from 240.15 million to 566.14 million users.⁷⁵ These 2020 figures surpassed North America and Latin America and the

Caribbean, which registered approximately 467.82 million and 332.91 million users, respectively.⁷⁶ An increase in a skilled workforce has a vital role in ensuring the success of enterprises. It also drives productivity. Africa has the largest youthful population in the world, and young people are more inclined to embrace digital literacy and technology. The added value of digital literacy and Internet usage could position African youth to drive the continent's development priorities.

Operationalization of the African Continental Free Trade Area (AfCFTA)

The African Continental Free Trade Area (AfCFTA) can facilitate an enabling environment for entrepreneurs. It enhances access to larger markets, integrated to subregional and regional digital value chains. AfCFTA is a flagship trade agreement with the potential to provide a market of goods and services for over 1.2 billion consumers, and a combined GDP of approximately \$2.5 trillion across all 55 Member States of the African Union. The market is projected to increase as the population grows. The population of the continent could reach 2.5 billion by 2050, and it is projected that 26 percent of the world's working population could come from the continent at that time.⁷⁷



*Photo: Nicholas Wilson/
UNDP Kenya*

Improvement in business-friendly reforms

The ease of doing business in Africa remains optimistic, according to the World Bank's 2020 Doing Business Survey.⁷⁸ Some countries have experienced more success than others, however. Mauritius and Rwanda have been ranked in the top 50 countries on the 'ease of doing business' indicator. On two consecutive occasions, Togo has been among the top 10 countries that have most improved the ease of doing business with regards to government regulatory reforms. Nigeria has joined this top 10 category, having implemented six regulatory reforms in recent years. The business-friendly environment in Morocco has been the biggest creator of jobs through foreign direct investment (FDI) between 2015 and 2020.⁷⁹ Tunisia followed suit by pioneering various start-up regulations, which has resulted in similar regulations being implemented across Africa.⁸⁰ These business-friendly reforms have great potential to build confidence among investors and entrepreneurs that wish to successfully participate in Africa's digital entrepreneurship ecosystem.

Chapter 3:

Examples of Digital Entrepreneurship in Africa

 uLesson

 etudesk

 JUMO

 YOCO

 finfind

 babyl

 DabaDoc

 FARMERLINE


APOLLO
AGRICULTURE

 hello tractor

 Nile


Shimi
WHERE DIGITAL AGRICULTURE TAKES FLIGHT


Dabchy

3.1. Introduction

This study describes a variety of initiatives to demonstrate how to overcome development challenges with digital entrepreneurship. The following selection criteria was developed:

- ▶ Private sector initiative or public-private sector partnership related to digital entrepreneurship: The example must either be led by the private sector or be in the form of a public-private partnership.
- ▶ Target groups: People from various vulnerable groups should be targeted.
- ▶ Innovative use of digital tools: The initiative must have a business model that aims to overcome bottlenecks using digital tools.
- ▶ Impact: The impact must be positive and explicit, and attributed to digital entrepreneurship. A combination of any of the following indicators will be used to determine the impact of the intervention: sales, investments from investors, social change, receipt of a reputable award, clientele (or people served), and people trained or jobs created.
 - Responsible business conduct: There should be adherence to the values and ethics of the United Nations.
 - SDG-related: It must be geared towards the achievement of the SDGs.
 - Representation: The example will be taken from the various regions of the African continent. However, a relevant example from another developing region may also be included, if necessary.

The examples were identified by desk research. Those selected for this publication are digital enterprises or public-private partnerships that target vulnerable groups such as women, youth and the rural poor, among others. These interventions have contributed to the SDGs by making the priority sectors more innovative and by using digital technologies that are available across Africa. The examples represent innovative approaches from various regions of the continent.

3.2. Sectoral classification of examples

3.2.1. EdTech



Sub-Saharan Africa has the highest rates of education exclusion of all the regions in the world, according to United Nations Educational, Scientific and Cultural Organization (UNESCO). More than one fifth of children between 6 and 11 years of age are out of school; one third of youth between the ages of 12 and 14 are not in school; and about 60 percent of youth between the ages of 15 and 17 have been excluded from school.⁸¹ The inability to attend schools also excludes students from participating in standardized testing.⁸²

Out of the 58 million primary school-age children that are not in school globally, 33.8 million are in sub-Saharan Africa.⁸³ Lack of education infrastructure prevents enrolment and school survival, i.e. student tenure in completing their schooling, in Africa.⁸⁴ If tackled with the right tools, reducing the education gap could significantly contribute to sustainable development of the continent. The annual finance gap to provide the global target of 12 years of quality education for all by 2030 is set at \$39 billion.⁸⁵

Modern technologies have been useful in teaching, learning and providing support to academic institutions. Digital entrepreneurs in the education sector can be instrumental in increasing access to affordable and flexible education. This could enhance the uptake of education across the continent, and consequently contribute towards the attainment of the SDGs. Expansion of the EdTech sector would improve quality of life for many. For this reason, the sector is a priority.

During the COVID-19 pandemic there has been a shift to online education. The educational technology industry in Africa has seen an increase in funding from approximately \$7.65 million in 2019 to \$12.83 million in 2021.⁸⁶ This growth in investment empowered the industry to provide quality services and increase its reach across the education system in Africa.

Considering that mobile Internet users are projected to increase to 475 million in 2025 (from 300 million in 2020),⁸⁷ EdTech companies such as uLesson and Etudesk are strategically positioned to provide mobile-friendly education platforms for content sharing with learners and educators.

EdTech enterprises like these can contribute to enhancing access to quality education and reducing education delivery cost.⁸⁸ Traditional ways of providing education services should be continued, while EdTech options create value in Africa by ensuring access to online education materials and solutions for distance learning.

Digital entrepreneurs in the education sector can be instrumental in increasing access to affordable and flexible education.

Background

uLesson is an educational technology start-up located in Nigeria that aims to enable pupils to achieve their full potential. It uses best-in-class teachers, media and technology solutions to provide learners with high-quality, affordable and accessible education. uLesson provides an app and a content library that helps students improve their academic performance and prepare for careers in a variety of fields. It was established to address infrastructure and learning shortcomings in Africa's education sector.

Action

- The uLesson app provides a holistic learning experience for students in junior and senior secondary school in subjects such as mathematics, English language, basic science, basic technology, business studies, physics, chemistry and biology. It also prepares students for the examinations including the West African Senior School Certificate Examination (WASSCE), Joint Admissions and Matriculations Board (JAMB), National Examination Council (NECO) and General Certificate of Education (GCE).
- The app includes more than 10,000 questions with detailed solutions in mathematics, English language, physics, chemistry and biology.
- Students in senior secondary school or senior high school in The Gambia, Ghana, Nigeria, Liberia and Sierra Leone use this high-quality material put together by lesson teachers to prepare for their exams.
- Timed practice examinations enable students to assess their preparedness. Timed practice also helps them master time management, exam formats and accuracy abilities.

Results

- uLesson's daily average users increased by 430 percent in 2021.
- Demand for the service has increased by 222 percent since September 2021 through December 2021, when live courses were first introduced.
- As of December 2021, the uLesson app has been downloaded over 2 million times, with 12.3 million videos watched and 25.6 million questions answered.
- Students spend an average of 57 minutes on the uLesson app, prompting parents to purchase smartphones for their children's education, either on their own or through the 'device+plan' combination from uLesson.
- In 2021 uLesson enjoyed 600 percent growth in annual paying users.



Example 1: uLesson, Nigeria

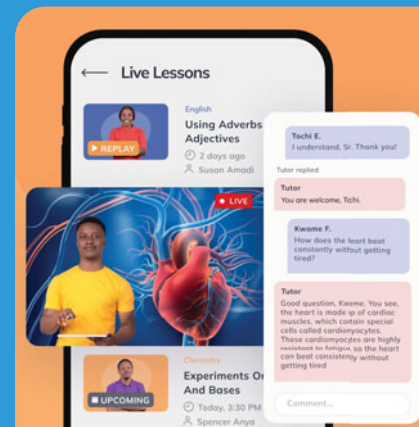
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https://endeavornigeria.org/wp-content/uploads/2022/06/Endeavor_The-Inflection_Point_June-2022.pdf





Background

Etudesk is an online learning platform located in Africa that allows academic institutions and enterprises to construct virtual training programmes. The platform provides user-friendly templates allowing educators to build learning platforms adapted to their own classrooms and develop courses that can include video, quizzes, activities and certificate integration.

Action

- Asynchronous or cohort training is available, as well as online or mixed training.
- Etudesk provides services that allow users to easily develop modules utilizing data from a variety of sources, including documents and videos.
- Etudesk disseminates links to training and educational materials to more than 20 countries, and can reach learners around the world.
- Etudesk assists students and job seekers to upgrade their professional skills through business-focused courses.
- Payments are accepted online using digital methods such as Visa, Mastercard and Mobile Money.
- The company offers services to assess trainees' abilities through practical activities and quizzes with automatic scoring based on institutional preferences.

