

# DIGITAL AFRICA



## HOW TECHNOLOGICAL TRANSFORMATION CAN CREATE JOBS AND REDUCE POVERTY IN AFRICA

### Who is this policy brief for?

Technical advisers providing input to government policies on economic transformation and growth in Africa. This includes ministries and regulators in charge of information and communications, finance, industry (agriculture, manufacturing, and services), competition, technology and innovation, as well as jobs and poverty reduction.

### Why was it prepared?

To inform digitalization and complementary technology adoption policies and programs for inclusive impact by presenting the best available evidence on the transformative effects of Digital Technologies (DTs) .

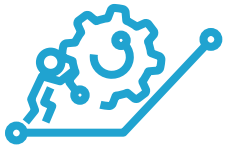
### Full report:

The evidence summarized in this Policy Brief is described in detail in the forthcoming report *Digital Africa: Technological Transformation for More and Better Jobs*.



## Available and Affordable Quality Internet Means Jobs for a Growing African Workforce...

This report argues that DTs are an essential element of a good-jobs strategy for African countries. The evidence shows that internet use has significant inclusive job impacts on the continent, which is poised to have the **largest workforce in the world by 2100**. Robust analysis provides strategies that can be adopted to capitalize on growing evidence that internet availability enhances job creation and poverty reduction. For example, the availability of internet for three years led to labor force participation **increase by 3 percentage points** in Nigeria and **8 points in Tanzania**. Poverty rates fell by 7 percentage points and welfare impacts were higher among poorer and less-educated households.



## Digital Transformation in Africa faces challenges and divides...

The primary challenge for Africa is low productive use of DTs. Enterprises and households need **greater ability to pay** and **willingness to productively use** these technologies.

- » **83 percent** of people in Africa live in areas with mobile internet services available, yet only **27 percent** were using them by the end of 2020. The uptake rate is the lowest across all regions.
- » Enterprise digitalization is also low and small and medium-size businesses in Africa pay for more expensive data plans than those in other regions.
- » **40 percent of Africans** fall below the global extreme poverty line, and payment for basic mobile data plans would represent **about one third of their incomes**. Only about 5 percent of extreme-poor households access internet.
- » Mobile internet availability has increased in recent years, yet Africa's internet infrastructure and services still lag other regions – especially when it comes to the quality of the services, supported by reliable and resilient infrastructure.



## What Can be Done...

Africa needs more activist policies that promote use of digital and complementary technologies, especially affordable, attractive skills- **and context-** appropriate technologies that support productive and inclusive jobs.

**Policies must ensure ability to pay for all** by addressing internet affordability, additional infrastructure availability, adequate data infrastructure, and affordable availability of complementary technologies. **Policies to support greater willingness to use** should focus on developing more attractive applications and building the relevant skills required to promote DT adoption for productive purposes. These include innovation policies, data policies and regulations, capability support programs, and national strategies for productive use of DTs.

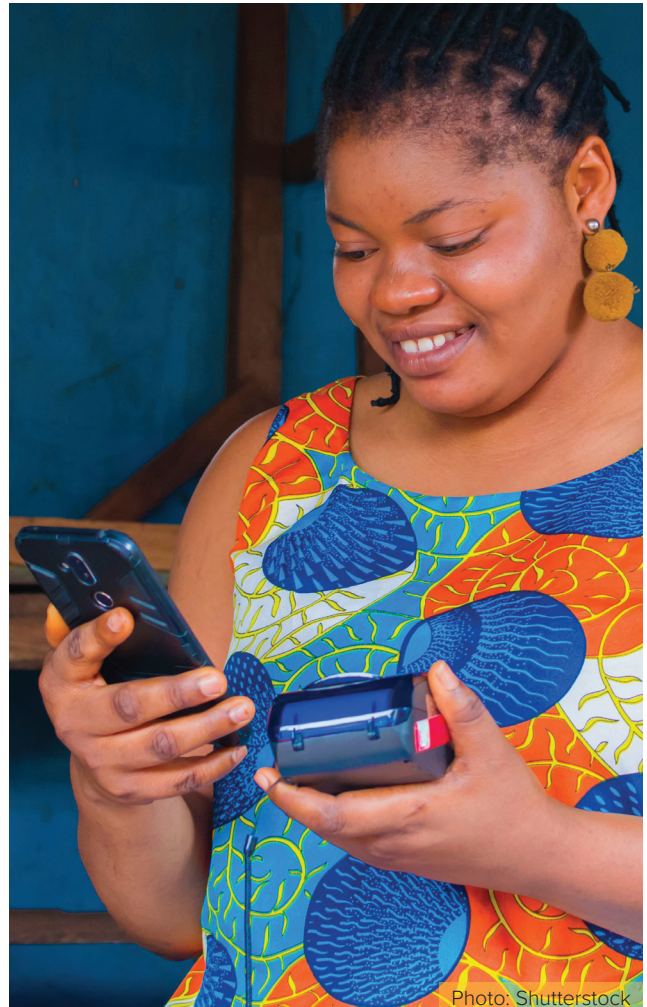


Photo: Shutterstock



Photo: Shutterstock

## How To Get There...



**Internet affordability** requires effective pro-competition regulations to reduce investment costs, including rules on licensing and market dominance, infrastructure access and sharing, and spectrum availability and use, ideally through more integrated continental markets. Regulations will help drive down operational costs, including rules on access to essential infrastructure controlled by state-owned enterprises (SOEs), operation of open-access fiber networks, and progressive elimination of excise taxes.



**Better internet quality everywhere and availability** in areas that are not commercially viable after implementing regulatory reforms require targeted interventions. Demand-side incentives and financing (through earmarked funds, obligations on operators, universal service funds) can boost use, quality service, and support climate-resilient infrastructure development.



**Affordable availability of data infrastructure** requires pro-competition rules for upgrading internet exchange points (IXPs) that can grow into regional data centers and cloud computing facilities to help drive down costs. Effective regional integration for cross-border digital connectivity and data markets are critical to gain economies of scale and to expand and upgrade data infrastructure.



Broader interventions are needed to **support affordable access to complementary analog technologies**, such as electricity and transport as well as tractors and irrigation systems, to enhance the income-generation potential of DT use and to strengthen ability to pay.



**Innovation policies** can redirect technology development toward generating and scaling up skills- and context appropriate DTs. Africa needs to provide sophisticated, inclusive, and attractive apps through touch-screen pictures, voice, and video in languages people speak, to enable enterprises and households to use them and learn as they work. Development requires public-private investments in public goods, such as country-wide availability of digital addresses, geotagged land records, and local weather mapping, as well as public goods specific to value chains. More integrated continental markets will allow entrepreneurs to profitably design and scale attractive apps that are affordable and enhance people's earnings.



**Data policies** are needed as both enablers and safeguards for data use and reuse to ensure the development of new, attractive, data-driven DTs along with appropriate levels of trust in their use.



**Capability support programs** need to be institutionalized for micro, small, and medium enterprises (MSMEs) and for households, to enhance productive use of available DTs. These programs include business advisory services, technology information and upgrading services, and manager and worker skills training, together with longer-term investments in high-quality secondary and tertiary education. **National strategies** are essential to support familiarity with and use of DTs to support higher earnings. They could include investments in common access facilities, at internet cafes, local schools, or community centers, especially for microentrepreneurs.

This policy brief is a product of the forthcoming report “Digital Africa: Technological Transformation for More and Better Jobs.” The report is the first phase of a broader WBG Africa Chief Economist research program to provide conceptual and empirical knowledge and inform the ongoing implementation of the Digital Economy for Africa initiative (DE4A).



WORLD BANK GROUP