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Tech-Enabled Skilling in Sub-Saharan Africa

A Landscape Scan IV

July 2023



Tech-Enabled Skilling in Sub-Saharan Africa Landscape Scan IV July 2023

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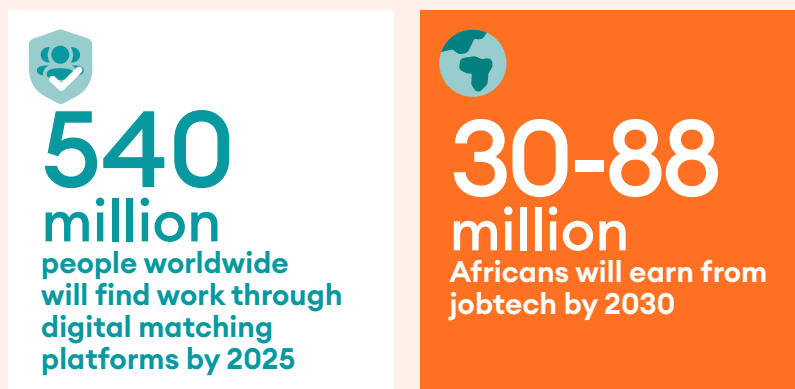
This v1 edition was produced in June 2023 and is one of a series of five landscape scans on the jobtech sector in Africa. The other Landscape Scans also available are:

- i. Platforms for Offline Work
- ii. Platforms for Digitally-Delivered Work
- iii. Digital Services for Microenterprises
- v. Digital Tools for Worker Enablement

If you have feedback on the content of this Landscape Scan for future iterations, please contact info@jobtechalliance.com

Standard Brief: What is Jobtech?

'Jobtech' refers to digital platforms which connect people to work opportunities that build livelihoods. Simply put, jobtech is the future of work. [540 million](#) people worldwide will find work through digital matching platforms by 2025, with significant growth expected in Africa; [30-88 million](#) Africans will earn from jobtech by 2030. Jobtech involves the use of technology to enable, facilitate, or improve people's productivity to access and deliver quality work. Today, we count over 500 jobtech platforms in Africa.



See the below table for the [Jobtech Taxonomy](#) defining the five major categories and definitions within the space.



Platforms for offline work

Category definition

Platforms where work is mediated online but delivered offline, also known as “location-based platforms” as per the World Bank.

Subcategories

1. Taxi / ride hailing / delivery / logistics
2. Home services / technical services
3. Cleaning / domestic work
4. Care services
5. Job boards / recruitment platforms
6. Distributed manufacturing



Platforms for digitally delivered work

Category definition

Platforms where work is mediated and delivered online, sometimes known as “cloud work.”
The category does not include online jobs when the work is not delivered through the platform (i.e., job boards).

Subcategories

1. Skilled online freelancing
2. Managed services / global business services / BPO (including managed microtasks)
3. Task-based or distributed microwork / microtasks
4. X-to-earn / play-to-earn
5. Platforms for creative content producers / influencers
6. Trading platforms for digital products



Digital services for micro-enterprises

Category definition

Platforms that improve access to market, business performance, or productivity of self-employed individuals or microenterprises. The category does not include pure fintech players or players targeted only at larger scale SMEs.

Subcategories

1. E-commerce marketplaces
2. Business management tools / vertically-integrated platforms
3. Social commerce / digitally-enabled agent models



Tech-enabled skilling

Category definition

Edtech platforms that equip people for the world of work.
The category does not include platforms with no tech product.

Subcategories

1. Course / guided / cohort-based learning
2. On-demand / self-paced learning
3. Digital apprenticeships / mentorship / internships
4. Professional networking / labour market information platforms
5. Assessment / credentialing



Digital tools for worker enablement

Category definition

Digital platforms that provide workers with tools that enhance their rights, benefits, and protections.

The category does not include tools with no tech product or tech integration.