Results

- In 2016, Etudesk won the Seedstars Abidjan Competition, the Ivory Coast leg of the Global Seed-Stage start-up competition for emerging markets and fast-growing start-up scenes.
- As of 2022, Etudesk's e-learning platform has been used by over 500 organizations (e.g. SMEs, start-ups, corporations, governments and international organizations) and more than 50,000 people in more than 20 countries have accessed Etudesk's online learning programmes.

Sources:

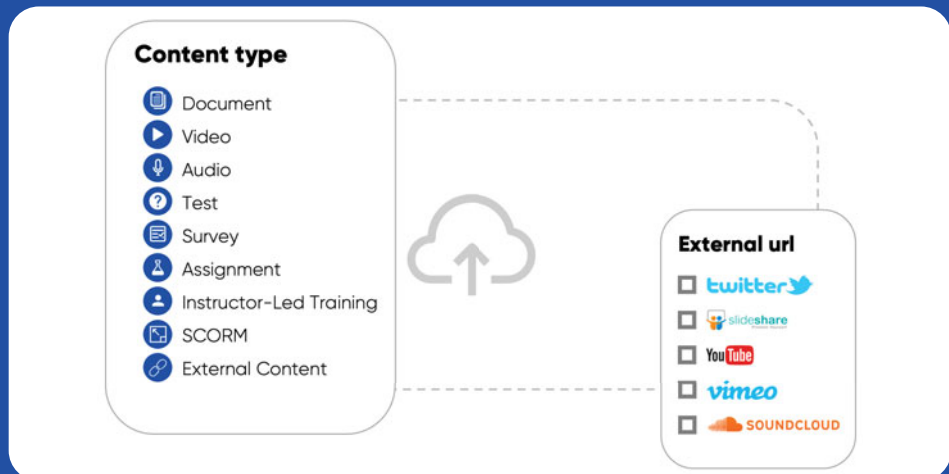
Etudesk
www.etudesk.com/

Founder Institute
<https://fi.co/insight/abidjan-startup-etudesk-is-one-of-the-most-promising-ivorian-startups-today>

Venture Burn
<https://ventureburn.com/2016/08/etudesk-win-cote-divoire-leg-seedstars-world/>

Investisseurs & Partenaires
www.iexp.com/en/company/etudesk

Agence France-Presse
www.afd.fr/en/actualites/digital-africa-innovation-competition-10-winners



3.2.2. FinTech

Financial inclusion remains a major challenge in Africa despite efforts made to address the issue. Up to 65 percent of adults on the continent or 370 million people are unbanked. Financial inclusion can improve GDP by up to 30 percent in some frontier markets such as Kenya.⁸⁹ However, Africa is the most developed market in the world for mobile money. This could be a great segue for digital entrepreneurship to bridge the financial inclusion gap and contribute to the achievement of the SDGs. For example, M-Pesa, a Kenya-based FinTech which provided Africa's first mobile payments service, has been a major driver of financial inclusion on the continent, serving over 51 million customers across seven countries.⁹⁰ African FinTechs can promote social inclusion, access to finance for consumers, as well as access to financial services for enterprises. This could contribute to Goal 1, Target 8.10, Target 9.3 and Goal 10 of the SDGs.



The FinTech sector in Africa has rapidly grown over the years, and technology has contributed to the reduction of banking costs for both consumers and service providers.⁹¹ Although technological advances are not new to the finance sector, digital innovation has resulted in major improvements in systems connectivity, cloud computing, mobile phone usage, as well as newly created and usable data.⁹² African FinTech enterprises have the potential to have a positive impact on the socioeconomic development of the continent.

ICT rapidly proved itself as a cost-effective solution in dealing with the limited banking infrastructure in Africa with innovative solutions such as mobile banking. FinTech enterprises such as Jumo, Yoco and Finfind have shown tremendous commitment in serving millions of Africans by providing financial access to people, start-ups and SMEs. These models can be rapidly scaled; they offer significant efficiency gains and entail low barriers to entry for individual users.

According to the Disrupt Africa's 2021 report on the financial services landscape, the number of FinTech start-ups active in Africa has grown by 89.4 percent between 2017 and 2021.⁹³ Their contribution to development in Africa is indispensable.

African FinTechs have historically been referred to as 'unbundling the bank'—that is, focusing on niche financial segments, such as payments, lending, insurance and investments.⁹⁴ This trend is beginning to reverse, as African FinTechs are 'rebundling' into large multiproduct providers to reap the benefits of economies of scale.⁹⁵ Out of the 576 African FinTechs tracked in the 2021 Disrupt Africa Survey⁹⁶ some 24 FinTechs (8 percent) operated providing multiple financial products in 2017; in 2021, this number increased to 143 (24.8 percent). African FinTechs are advancing towards becoming full-scale digital banks of the type more prevalent in developed countries.

Africa is the most developed market in the world for mobile money. This could be a great segue for digital entrepreneurship to bridge the financial inclusion gap and contribute to the achievement of the SDGs.

Example 3: Jumo, Côte d'Ivoire, Ghana, Kenya, Tanzania, Uganda and Zambia



Background

Jumo World is a financial services platform that provides businesses in emerging economies with savings, loans and insurance products. Financial identities for small, medium and microbusinesses are created using behavioural data from mobile usage. Côte d'Ivoire, Ghana, Kenya, Tanzania, Uganda and Zambia are among the African countries where the company operates, with market expansions planned in Benin, Cameroon and Nigeria.

Action

- The company offers eMoney and banking services, as well as reporting, analytics and insight needed to provide consumers with tailored financial services.
- Jumo builds accurate credit scores and targeted financial solutions for people who do not have a formal financial identity, collateral or credit record using artificial intelligence and machine learning.
- Jumo ensures the privacy and security of its clients' data by employing automated algorithms to ensure that protective safeguards are included into their technology.



Results

Jumo was founded in 2015. As of 2022, Jumo has:

- Provided services to over 20 million individuals and small businesses
- Disbursed more than \$4 billion in funds
- Disbursed a total of \$130 million in loans

Sources:

Jumo
<https://jumo.world/>

Craft
<https://craft.co/jumo-776>

Nairametrics
<https://nairametrics.com/2021/11/09/south-african-jumo-ready-to-explore-nigeria-cameroon-market-as-it-raises-120m/>



AI & Machine Learning

We use artificial intelligence and machine learning to build accurate credit scores and targeted financial products for people who don't have a formal financial identity, collateral or credit record.



Portfolio strategy & analytics

We provide our eMoney and banking partners with all the reporting, analytics and insight they need to offer individualised financial services with high value and utility for customers.



Data privacy & responsible banking

We care about the privacy of customers' data and their security. We use automated algorithms to ensure they don't overextend themselves and have built protective safeguards into the heart of our technology.

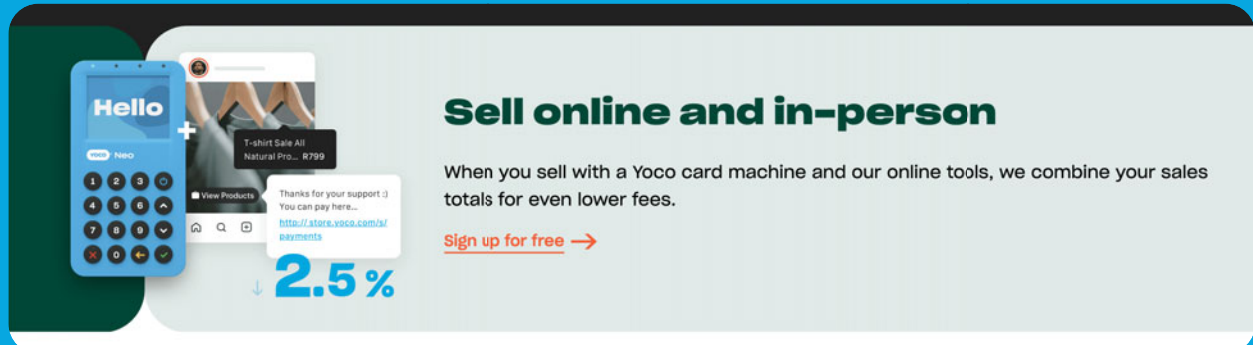
Background

Yoco is dedicated to using smart technology to help entrepreneurs develop in South Africa. It is a payments and software firm that creates tools and services to assist African small businesses in getting paid, running their businesses more efficiently, and expanding. Yoco's initial product, a mobile card reader that links to a merchant's smartphone or tablet, was released in late 2015.



Action

- Khumo and Khumo Print are independent card devices that provide free, limitless 4G data and Wi-Fi. Yoco Go is another important gadget that can be connected to a smartphone via Bluetooth and used with the Yoco app. These card machines, which are part of the company's core brands, help businesses get paid faster and more conveniently.
- Yoco Link is a service that enables businesses to receive payments without the use of a website or a card reader. To get paid, a payment link is established using the Yoco app and shared with customers via WhatsApp, email, SMS or other means.
- Yoco also offers a website-based solution that explains how to incorporate payment processing into a business's apps, stores or systems.
- Yoco Capital offers small businesses a quick and flexible cash advance. The advance is eventually repaid with a portion of all Yoco sales.

Sell online and in-person

When you sell with a Yoco card machine and our online tools, we combine your sales totals for even lower fees.

2.5%

[Sign up for free →](#)

Results

Between 2015 and 2022, Yoco has accomplished the following:

- Yoco's simple card machines and Internet payment tools have been used by over 200,000 company owners.
- Yoco helps 250,000 small businesses obtain payment, and to develop.
- The Yoco platform handles about \$2 billion in transactions each year.
- Over 350 individuals were employed by Yoco operating across international markets.



Sources:

Yoco
www.yoco.com/za/about/

Partech
<https://partechpartners.com/companies/yoco/>



Background

Finfind is an online platform based in South Africa. Recognizing that access to finance is one of the biggest challenges that hinders long-term success of start-ups as well as Small and Medium Enterprises (SMEs), Finfind aims to develop solutions to increase access. The platform was established through the efforts of the United States Agency for International Development (USAID). Following a five-year research, USAID transferred the project to TDH, which is a local FinTech business. The Finfind Pty Ltd was registered in 2015 by TDH. Following its registration, Finfind was launched in South Africa by the Minister of Small Business Development in October 2015.



Action

- The platform automatically matches finance seekers with funders from a comprehensive, up-to-date database.
- Once registered on the platform, seekers provide relevant information about their company/project, and the platform matches the seekers with appropriate funders. Seekers are then able to apply for funding opportunities.
- The platform offers start-up finance, franchise finance, equity finance contract finance, cash flow bridging finance, debtor finance, asset finance, expansion finance, supplier finance, etc.
- Finfind also provides information on financial education and allows its users to access a funding dictionary to provide an understanding of funding terminology.

Results

- The South Africa Department of Small Business Development recognized Finfind as a critical solution to address the problems faced by providers and seekers of SME finance in South Africa.
- As of 2022, the platform is said to be visited by more than 15,000 businesses every month to find funding.
- Finfind provides a wide range of funders with more than 600 SME finance offerings from public and private sector actors in its database.

Source:

Finfind
www.finfind.co.za/home

3.2.3. HealthTech

Many African countries lack adequate health infrastructure. It is estimated that over 400 million people in Africa have little or no access to health care, while only one in four doctors in Africa are deployed, with a health workforce shortage especially in rural areas.⁹⁷ Africans will not be able to achieve their development aspirations without a healthy population. The increasing availability of smart phones and Internet in both urban and rural areas provides opportunities for clinicians, doctors and patients. These digital technologies can be used for a wide range of functions, from diagnostics of patients to treatment and provision of medical advice. Africa-based digital health enterprises such as Babyl and DabaDoc have illustrated practical ways in which this can work, enhancing primary health care services and thus contributing to Goal 3 of the SDGs.

As with the continent's advances in the mobile banking services, Africa's HealthTech sector also has great potential to 'leapfrog' in this age of digital transformation. Through online medical management, Babyl and DabaDoc have provided multifunctional digital platforms that ensure convenient patient-to-doctor interactions, leading to millions of consultations across the African continent. HealthTech enterprises, increased data availability and improved data processing enhance information exchange. This can contribute significantly towards the enhancement of health system and achievement of the SDGs.⁹⁸ The pieces are in place to ensure that the HealthTech sector in Africa can skip slow, incremental innovation, and develop straight on to be effective and beneficial for patients as well as stakeholders who have a vested interest in the industry.

Digital health technologies play a significant role in building resilience against future pandemics or other crises. The COVID-19 pandemic highlighted new opportunities for the African HealthTech sector.

Financing for the HealthTech sector is not as widely available as the FinTech sector; however, there is a high demand for innovation by African HealthTech entrepreneurs. Their new approaches to providing quality services promise to simplify the experience of health care consumers in Africa. Everything from making appointments to paying for telemedicine consultations to delivering equipment could be improved.⁹⁹ Such innovations would make a huge contribution to the achievement of the continent's development priorities.



Africa-based digital health enterprises such as Babyl and DabaDoc have illustrated practical ways in which this can work, enhancing primary health care services and thus contributing to Goal 3 of the SDGs.



Background

Babyl is a digital health care company. Its website explains that it integrates technology with experience of the practitioners to make health care more accessible for everyone. In March 2020, Babyl announced a 10-year agreement with the Rwandan Government to create Africa's first universal primary care service, based on a digital-first approach. Patients can now access their medicines and lab tests using their MUTUELLE and RSSB (formerly RAMA) insurance cards, thanks to a partnership between Babyl and RSSB, the largest national insurance firm.



Action

- Patients can request an appointment by dialing the Babyl number.
- Payments can be made using mobile money, Tigo Cash or Airtel Money.
- Babyl clinicians can order laboratory tests, and the patient receives an SMS with a unique code that can be used to conduct the test at the nearest Babyl partner laboratory facility.
- Babyl generates prescriptions digitally using a Babyl code that may be scanned with a mobile phone. The drug is picked up at a Babyl partner pharmacy that is affiliated with the patient's insurance company.
- Babyl has created an AI triage platform that intends to improve the efficiency of the process and the quality of questions addressed to patients, as well as providing standardized clinical notes that can be used by other professionals.

Results

- According to the company website, as of 2022, Babyl has produced employment for more than 600 people in the digital health sector since its inception in 2016.
- Babyl is the largest provider of digital health services in Rwanda. It has provided more than 2,900,000 consultations as of 2022.
- More than 2,500,000 people have signed up for Babyl.
- Babyl partnered with the Government of Rwanda in March 2020 to build the first universal primary care service in Africa, using a digital-first approach. Babyl will work with all health care institutions and the Rwanda Social Security Board to provide digital health care services.

Sources:

Crunchbase
www.crunchbase.com/organization/babyl

Babyl
www.babyl.rw/

Background

DabaDoc, founded in 2014, is an African online medical appointment scheduling tool. Its various integrated functionalities maximize the operation of medical offices, and it allows patients to schedule appointments in only a few clicks, 24 hours a day and seven days a week. DabaDoc's objective is to make locating doctors easier, to provide patients with a better appointment booking experience, and to help doctors better manage their appointments.



DabaDoc Consult

Action

- DabaDoc offers a service from which patients can schedule an appointment electronically for themselves, their children, family members or friends. The service also helps the patient with diverse appointment options, health centres, laboratory facilities and general practitioners available.
- Doctors listed on the site can contact their patients as well as adjust their schedules as needed. This can be accomplished via DabaDoc's web-based platform or mobile app.
- DabaDoc also offers a video consultation service. For some conditions, all that is required is a doctor's advice and recommended meds, which may be administered to the patient at home.

Results

- DabaDoc services were extended from Morocco to Algeria and Tunisia in 2015.
- ArabNet named DabaDoc one of the top 10 start-ups in the Middle East and North Africa (MENA) region in the same year.
- As of 2022, DabaDoc reports that some 10,000 doctors are using the platform, and over 8 million people have used the service.



DabaDoc Mind

Sources:

Informa Markets
www.northafricahealthexpo.com/content/dam/Informa/northafricahealthexpo/english/downloads/NAH-IndustryReport_1_ENG.pdf

DabaDoc
www.dabadoc.com/

Reuters
www.reuters.com/article/ivorycoast-orange-healthcare-idINL8N2XX3UT

3.2.4. AgriTech



Over 257 million people in Africa suffer from hunger, and every third person on the continent is malnourished.¹⁰⁰ The agriculture sector has a critical role in addressing the causes of underdevelopment in Africa. Transforming agriculture allows rural communities to thrive, and the majority of the poor people in Africa live in rural areas. Digital entrepreneurship can contribute in several ways: developing agriculture value chains, linking the various actors in the value chain, increasing access to small loans for farmers and facilitating access to credit facilities for farmers. African digital entrepreneurs can enhance agriculture value chains and thereby contribute to the achievement of Target 2.3, Target 2.4, Target 2.a and Target 2.b of the SDGs (table 4).



Africa's untapped potential in agriculture is projected to be valued at \$880 billion by 2030, with increased potential arising from improvements in ecosystem services; low-income food markets; reduction of food waste in production phases; and technological advancement of smallholder farming and large-scale farms.¹⁰¹ The creation of a path forward for digital entrepreneurs will encourage new solutions that will improve productivity, enhance nutrition, reduce environmental impacts and consequently contribute to achieving sustainable development.

Some 32.9 percent of African start-ups are focused on the agriculture value chain.

Digital entrepreneurship is crucial to improving efficiency in AgriTech. Digital entrepreneurs are already change agents in the sector especially through platforms focused on agriculture. Some 32.9 percent of African start-ups are focused on the agriculture value chain.¹⁰² Farmerline, Apollo Agriculture, Hello Tractor Agriculture and Nile have supported building the agriculture value chain in Africa through methods and practices that could potentially be scalable across the continent. This work has supported the development of agriculture in rural areas and thus contributes to the reduction of poverty. Digital technology has enhanced opportunities for youth entrepreneurship. The use of the Internet, new media, cloud computing and open-source software has catapulted the innovation process among young Africans.¹⁰³

Low-cost solutions to farmers have modernized farming practices and improved crop yields. Internet and mobile technologies have overcome geographical boundaries and language constraints to provide a wide range of information and services: weather forecasts, soil data, agricultural prices in different markets, e-banking and digital payment systems. They have also extended crop insurance to farmers living in areas that are out of reach of formal credit systems.¹⁰⁴ These transformative digital technologies are also reshaping business models in the agriculture value chain. For instance, blockchain is transforming traceability, value chain optimization, crop insurance and agriculture transactions.¹⁰⁵

Background

Farmerline, founded in 2013, connects farmers with input producers, sustainable food brands, financial institutions, governments and development groups to create access to the agricultural value chain. Farmers pay for information packages and services, while input merchants and traders pay for more effective communication routes. Farmerline's goal is to increase food production and market access while increasing farmer income from cash crop exports.