Subcategories

1. Identity / reputation
2. Alternative data tools / benefits
3. Rights / legal / collective engagement

Jobtech has huge potential to alleviate the youth unemployment challenge in Africa. We have seen that jobtech has the potential to create new work opportunities that were not previously possible, improve regularity and quality of work, size of income, and overcome traditional barriers to access for marginalised groups. But we've also seen that it can create bad work as well as good, and create new barriers to access for marginalised groups. The market fundamentals are challenging, and there is a lack of innovation in the space. Few startups have succeeded and few funders know how to effectively contribute. There is little shared knowledge about what does/doesn't work, and a lack of visibility and community limits scope for collaboration.

Our goal of these landscape scans is to provide an introduction to jobtech for entrepreneurs, investors, researchers, and policymakers alike. It will shed light on the vast potential that jobtech has to enable the jobs of the future, but will also critically reflect on some of the challenges and dilemmas that are inherent to the growth of jobtech across Africa. Ultimately, our goal is to inspire thinking on how this nascent, yet overlooked part of how Africa's digital economy interfaces with the physical. We hope these scans will provide a helpful starting point to inspire you and challenge your thinking.



Jobtech has huge potential to alleviate the youth unemployment challenge in Africa. We have seen that jobtech has the potential to create new work opportunities that were not previously possible, improve regularity and quality of work, size of income, and overcome traditional barriers to access for marginalised groups.

Introduction: Tech-Enabled Skilling

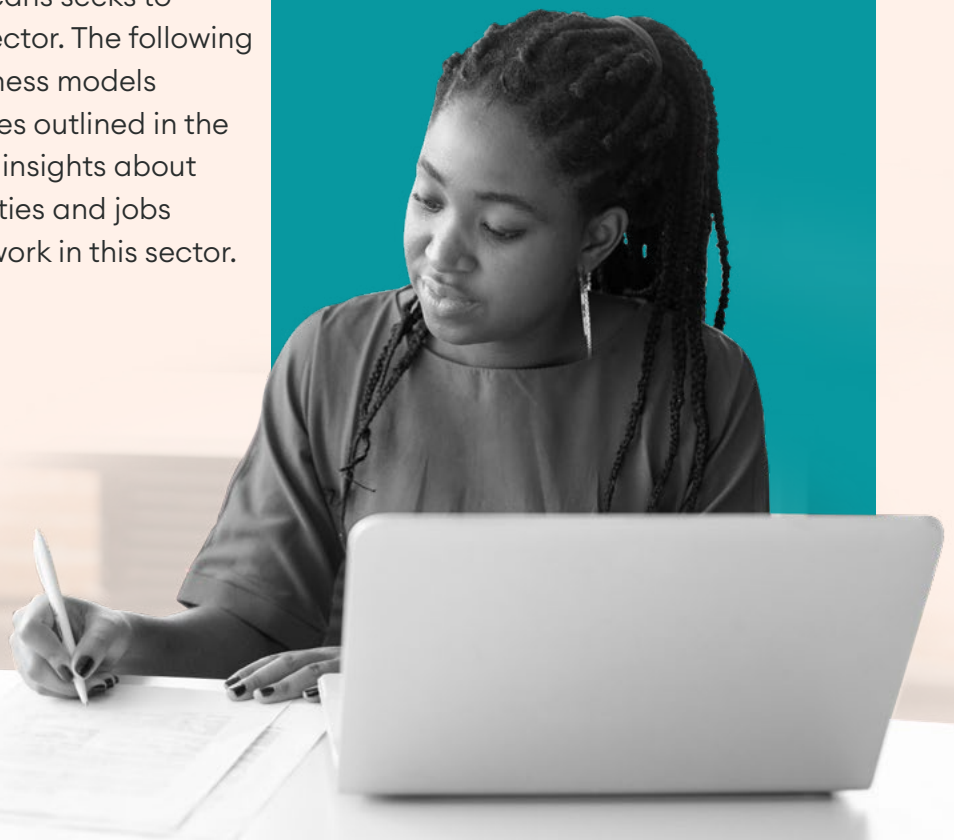
The way professionals work and learn is rapidly evolving, driven by factors such as the COVID-19 pandemic, generational preferences, and advances in technology. As a result, workers must adapt to new expectations, including navigating hybrid working environments that combine virtual and in-person interactions, building relationships in complex multicultural environments, and collaborating through digital platforms. To succeed in the future of work, individuals must continuously update their skills and cultivate knowledge and attitudes that enable effective engagement.

Tech-enabled skilling comprises edtech platforms that equip people for the world of work. This sector aims to overcome the poor educational infrastructure available to many Africans through scalable tech-based platforms. Skilling efforts primarily target youth, though platforms are open to lifelong learners. Access to quality, relevant skill-building opportunities is still a major challenge for those aiming to enter the workforce and those adapting to the rapidly shifting demands of the labour market.

Through a literature review and key informant interviews with entrepreneurs, accelerators, funders and youth engaged with tech-enabled skilling platforms across Africa, this landscape scans seeks to better understand the sector. The following sections define the business models utilised, the subcategories outlined in the [Jobtech Taxonomy](#), and insights about both business opportunities and jobs impact outcomes from work in this sector.



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Business Models

The table below outlines the several business models that have emerged to address the needs of gig workers, though more may emerge as the sector continues to develop:



B2C

Who pays: Learners pay directly for access to learning experiences.

Limitations: Young people or their families may be unable to pay. Subsidies or income share agreements can help reduce costs and/or increase access for learners.



B2B

Who pays: Businesses pay for their employees to learn. This might be startups, corporates, digital work platforms, or even private universities or TVETs.

Limitations: Through payments for specific courses or subscriptions to access all content on a platform, employers can provide skilling opportunities to existing employees. However, these platforms are reaching only individuals employed in formal sector jobs, which is a small percentage of learners who need skilling interventions. Usually not tied to specific employment outcomes.



B2G

Who pays: Government pays for learners to access skill-building platforms. This might be through youth employment initiatives or public institutions at the secondary or tertiary level (public colleges, universities, TVETs).

Limitations: There exists a lack of policies and structures to support collaboration between the public and private sector and lack of funding to meet needs at scale.



Donor-funded

Who pays: Donors cover the cost of skilling via philanthropic donation to the skilling provider.

Limitations: There is a lack of sustainability- once the funding is gone, additional funding must be secured or the skill-building will end. Scale (and sometimes innovation) is limited by funding and/or donor constraints. Learners also do not have skin in the game, which affects completion rates and quality of skill building.

With a few exceptions, US and Europe-based skill-building platforms typically thrived on a B2C model, where jobseekers pay to be trained for the career roles they seek work in. But in Africa, jobseekers are not always able to pay to learn additional skills, especially for technical skills that are costly and require a degree of mastery. At the same time, it is not clear to jobseekers how learning additional skills translates into the ability to secure work in competitive markets. Thus, skill building platforms in Africa constantly struggle with the questions of ‘who pays’. The more common answer, especially in formal work arrangements, is B2B skill-building programs. However, this means that platforms are only reaching the minority of African individuals employed in formal sector jobs.

The question of ‘who pays’ and the challenge of scaling skilling programs to jobseekers (and upskilling to business employees) is largely responsible for why many technology-enabled skilling models rely heavily on donor funding. While this has worked for some platforms like the [African Management Institute](#), there is a limit on donor funding availability. Next, B2G programs in which the government pays for learners lack the policies and structures to support adequate private / public collaboration, with a lack of funding to and understanding of digital skill-building. A rare example of a B2G business model is the [Harambee Youth Employment accelerator](#), which is a social enterprise operating as part of a South African strategic national plan to address youth unemployment.