Action

- Mergdata, a mobile and web software package, is the company's main product. It utilizes big data and AI to provide organizations with insight into farmers' work, and to provide farmers with increased access to resources, such as financial services, agronomic information (including, weather forecasts), and market price information. The software sends information to farmers via voice messages in their language. The farmers might not otherwise have access to this data and information.
- Farmerline employs a cost-effective distribution model. It provides inputs to agro-input dealers in all operational districts, who then sell them to farmers.
- Through Mergdata, agro-input dealers can record their sales and then track demand while having easy to access records.
- Farmers are given digital ID cards that contain a record of all their financial transactions with Farmerline.
- Direct farmer training is provided through workshops.
- Digital communication tools are used to teach all field teams.
- Farmerline provides mobile farmer education via phones as a COVID-19 mitigation measure: farmers receive World Health Organization COVID-19 information via voice messages in local languages; field officers instruct farmers on appropriate farming practices via phone calls; and a call centre is accessible to help farmers.
- Technology instruments are used depending on the need, such as logistics services, access to high-quality fertilizer and seeds, etc.

Results

- Farmerline provides input funding and intensive instruction to over 12,000 farmers in Ghana using digital tools and a network of well-trained field agents.
- As of 2022, Mergdata has supported over 130 corporate and development partners across 33 countries to reach over one million farmers.
- As of 2022, over 60 organizations in Africa and Asia and Latin America use Mergdata modules for farmer profiling, mapping, certification, traceability, messaging, and digital payments to certify farmers and provide them with the resources they need to boost productivity and profit.
- As of 2022, Farmerline has raised around \$14 million in funding from investors including the Dutch development bank (FMO) and Acumen Resilient Agriculture Fund (ARAF) and Oikocredit.
- In 2019, TIME Magazine nominated Mergdata to its annual list of the 100 Best Inventions that are Changing the World.



Sources:

[Farmerline](https://farmerline.co/)

<https://farmerline.co/>

[LinkedIn](https://gh.linkedin.com/company/farmerline)

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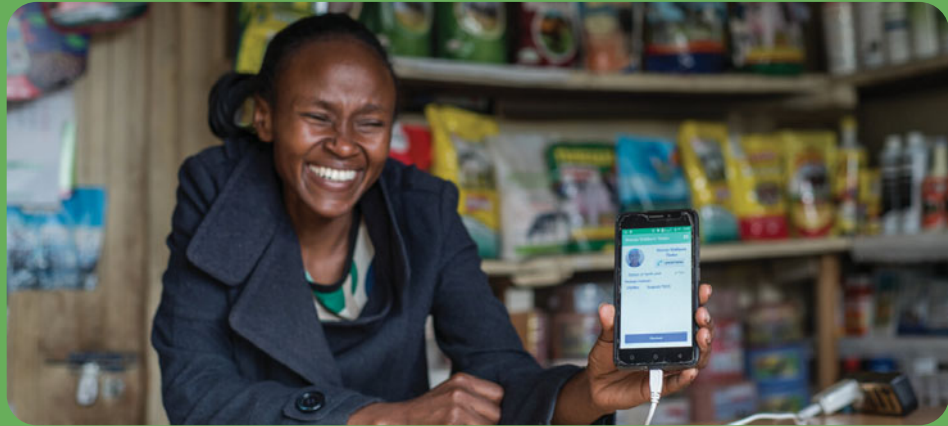
[Crunchbase](http://www.crunchbase.com/organization/farmerline)

www.crunchbase.com/organization/farmerline

[Agfundernews.com](https://agfundernews.com/farmerline-nets-1.5m-from-oikocredit-in-second-close-of-14m-pre-series-a-round)

<https://agfundernews.com/farmerline-nets-1.5m-from-oikocredit-in-second-close-of-14m-pre-series-a-round>





Background

Apollo is a Kenyan digital start-up that works at the interface of agricultural technology and financial services technology. Established in 2016, Apollo provides high-quality farming inputs on financing, crop insurance and voice-based teaching to small Kenyan farmers. Apollo employs a unique 'high tech, low touch' paradigm by combining breakthroughs in mobile money, machine learning and remote sensing technology, including satellite data. The Dutch development bank (FMO, from the Dutch Financierings-Maatschappij voor Ontwikkelingslanden N.V.) and the Rabobank Foundation gave Apollo Agriculture a cash boost of \$500,000 in 2018. To fund the farmers' harvesting cycles, the tech start-up uses FMO and Rabobank Foundation financing, while also strengthening its credit model to grow geographically.

Action

- Starting in Kenya, the company employs agronomic machine learning, remote sensing and mobile phones to give a tailored combination of finance, high-quality farm inputs and guidance that can enhance farm production.
- Apollo uses satellite data, soil data, farmer behaviour data and crop yield algorithms to assess farmer credit risk and tailor each package to a farmer's individual location.

Results

- During its initial growing season in 2017, Apollo provided support to over 1,000 farmers. It began in Nakuru, around 170 kilometres northwest of Nairobi, with a concentration on corn growers.
- In 2021, Apollo will have extended to eight of 47 counties in Kenya, with 70,000 active subscribers.
- Apollo has funded approximately 100,000 farmers, with the goal of increasing that number to 200,000 farmers in 18 counties in 2023.
- Apollo manages a network of over 5,000 agents and almost 1,000 shops to provide small-scale farmers with last-mile delivery of farm inputs and services.

Sources:

Crunchbase
www.crunchbase.com/organization/apollo-agriculture

Apollo Agriculture
www.apolloagriculture.com/

AG Funder News
<https://agfundernews.com/in-kenya-apollo-agriculture-is-building-a-pathway-to-commercial-farming>

FMO
www.fmo.nl/project-detail/54993

Chan Zuckerberg Initiative
<https://chanzuckerberg.com/newsroom/apollo-agriculture-raises-40-million-to-expand-platform-to-help-small-scale-farmers-improve-their-yields/>

Background

Hello Tractor encourages collaborative consumption by establishing a network of ‘smart tractor’ owners, connecting them with other smallholder farmers and allowing them to rent out their tractors. Small-scale farmers can use SMS and mobile money to request and pay for tractor services when they need them. Hello Tractor seeks to provide low-cost alternatives to African farmers in need of adequate agricultural equipment.

Action

- Tractors are fitted with GPS systems that allow owners and farmers to communicate simply via wireless cloud services.
- Hello Tractor creates a shared pool of equipment to provide access to technology.
- A mobile and online application is used to track and manage fleets as well as manage bookings.
- A booking app is used to connect with clients and organize farmers in a marketplace to improve revenues.
- To expand one’s own fleet, it enables use of precise reporting to gain access to innovative pay-as-you-go financing.

Results

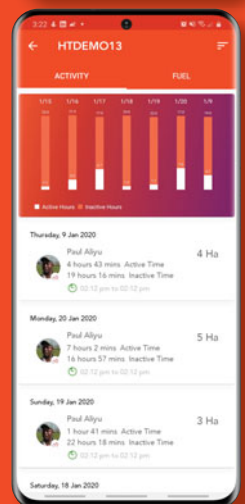
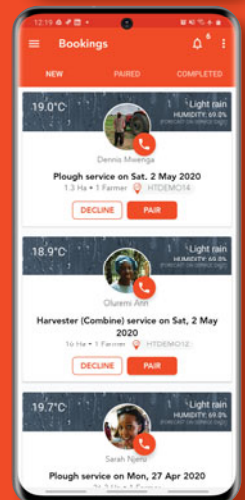
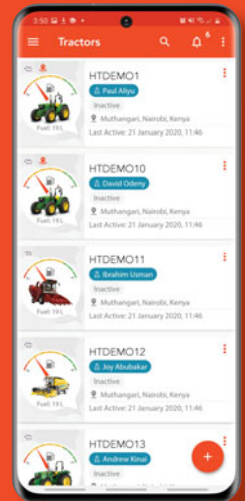
- As of 2022, Hello Tractor has facilitated rentals for over 500,000 small-scale farmers in 17 countries.
- Hello Tractor has increased income for tractor owners and farmers who rent them.
- It aims to grow to a total of 750,000 tractors, as the company predicts that Nigeria alone needs an extra 750,000 tractors to be on the world average.
- Self-sufficiency and community-based growth are promoted with the app.
- Use of a mechanized tractor makes planting 40 times faster and 2.5 times less expensive than traditional manual methods (including planting on time, a 63 percent average savings and upward of three times increase in yield).
- Hello Tractor has secured 75 percent of private commercial tractor inflows into Nigeria.
- Through strategic alliances, it has expanded to 13 markets across Africa.

Sources:

Hello Tractor <https://hellotractor.com/>

Here360 <https://360.here.com/hello-tractor>

Medium <https://medium.com/authority-magazine/meet-the-disruptors-how-jehiel-oliver-of-hello-tractor-is-shaking-up-access-to-farm-equipment-98218fb40447>





List for sales
Producer lists produce for sale and updates available quantity.



Place order
Buyer places an order and transfers funds to the Nile platform.



Direct delivery
Producer delivers directly to buyers or to centrally located hub for pick-up.



Payment confirmation
Buyer confirms receipt and Nile transfers funds to seller within 24h.

Background

Founded in 2020, Nile is a business-to-business online platform based in South Africa that enables direct trade between suppliers and buyers. The platform provides an opportunity to connect agricultural producers with commercial retailers. Nile aims to create solutions for the challenges related to food trading including pricing, quality verification and payment. Nile recognizes the importance of access to marketplace for African producers. Through its services, Nile aims to integrate regional food systems and make food accessible for more consumers across Africa.



Action

- Nile brings together small and/or large producers (farmers) and buyers, including retailers, wholesalers and processors.
- It ensures the best quality of products through its partnership with leading food inspectors. The farmers are vetted to guarantee the quality of the product.
- Buyers can review the catalogue, order and pay through the platform.
- Payments are processed within 12 to 24 hours.
- The product prices are determined in line with the market prices.
- All transactions are managed from a single platform. Both buyers and sellers use an easy-to-use platform for trading.

Results

- As of 2022, Nile is operating in 35 cities and towns in Botswana, Eswatini, Mozambique, Namibia and South Africa.
- Nile has facilitated the trading of approximately 30 million kilograms of fresh products.
- The platform plans to expand its operations to Eastern and Western Africa to provide accessible and good quality food for consumers.
- In 2022, Naspers Foundry invested \$2.5 million in Nile.

Sources:

Nile <https://nile.ag/about/>

AgFunderNews <https://agfundernews.com/nile-secures-5-1m-in-naspers-led-round-for-its-farm-produce-marketplace#:~:text=The%20round%20was%20led%20by,Raba%20Capital%2C%20and%20Base%20Capital>



Photo:
Ruslan Ivantsov, Shutterstock

The use of drones and precision agriculture is assisting farmers to increase food production and protect their crops, helping prevent harvest losses and build resilience. In Kenya, farmers are using near-infrared cameras mounted on drones to identify pests and diseases, specifically mite and viral diseases in cassava, as well as armyworm infections in maize. Approximately 28,000 cassava farmers in the country have thus far benefited from this digital innovation.¹⁰⁶ In Uganda, around 7,000 farmers have used drone techniques to provide an aerial view and alert them of changes in crop development that the human eye would not naturally detect.¹⁰⁷

During the COVID-19 pandemic, agricultural technology solutions connected farmers directly to consumers in ‘farm-to-fork’ initiatives. This digital solution was at high demand during the lockdown, enabling people to get their food essentials when movement was restricted.¹⁰⁸ For instance, FarmCrowdy (a digital enterprise) played a significant role in supporting farmers to sell their produce. It collected produce from its network of over 20,000 rural farmers and then stored and sold the produce in Lagos.¹⁰⁹ This type of innovation provides significant opportunities for digital entrepreneurs, and for the approximately 33 million smallholder farms on the African continent which contribute up to 70 percent of the food supply.¹¹⁰

Agriculture contributes approximately 52 percent of total employment in Africa.¹¹¹ The sector is key in producing inputs in production processes and commodities for intraregional trade, within the context of the AfCFTA. Adoption of digital entrepreneurship in the agriculture sector has a great potential to boost resilience and support development strategies.

Digital entrepreneurship and ICT have a significant role in contributing to achievement of the 2030 Agenda and empowering women as key actors in Africa's socioeconomic transformation.

3.2.5. A cross-cutting concern: Women's empowerment and ICT

Youth hold the key to unlock the potential of digital entrepreneurship in Africa, generating robust attention from the stakeholders to promote youth engagement in entrepreneurship. However, women, especially young women entrepreneurs, have not received the same support. In Africa, 70 percent of women are financially excluded. The gender gap in access to finance on the continent stands at \$42 billion, showing that women and businesses owned by women do not have the same access to finance as their male counterparts.¹¹² The financial independence of women is critical to reducing poverty in households because women invest their income in the education, feeding and health care of children and family members.

Digital entrepreneurship and ICT have a significant role in contributing to achievement of the 2030 Agenda and empowering women as key actors in Africa's socioeconomic transformation.



Photo: UNDP Zambia

Background

Shiri is a data science-based farming tool. The enterprise was founded by Tatenda Ndambakuwa, a young female Zimbabwean entrepreneur, in 2017. Her inspiration grew out of a desire to figure out how to provide appropriate sustenance for future populations. The business helps female farmers save time by being more efficient in their work and helps them to expand their agricultural businesses. Through sharing equipment, information and marketplaces, the Shiri mobile phone app enables African farmers to manage the food production chain more effectively. It also aims to improve production, sales and distribution for small-scale farmers. Shiri is expected to rise in popularity and help farmers become more productive and prosperous. It is available mainly in Zimbabwe.

Action

- Shiri provides a smartphone application that serves as a peer-to-peer communication network for African farmers.
- Farmers can use their cell phone to access resources, suppliers and vendors through the Shiri platform.
- Farmers are encouraged to contribute data about their animals and crops, which Shiri uses to create real-time analysis of food production systems at the macro level.
- Shiri offers a grass roots system to diagnose and handle food surpluses and shortages by simulating local food resources.



Results

- Shiri has worked with schools and universities to inspire a new generation of agriculturalists.
- Shiri organized agricultural days at schools where children could establish school gardens and learn about agriculture.
- Shiri has formed relationships for on-the-ground agricultural research with local African farmers and regional and international universities.
- Shiri has aided farmers, particularly women, in several regions by holding agricultural workshops that allow them to share information about their farming practices.



Sources:

Shiri
<https://shirifly.org/>

Lionesses of Africa
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Wayup
www.wayup.com/profile/Tatenda-Ndambakuwa-79466b3a67/

Chatham House
<https://chathamhouse.soutron.net/Portal/DownloadImageFile.ashx?fieldValueId=6092>



Background

Dabchy is an online fashion marketplace for new and secondhand clothing and apparel. It enables women to earn money by selling their old clothing online, shop for discounted items and showcase their personal style. It is a type of fashion marketplace that acts as a trustworthy intermediary between buyers and sellers. Dabchy employs a user-friendly web and mobile platform to simplify the process of purchasing and selling apparel. Dabchy arose from a collaboration between Ameni, a fashionista with a background in biomedical engineering; Ghazi, a computer security engineer; and Oussama, a web developer three young Tunisians who met in France at university.



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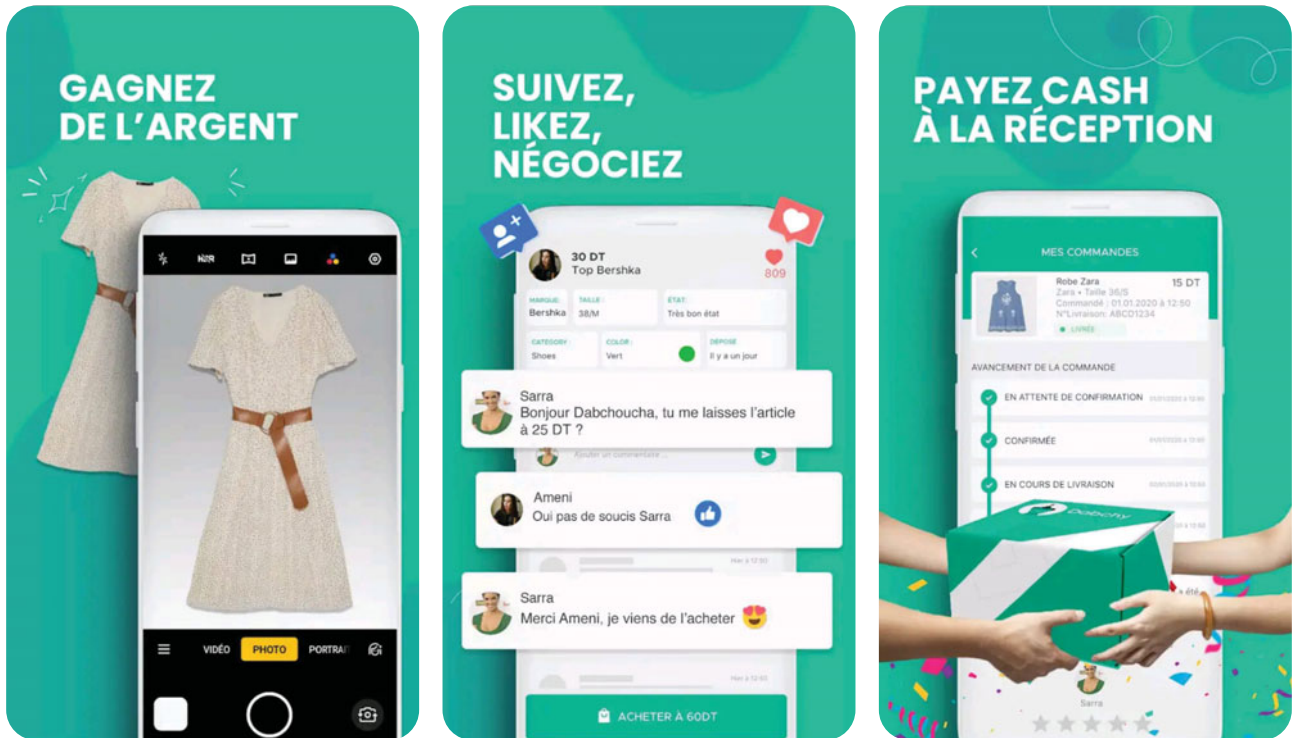
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Action

- Dabchy is a peer-to-peer fashion marketplace for women where they can buy and sell new and worn apparel.
- It is a fashion marketplace that provides a safe and secure payment and transaction platform, thereby combating fraud and the selling of counterfeit goods.