These platforms for digital or offline work sometimes struggle to find viability as standalone platforms, and there is a large overlap between tech-enabled skilling, platforms for offline and digitally-delivered work, and the “train-and-place” model. Platforms for matching people to digital or offline work may integrate training into their business or operational models, while tech-enabled skilling platforms could offer other services like matching. One notable example is [Andela](#), a job placement network, which was built off a tech-enabled skilling and learning management model. Skilling may also be an additional revenue earner, stickiness creator, or operational requirement of any jobtech platform.

With no clear “winner” model, the business models of tech-enabled skilling platforms in Africa vary greatly, and few tech-enabled skilling platforms in Africa have found true business viability.

Subcategories

The [Jobtech Taxonomy](#) outlines five subcategories of tech-enabled skilling platforms:



Course / guided / cohort based learning

Description: Edtech platforms on work topics where students participate in a guided learning experience (may have some offline component)



On-demand / self-paced learning

Description: Edtech platforms where learners can engage in content at their own pace (channels could be SMS, video, games)



Tech-enabled apprenticeships / mentorships / internships

Description: Platforms which facilitate digital apprenticeships / internships or connect people to mentors



Platforms for professional networking / labour market information

Description: Social network or informational platforms focused on the world of work



Digital assessment / credentialing

Description: Platforms which provide professional vetting or credentialing to enhance employability of users

Each subcategory is explored in more depth in the following sections, with most relevant insights including definitions, themes, and company examples.



Course / guided / cohort based learning

Guided learning is directed by the skills provider and can be done individually or part of a cohort. Skills providers often prefer the cohort approach as it can address incentivization and completion of courses. Guided learning can be paid for by a variety of stakeholders- the user, donors, or employers. Notable examples include the [Moringa School](#), a cohort-based technology education provider that helps learners cultivate the skills needed to become a junior software engineer. The learning experience is mapped out over a specific timeframe with programme milestones that must be completed, and peer and instructor support help learners advance through the programme. [Mosabi](#) is a mobile-first learning platform based in Sierra Leone that cultivates digital / entrepreneurial skills and financial literacy through a course completed individually in a guided fashion. The platform partners with NGOs and development partners to expand the learning experience to address peripheral needs of the communities they serve. New technologies are also starting to pop in this space. [XR Global](#) conducts augmented reality training that sells on a B2B, B2G, or B2donor model. Last, while at the fringes of tech-enabled skilling, [Nexford University](#) is a US-based online training school with a big focus on Africa that seeks to provide relevant and affordable university courses to prepare people for the world.



On-demand / self-paced learning

On-demand or self-paced learning platforms are driven by learners themselves, often via SMS, video, or gamified learning experiences. These platforms are more modular and feature discrete pieces of content. Self-directed learning is often paid for by users or the employer via subscription or flat rate, though some platforms may be “freemium.” Global, horizontal players include the likes of [Coursera](#), [Udemy](#), and [YouTube](#). Some more local examples include skills providers like [Zydii](#) and [Fuzu](#) that provide on-demand digital content for learners within the B2C space or employers within the B2B space to cultivate relevant skills. These platforms offer personalised recommendations to guide learners on their skill-building journey. [Arifu](#) is a Kenyan example that features SMS and chatbot-type learning. There is further opportunity for collaboration between tech-enabled skilling platforms and matching or e-commerce platforms as a business model, with potential to expand to other use cases like banks. Notably, [Jobberman collaborated with Arifu](#) to offer users soft skills chatbot training to attain certifications.



Tech-enabled apprenticeships / mentorships / internships

These platforms help learners build practical workplace skills through real-world experiences and foster connections with professionals who can coach and mentor learners. Most of these platforms operate with a B2B model that connects employers to pay for access to talent on such platforms, but some platforms also operate with a B2C model for jobseekers and learners looking to improve their skills. One notable example is Rwanda-based [BAG](#) (Building a Generation), which provides university students with gamified learning experiences that mimic real workplace scenarios and is designed to help students understand the experience of working at well-known African companies. Another example is [CoffeeChat](#), headquartered in Mauritius, which allows enterprises and individuals to connect with coaches to accelerate professional development.



Platforms for professional networking / labour market information

These platforms help learners inform their learning and career planning via mapping of career data and exploration of career paths. There are players across the continent within this subcategory, with [LinkedIn](#) being the first and still one of the biggest to play with its LinkedIn Learning Courses. Other global players such as [Localized](#) are prioritising Africa by building out the local pipeline of employment opportunities for learners. Locally, South African company [Yenza](#) helps jobseekers map their career journeys using data science and job matching. [Yoma](#) is an African donor-funded initiative serving as a crossover between a social network and access to information on the labour market.

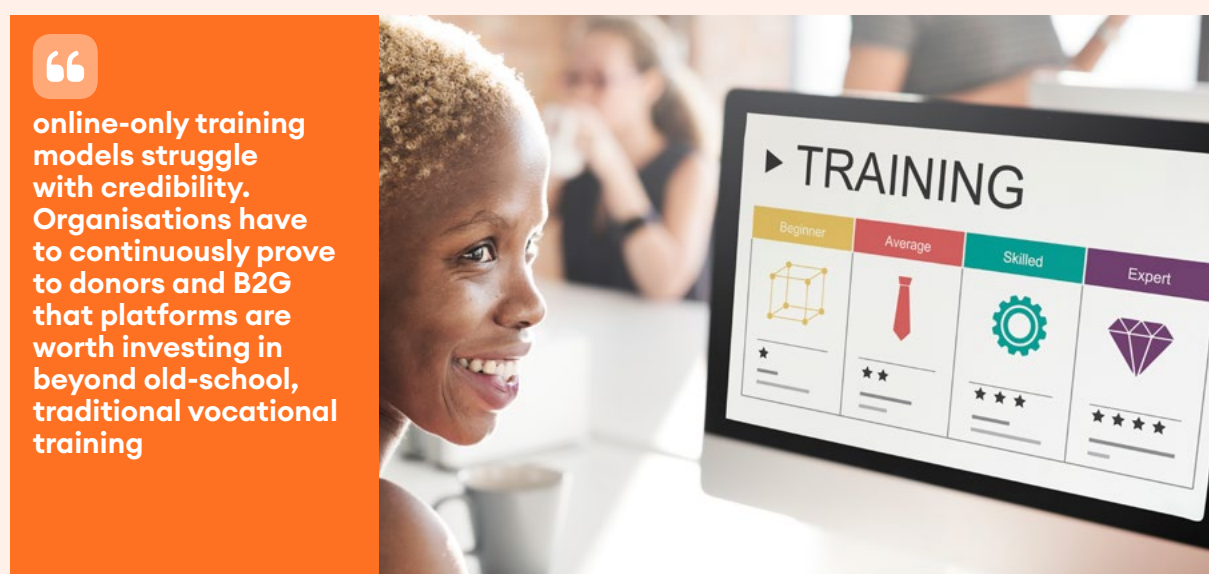


Digital assessment / credentialing

Digital assessment / credentialing aims to address the lack of standardised credential creation and verification, to varying degrees of success. These platforms operate through a B2B model by providing digital assessment and credentials to skills providers, employers, learning institutions, and professional associations. US-based [Credly](#) provides employers with a common denomination of knowledge by providing tools to issue digital credentials, and Netherlands-based [Test Gorilla](#) provides aptitude tests for hiring. These credentials / aptitude tests can help learners enhance employability or build a case for promotion / hiring. On the other side, these credentials can help organisations understand their workforce and identify skill gaps. African players are just starting to enter the space, with Nigerian company [LaborHack](#) providing certifications for artisans looking to distinguish their services.