Results

- Over 300,000 women (that is, 'Dabchouchas') use the platform.
- Every day, 'Dabchouchas' posts around 150 pieces on Dabchy social media sites to encourage participation.
- There are over 100,000 products for sale.
- Over 100,000 people have downloaded the app as of September 2019.
- Dabchy is now available in Algeria and Morocco.
- It has reported a 30 percent increase in monthly transactions in 2019, compared with previous year.



Considering the impact that women entrepreneurs leading enterprises such as Shiri and Dabchy have had, women should not just be seen as potential beneficiaries of the SDGs, but also active participants in achieving them. When the capacity of women is enhanced, they are better positioned to make strategic choices in their lives, which has consequences for their livelihoods as well as the socioeconomic well-being of their families. Digital entrepreneurs have contributed to the creation of wealth for many women in Africa. The SDGs cannot be realized without the participation of women entrepreneurs in the private sector. If women had the same lifetime earnings as men, global wealth would increase by \$160 trillion, according to the World Bank.¹¹³

Digital technologies continue to redefine and reinvent the way we work and live. Supporting policy initiatives that harness digital technologies to advance women's empowerment should be prioritized by all genders. These policies are critical to the achievement of the SDGs in Africa. Mainstreaming gender in sustainable development is intrinsic in ensuring that no one is left behind. Where women and girls can change their opportunities and perspectives through digital entrepreneurship, their empowerment has a wide range of cross-cutting effects on the SDG outcomes in Africa, from ending poverty, to improving education and health, to enhancing agricultural productivity and creating decent jobs.

Digital entrepreneurs have contributed to the creation of wealth for many women in Africa.

Chapter 4:

COVID-19 and Digital Entrepreneurship in the African Context



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4289, Shutterstock

4.1. Impact of the pandemic on digital entrepreneurship in Africa

COVID-19 has caused major disruption across the world, and Africa has not been an exception. The rise of COVID-19 on the continent has posed many challenges on the health, socioeconomic, political and emotional well-being of Africans. The pandemic has equally created numerous opportunities for Africa and its people, which could directly or indirectly contribute to the achievement of the SDGs.

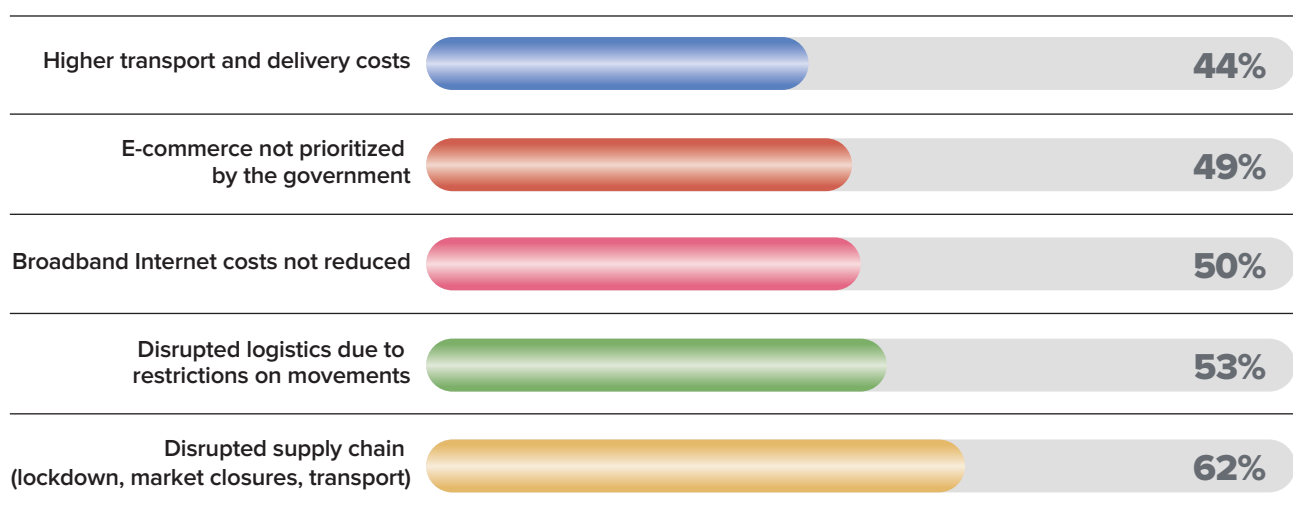
A 2020 study¹¹⁴ conducted by the United Nations Conference on Trade and Development (UNCTAD) assessed the impact of COVID-19 on 257 e-commerce businesses from 23 countries. Most of the countries were least developed countries (LDCs), of which 13 were from Africa.¹¹⁵ Some 66 percent of the respondents indicated that their operational costs were adversely affected as a result of the pandemic, 56 percent reported that their workforce remained stable (or might even increase in the short term) and 44 percent reported a reduction of workforce due to COVID-19.¹¹⁶

The pandemic has equally created numerous opportunities for Africa and its people, which could directly or indirectly contribute to the achievement of the SDGs.

4.1.1. Key challenges of the COVID-19 pandemic

The COVID-19 pandemic affected digital enterprises in many ways. Figure 3 depicts negative impacts to digital enterprise business operations. These negative impacts could have been mitigated if the pre-pandemic business ecosystem had provided a relatively conducive environment for e-commerce and digital entrepreneurs.

Figure 3: Top five challenges due to COVID-19



Source: Adapted from UNCTAD (2020)

Developing core ICT infrastructure will play a significant role in promoting sustainable development on the continent.

Africa has experienced exponential growth leading to a 28 percent penetration in access to mobile Internet by 2020 (compound annual growth rate). However, its availability and affordability is still a challenge for a majority of Africans and entrepreneurs, especially the rural poor, women and persons with disabilities.¹¹⁷ The pandemic exposed the vast digital divide on the African continent. It exposed the lack of sufficient digital connectivity to support e-services, e-commerce and e-learning, when physical restrictions were imposed by various African governments. This specifically affected Africans engaged in digital entrepreneurship due to the high costs involved in buying sufficient Internet bundles for managing businesses online. These challenges can be addressed through strengthening the necessary infrastructure that digital enterprises need. Developing core ICT infrastructure will play a significant role in promoting sustainable development on the continent.

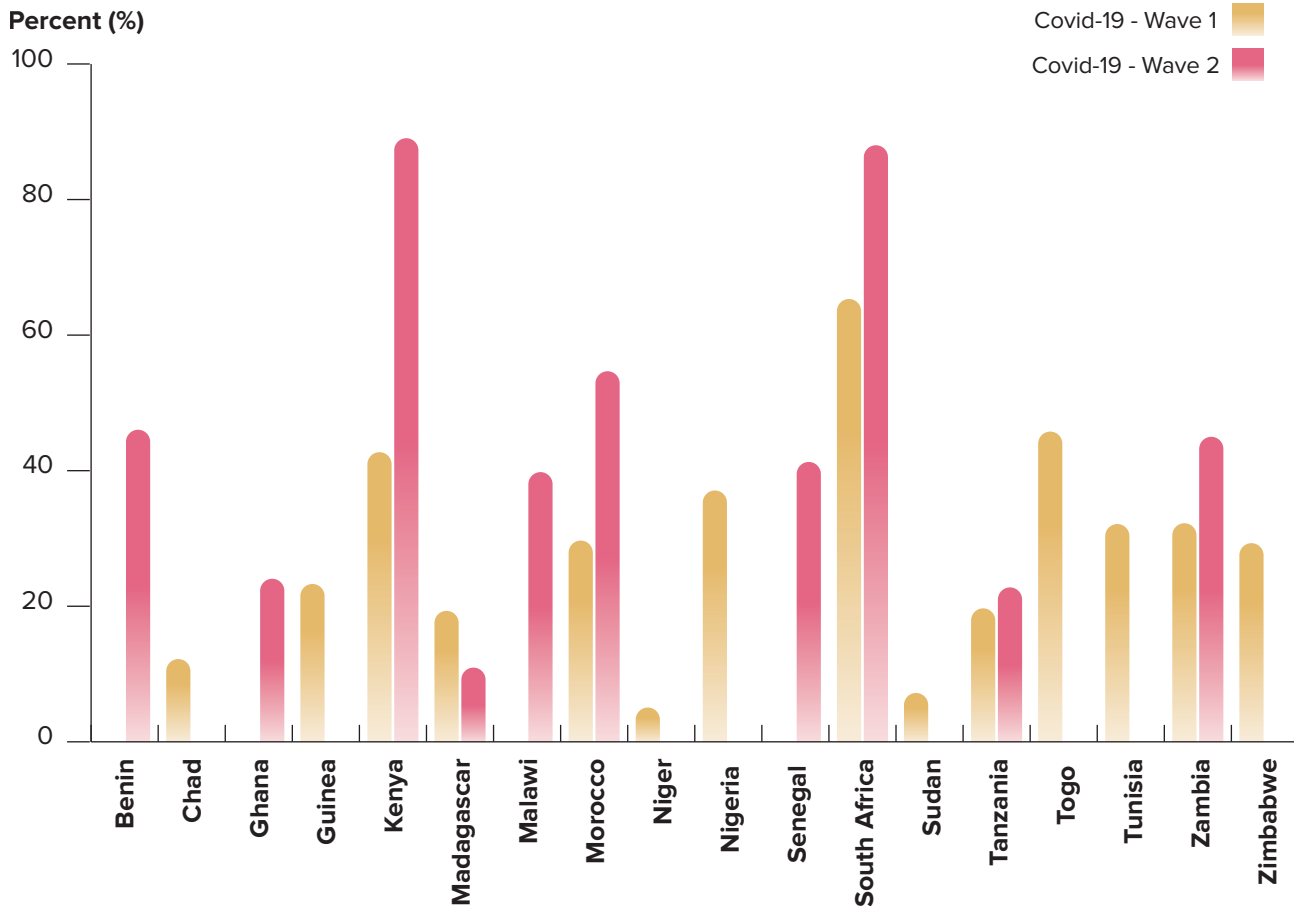
4.1.2. Transforming challenges into opportunities