Sector Analysis

We see the following trends as key themes for tech-enabled skilling platforms over the coming years, both for business and users outcomes. We have separated sector analysis into two buckets: business and sector (challenges and opportunities) and worker and impact (challenges and opportunities).



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online-only training models struggle with credibility. Organisations have to continuously prove to donors and B2G that platforms are worth investing in beyond old-school, traditional vocational training

Business and Sector (Challenges and Opportunities)

Underlying challenge of “who pays”: this challenge undermines how the sector will scale. While the scope of the problem is large, the market is nascent. There are not yet clear, sustainable business models for how to reach the full spectrum of workers with tech-enabled skilling efforts. Each business model struggles in some way to create long-term, effective skills outcomes, though there are several development partners, donors, and accelerators making strides in the space. In addition, online-only training models struggle with credibility. Organisations have to continuously prove to donors and B2G that platforms are worth investing in beyond old-school, traditional vocational training. Only time will tell how these players can support experimentation and evolutions of tech-enabled skilling models at scale.

‘It’s edtech though, right?’ While tech-enabled skilling platforms are certainly edtech platforms, much of the edtech ecosystem in Africa is geared around primary and school-age education. This is understandable given the need to build foundational literacy and numeracy on the continent. However, it means that many African edtech platforms focused on the world of work have not had the same thriving network of collaborators as others in the edtech space. Moreover, potential collaborators may be more likely to come from the jobmatching, gig-matching or e-commerce space.



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The low internet penetration rate and high costs per gigabyte of data also contribute to high barriers for lower income workers to obtain the skilling they need.

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Worker and Impact (Challenges and Opportunities)

Inclusivity of different groups: Barriers include those that are demographic, infrastructural, and financial. First, marginalised populations such as women and persons with disabilities may not be able to engage in synchronous learning experiences or require special assistance to engage in tech-based learning. Other populations like the rural and urban poor are disconnected from tech-enabled skilling due to lack of digital literacy skills. In addition, skilling efforts are disproportionately focused on the formal job market, yet most youth are entering the informal job market. However, few skilling interventions are focused on the informal sector, due to the lack of data on informal sector skilling needs and challenges with sustainable business models. Some efforts, like those by [Arifu](#) and [NawiriPro](#), are showing promise. Finally, some learners may struggle with English language competency, especially those outside of urban areas.

Lack of internet access: The low internet penetration rate and high costs per gigabyte of data also contribute to high barriers for lower income workers to obtain the skilling they need. While some startups like [uLesson](#) and [Eneza Education](#) have built low cost distribution models, falling data costs and the growth in mobile phone usership will undoubtedly continue to bring more learners online.

Potential for platform-based upskilling. Connected to the above, there is significant opportunity for tech-enabled skilling platforms to collaborate with other platforms to integrate learning into user journeys. Given the skill challenges of users across the jobtech space, as outlined in the landscape scans on platforms for offline work, platforms for digitally-delivered work, and digital services for microenterprises, the opportunities for ‘[platform-based upskilling](#)’ are significant. In particular, while learning platforms can experience high barriers to uptake, ‘just-in-time’ learning, where a user is nudged with learning at the point of delivery (think: training about time management integrated into a gig matching platform where users need to manage their orders) can achieve significantly higher learning outcomes.

Further Reading

1. [Jobtech Alliance - Reading Library](#): comprehensive library on resources useful for jobtech platforms and others in the ecosystem
2. [Caribou Digital - Platform-Led Upskilling](#): overview on platform-led upskilling led by Caribou Digital, including training approaches and the business / development case for upskilling
3. [The Flip Podcast - The Future of Work Needs Training](#): The Flip podcast episode on skills and training, featuring interviews with members of AltSchool, Stack Shift, and Kibo School
4. [Transformational Upskilling - Platform-Led Upskilling Case Studies](#): case studies and videos on best practices for upskilling