Despite challenges, the COVID-19 pandemic created opportunities for digital entrepreneurship in Africa, which could have an impact in achieving sustainable development. The pandemic pushed firms and workers into new working modalities, where social distancing policies and remote employment changed the way people interact and work. It propelled the use of digital tools and solutions into various tasks and sectors, promoting efficiency and effectiveness in digital entrepreneurship. The impact of digital technologies is more pronounced than expected. It has a bearing on the types of jobs that are being performed and the way in which they are conducted.

Usage of digital platforms can be considered as an indicator of increased adoption of digital technologies during the pandemic. The share of enterprises in African countries that started or increased the use of digital platforms was higher in the second wave of the pandemic from September 2020 to April 2021 than in the first wave from March through May 2020 (figure 4). Kenya (89.05 percent) and South Africa (88.01 percent) registered the highest share of digital platform usage.

In South Africa, firms that started or increased the use of digital platforms in response to COVID-19 were the focus of the World Bank's Business Pulse Survey.¹¹⁸ The use of digital platforms in South Africa was already among the highest in Africa. The study found that the share of firms that started or increased the use of digital platforms in response to COVID-19 was 53 percent for formal firms in comparison to 38 percent for informal firms. A formal firm is a business that is registered with the national business registration authority as a business and with the tax authority. Informal firms are unregistered but derive income from the production of legal goods and services. The same trend was noticeable in Ghana, where the uptake in digital solutions was 14 percent among formal firms and 9 percent for informal firms. In Senegal the uptake in digital solutions was 34 percent for formal firms and 19 percent for informal firms. It is evident that the pandemic contributed to the uptake of digital technologies in entrepreneurship, although uptake rates varied depending on country and type of firm.

Figure 4: Share of firms in Africa that started or increased the use of digital platforms during the first and second wave of the COVID-19 pandemic



Increased use of digital platforms in these countries can be attributed to the lockdown during the COVID-19 pandemic, though smaller enterprises may have struggled because of initial set up costs. Digital platforms are instrumental in ensuring that digital entrepreneurs have access to relevant intermediate inputs and distribution networks for their products, especially in times when social distancing and face-to-face interactions are limited.¹¹⁹ However, the uptake of technology comes with additional costs, putting smaller enterprises at a disadvantage.

Source: The World Bank, Business Pulse Survey (Accessed in January 2022)

Lockdown measures during the pandemic resulted in traditional banks losing business to mobile money providers. The main reasons were fear of infections via in-person transactions and the reduced desire by customers to handle physical cash.¹²⁰ To mitigate potential risks involved in the use of bank notes and coins, the Central Banks of some African countries worked with their commercial banks and payment service providers to introduce new measures to boost the use of digital payment platforms. This turn towards digital options for banking benefited some of the FinTechs that provide these services.

Such measures gradually supported increasing access to financial services for underserved individuals or for those whose access to financial services

Lockdown measures during the pandemic resulted in traditional banks losing business to mobile money providers.

Consumers across Africa have heavily relied on e-commerce to buy their essential products during periods of lockdown. Like never before, e-commerce became indispensable to populations across the continent.

was challenging prior to the pandemic. To encourage social distancing, several African governments expanded the usage of mobile money in their respective countries. Mozambique doubled the limit on mobile money wallets to MZN 50,000 (~\$700), and the Bank of Zambia increased the daily mobile money transaction for individuals, small-scale farmers, and non-incorporated enterprises to ZMW 1,000,000 (~\$54,000).¹²¹ Kenya removed fees for mobile money transactions below KSh 1,000 (~\$9.40), and increased the daily limit from KSh 70,000 to 150,000 (~\$658 to \$1,410).¹²² These measures increased both the number and value of transactions, garnered more than 1.6 million new users of mobile money and provided financial access to vulnerable households in Kenya.¹²³ It also implies increased consumer confidence in digital payments, opening up opportunities for digital entrepreneurs beyond e-commerce. Financial inclusion is an intermediary target in eight of the 17 SDGs.¹²⁴ Facilitating increased usage of mobile money is a significant push towards achievement of the global goals.

Online shopping increased during restrictions imposed during the COVID-19 pandemic. Consumers across Africa have heavily relied on e-commerce to buy their essential products during periods of lockdown. Like never before, e-commerce became indispensable to populations across the continent.¹²⁵ According to recent data on consumer behaviour in selected African countries since the beginning of the pandemic, 81 percent of consumers in Nigeria have embraced more online shopping. Ghana and Kenya reported a 79 percent increase in online purchases, while South Africa reported a 68 percent growth in online shopping.¹²⁶ This growth in digital technologies uptake in these countries is a step in the right direction, given that these countries are major digital entrepreneurship hubs in Africa.

Photo: RossiAgung, Shutterstock



The new focus on online shopping has increased sales in e-commerce firms and marketplaces. According to UNCTAD,¹²⁷ there has been approximately 30 percent increase in sales registered by e-commerce firms since the pandemic, while online marketplaces reported about 60 percent increase in sales on the African continent. Sales increased between 10 and 30 percent for nearly 37 percent of online marketplaces surveyed.¹²⁸ This was due in particular to the increase in online buyers and sellers. This increase in purchases has directly created more business growth for existing African online shopping platforms. It has also created opportunities for new entrepreneurs to sell their products and services virtually on the African continent.

Among consumers surveyed in four large African countries, 40 percent indicated that moving forward, they plan to reduce their supermarket shopping and shift to online purchases for their food, clothing and electronic products.¹²⁹ This shift in mindset to online shopping can be largely attributed to the existence of the pandemic and the convenient services provided to consumers by digital entrepreneurship in Africa. The use of online shopping for groceries is potentially more environmentally friendly and sustainable than traditional shopping. It can contribute to the SDGs by lowering greenhouse gas emissions by about 10 to 30 percent.¹³⁰

4.2. Africa's economic recovery through digital entrepreneurship

One of the first responses of governments in Africa to the COVID-19 pandemic was to restrict the movement of people, to contain the spread of the virus. Based on firms surveyed in Africa, between 33 to 90 percent of traditional enterprises (non-digital entrepreneurs) were temporarily closed for an average of seven weeks.¹³¹ The firms surveyed reported between 80 to 98 percent lower monthly sales in 2020, compared with similar months in 2019.¹³² They used various measures to mitigate these losses, such as repurposing production, leveraging technology to deliver goods and services, and facilitating employee retrenchment.

Digital technology and innovation were no longer buzzwords, but an integral part of survival in Africa. The entrepreneurs that were the most resilient were those that could harness technological innovations to digitally enhance their operations.¹³³

Digital entrepreneurs leveraged their strength in technological innovation to create partnerships and build innovative solutions. This supported Africa's economic recovery from the pandemic and ensured that the sustainable development gains made in Africa over the years was not lost. Digital entrepreneurs (especially youth) drove innovative efforts to develop tools to support health care professionals and the African population at the height of the pandemic.

The COVID-19 pandemic resulted in a radical shift in the way digital entrepreneurs and governments have partnered to create innovative solutions.

Digital technology and innovation were no longer buzzwords, but an integral part of survival in Africa.



*Photo: Caroline Murang'a/
UNDP Kenya*

This increased partnership has ensured sharing of knowledge, expertise and resources to address paramount development challenges. This aligns with the objective of the United Nations to bring together various stakeholders to enhance policy coherence for sustainable development, as outlined in SDG Target 17.14.

For example, when schools were forced to close, the Gambian government developed an Education Sector COVID-19 Response Plan to ensure continuity of learning using radio, TV, home-based study and online learning to deliver its curriculum.¹³⁴ The Ministry of Basic and Secondary Education turned to digital entrepreneurs such as Gisqo, a local software development and digital marketing company that provided support in designing an e-learning platform to ensure that students did not miss out on school.¹³⁵ This equipped them to cope with the educational challenges posed by the pandemic.

Young people in Africa were quick to create innovative solutions to support pandemic recovery.¹³⁶ Youth-led African start-ups and digital entrepreneurs launched digital platforms and tracing tools; built online systems for inventory and delivery of supplies; designed apps to analyse patients' symptoms and provide mental health services; developed food delivery services; and provided online education support and e-logistics.¹³⁷ These youth-led interventions played a role in the unprecedented adoption of digital entrepreneurship and innovation across the continent.¹³⁸

In the wake of COVID-19, African tech hubs were crucial in providing key services to support communities. Business hubs and accelerator labs supported entrepreneurs and new businesses by providing training, mentoring,

networking and access to potential investors. They also contributed to building resilience for Africa's COVID-19 recovery. In March 2020, one of Africa's largest innovation incubators, CcHub, announced funding and engineering support opportunities for tech projects geared towards tackling the pandemic and its socioeconomic impacts.¹³⁹ Zindi, a South Africa-based crowd-solving hub that uses artificial intelligence and machine learning opened a challenge to 12,000 engineers on its platform, to create data-driven models that can predict the global spread of COVID-19.¹⁴⁰

During government restrictions in Africa, online marketplaces helped to ensure that essential goods were delivered to consumers when they needed it.¹⁴¹

The gig economy in Africa grew tremendously because of COVID-19, according to Quartz Africa. A gig economy is labour-market characterized by the prevalence of short-term contracts or freelance work as opposed to permanent jobs. This served consumers when businesses closed during the lockdown, and offered employment to individuals excluded from formal and informal employment opportunities.¹⁴² In Kenya, although the pandemic had resulted in the loss of over a million jobs, there was an observable increase in full-time employment via digital platforms.¹⁴³ This revolutionary transformation has created new ways in which Africans can gain employment.

A flourishing gig economy is supported by the growth in Africa's digital entrepreneurship ecosystem as shown in Chapter 1. It is estimated that by 2030 there could be approximately 80 million gig workers in Africa, which is a substantial contribution to Africa's labour-force target of 600 million workers, as per the 2030 Agenda aspirations.¹⁴⁴ Entrepreneurship will expand employment opportunities for young people in Africa entering the labour-market in the coming decade.

At the height of the pandemic, digital entrepreneurs across Africa were instrumental in mitigating the impact of the pandemic and ensuring a sustained recovery. Entrepreneurs would have found it more challenging to service consumers during the pandemic if they had not made digital technologies an integral part of their business processes. Lockdowns and limited physical interactions demanded innovative approaches for delivering goods and services: this was central to the interventions launched by digital entrepreneurs when they were most needed.

Entrepreneurship will expand employment opportunities for young people in Africa entering the labour-market in the coming decade.

Chapter 5:

Recommendations



*Photo: Rawpixel,
Shutterstock*

Based on the findings in this study, digital entrepreneurship presents numerous opportunities to achieve sustainable development by providing goods and services in Africa that may not have been provided without digital technologies. These opportunities can support the digital entrepreneurship ecosystem in Africa, help build digital entrepreneurial skills and serve as a catalyst for innovative products and services. The following steps are recommended to strengthen digital entrepreneurship, promote skills training and contribute to the achievement of the SDGs and African Union Agenda 2063:

1. Provide digital entrepreneurs in Africa with increased public support. Use of digital technologies to solve social problems has become more prevalent, especially during the COVID-19 pandemic. Prioritize governmental budget allocations to further strengthen entrepreneurship and digital skills training, especially for youth, women and other marginalized groups.
2. Provide an enabling environment for digital enterprises to thrive, and level the field for all financial service providers in Africa, acknowledging the widespread use of mobile money.
3. Support a platform for skills sharing and networking where Africans in the diaspora will be able to collaborate with tech hubs and digital entrepreneurs. African governments could do this through their Ministries of Foreign Affairs and Embassies abroad. It could specifically contribute to providing ideas on innovative business models and establishing links with venture capital networks to access more funding.
4. Establish an ICT and entrepreneurship training centre in each school, especially in rural areas. This centre could be used after school hours and on weekends to provide basic ICT training to communities to facilitate digital adoption across the many countries on the continent. African governments could do this through their Ministries of Education and educational bodies, especially in remote areas of Africa, where the lack of adequate skills can inhibit the use of digital technologies.
5. Encourage business associations, chambers of commerce and similar organizations to commit to providing digital skills trainings to business owners, to prioritize uptake of digital technologies. This could be part of the business development services they provide.
6. Promote the integration of digital entrepreneurship into projects and programmes on digital transformation. This could be a component within their design and implementation, and could increase the potential for and efficiency of digital entrepreneurship.

7. Share case studies among actors in the digital entrepreneurship ecosystem related to initiatives in Africa. This will serve as inspiration and demonstrate that digital uptake could increase the productivity of entrepreneurs, expand their markets, upgrade their production and promote the formalization of businesses.
8. Convene different stakeholders around the digital and entrepreneurial skills development agenda as part of efforts to strengthen the business ecosystem.
9. Provide skills training for digital entrepreneurs on how to incorporate governance structures into their business models, to facilitate effective leadership and decision-making in the enterprise.
10. Enhance the skills of entrepreneurs required to develop structured business plans, implementation plans, social media monetization strategies and financial projections. These actions could build more confidence on the side of potential investors regarding the digital enterprise.
11. Encourage potential investors to integrate the provision of technical assistance to key ecosystem actors into their investment strategies. By investing in digital skills training and solutions, they can contribute to the development of the digital entrepreneurship ecosystem in Africa.
12. Convene the various stakeholders in the business ecosystem around the digital and entrepreneurial skills development agenda.
13. Promote advocacy by digital entrepreneurs and their support organizations for broader and more affordable Internet access, as this would increase the number of potential customers for their products and services.
14. Increase the adoption of alternative credit scoring systems, based on mobile money transactions, to improve access to finance for entrepreneurs.
15. Follow an ecosystem development approach to promote digital entrepreneurship for the achievement of the SDGs and African Union Agenda 2063. Such methodologies should leverage the potential of actors in the digital entrepreneurship ecosystem and foster entrepreneurship through bringing stakeholders together.

Conclusion

This study assesses how digital entrepreneurship can contribute to addressing Africa's growth and development challenges by taking advantage of opportunities currently offered by digital transformation on the continent. Although not yet fully developed, elements of the digital entrepreneurship ecosystem in Africa present significant opportunities for investment.

Africa is the world's leading market for mobile money. The market will expand when mobile money is fully integrated into the financial systems of countries, to the extent that it holds equal value as other key financial products in banks. Governments have made progress by creating an enabling environment with favourable regulations for digital entrepreneurship to thrive. Further, the number of public-private partnerships to develop digital interventions increased significantly during the pandemic, demonstrating the commitment of African governments to digital entrepreneurship. Venture capital networks have taken the lead in continually providing support to African entrepreneurs. This support was especially important during the COVID-19 pandemic, when it was much-needed.

Examples were presented to show that digital entrepreneurs (including women) are making significant impacts on Africa's development aspirations, and are contributing to achievement of the SDGs and African Union Agenda 2063 through EdTech, FinTech, HealthTech and AgriTech.

The COVID-19 pandemic has revealed the potential of digital entrepreneurship in Africa. Entrepreneurs were obliged to take up digital technologies to remain relevant. The uptake of digital technologies rose exponentially in Africa, where more consumers used digital systems such as online payments during the pandemic period than ever before. This transformation in use of technology has created significant opportunity in market growth for digital entrepreneurship in Africa.

Digital entrepreneurs have contributed to Africa's recovery from the COVID-19 pandemic. These entrepreneurs, predominantly African youth, intervened in ways traditional entrepreneurs would not have been able to accomplish, to support Africa. The gig economy was crucial in providing employment for many young people during the pandemic. Consumers were able to continually purchase essential products during the lockdown, and several health- and education-related solutions were developed by digital entrepreneurs to tackle the pandemic when it was most needed.

Given the growing importance of digital entrepreneurship in Africa, there should be a major emphasis in developing the digital skills and literacy of Africans. This is especially true for the youth and women who have a strategic role in driving the continent's digital transformation agenda through digital entrepreneurship.

The research in this study is not prescriptive and the recommendations presented are not exhaustive. However, they provide a platform to facilitate further discussions on digital entrepreneurship in Africa, considering the significant contributions digital entrepreneurship can make towards the achievement of the Agenda 2063 and the SDGs on the continent.

Given the growing importance of digital entrepreneurship in Africa, there should be a major emphasis in developing the digital skills and literacy of Africans. This is especially true for the youth and women who have a strategic role in driving the continent's digital transformation agenda through digital entrepreneurship.

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