Accelerating Africa’s Digital Transformation for Mutual African and U.S. Economic Prosperity

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During the 2022 U.S.-Africa Leaders Summit, the Biden-Harris Administration announced the launch of an $800 million initiative on Digital Transformation with Africa (DTA).¹ DTA comes at a time when the African internet economy has been deemed “one of the largest investment opportunities of the past decade” and one that, despite setbacks from COVID-19, is on track to expand and further transform lives in the coming decade.² The African Union’s (AU) Digital Transformation Strategy reflects growing political consensus that adopting digital technologies can create economic opportunities for Africa and the world.³⁴ The market opportunity is clear: African governments are endeavoring to facilitate universal digital access for the 800 million Africans expected to be online by 2030, and an internet economy potential worth $180 billion by 2025.⁵⁶

Africa’s young, entrepreneurial, and digitally savvy population is fueling a mobile phone revolution that is vastly changing the competitive landscape⁷ of Africa’s digital economy for U.S., Chinese, and global technology providers for everything ranging from digital infrastructure to social media platforms and e-commerce solutions. These realities have created an imperative for the U.S. government to partner with

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the private sector to implement a robust digital foreign policy agenda for Africa that can keep up with the pace of this rapidly evolving market and maintain U.S. competitive advantage.  

This paper provides concrete policy recommendations for how DTA’s three pillars (Digital Economy and Infrastructure, Human Capital Development, and Digital Enabling Environment) can be implemented by focusing on the opportunities in Africa’s startup ecosystem. The paper highlights U.S. public private partnership opportunities in infrastructure, talent, and regulatory frameworks. Now is the time for the U.S. government to partner with the U.S. private sector to accelerate the digital transformation in Africa, to counter Chinese and Russian influence, and to foster a two-way trade and investment relationship.

The African Digital Economy and Infrastructure Opportunity

There is a tremendous role for the U.S. government to play in facilitating internet connectivity, with an eye to tapping into expanded market opportunities in Africa. The continent has made strides through public and private investments that expand access to faster and better quality internet connectivity for the approximately 570 million Africans (roughly 43% of the total population) currently online. As most people access the internet through mobile devices, the continent has experienced a mobile phone revolution that has sparked online activities ranging from social media to mobile payments.

Africa’s growing population, increased disposable income, and mobile internet use are leading to greater consumer market potential for U.S. companies. The surge in mobile phone usage has facilitated online shopping, which is driving e-commerce opportunities for small and medium enterprises (SMEs), which provide 80% of jobs in Africa and can contribute up to 52% of GDP in countries such as South Africa. African governments are forging partnerships with international e-commerce platforms to export African SME products to overseas markets. Ten African countries, including Ethiopia and Rwanda, are positioning themselves to sell more African products to Chinese consumers through Chinese e-commerce platforms as a trade initiative to “bring back the balance of trade between Africa and China.”

The U.S. government has an opportunity to create a bespoke commercial diplomacy initiative through the U.S. Trade Representative, U.S. State Department, and Department of Commerce to enable U.S. e-commerce platforms to facilitate greater trade between the United States and Africa.

Despite the growth of mobile phone usage and e-commerce, internet access remains uneven throughout the region, especially in rural areas, due to fragmented investments in infrastructure development that exacerbate accessibility and affordability challenges. For these reasons, pan-African and sub-regional infrastructure development efforts are primordial. The Program for Infrastructure Development in Africa (PIDA) is an initiative of the AU Commission, AU Development Agency, and African Development Bank (AfDB) that coordinates regional infrastructure development, including by enabling access to secure, reliable, and affordable internet. PIDA provides a common framework to build the information and communications technology (ICT) infrastructure necessary for more inclusive economic growth. Notwithstanding PIDA’s potential to revolutionize access to integrated regional infrastructure networks, the initiative has been overlooked by the United States and underfunded by international partners, hampering its implementation. The U.S. government has an opportunity to directly invest in PIDA initiatives and facilitate private sector investments in PIDA initiatives.

The opportunity for U.S. and international partners to invest in Africa’s digital infrastructure is undeniable as an additional 300 million Africans will come online by 2025. Through the Digital Silk Road initiative, China is investing in wireless networks, subsea cables, and satellites across Africa “to position itself to reap commercial and strategic rewards, especially as emerging economies grow.” The U.S. private sector is also playing a pivotal role in facilitating African internet access through high-quality infrastructure investments. Subsea cables, including those built by U.S. companies, are contributing to bridging Africa’s $100 billion infrastructure deficit and increasing internet affordability. Google’s Equiano subsea cable, which runs through Namibia, Nigeria, South Africa, St. Helena, and Togo, will help enable faster internet speeds and lower connectivity costs. The Equiano cable is expected to lead to a 21% drop in internet prices, a fivefold increase in internet speed in Nigeria, and almost triple in South Africa.
In Nigeria and South Africa alone, Equiano could indirectly create 1.6 million jobs over the next four years—driven by the expansion of the digital economy and peripheral sectors.18

Coordinating similar U.S. private infrastructure investments under the U.S. government foreign policy umbrella, and in alignment with pan-African efforts such as PIDA, could help to level the playing field for U.S. companies and amplify U.S. impact in building up tech infrastructure, thereby increasing economic opportunity. Notably, a mere 10% increase in mobile internet penetration can increase GDP per capita by 2.5% in Africa.19 President Biden’s recent announcement of the Partnership for Global Infrastructure and Investment offers an important opportunity to mobilize capital in PIDA-directed projects that drive investments in quality infrastructure.20

**Human Capital Development: Growing Africa’s Tech Talent & Startup Ecosystem**

As Africa’s youth population grows,21 the number of technical experts fueling tech innovation in Africa is growing along with it. Africa’s software developer talent consists of 716,000 developers, primarily in Egypt, Kenya, Nigeria, and South Africa.22 Demand for their talent is growing globally—38% of African developers work for at least one company based outside of the continent.23 African talent has the potential to fuel not only African startups but also U.S. and global innovation, leading companies such as Amazon, Meta, Microsoft, and Google, among others, to invest heavily in building up the talent of these digital entrepreneurs. U.S. government accompaniment in bolstering U.S. private educational efforts such as bootcamps, incubators, and accelerator programs can increase the talent pipeline and spur innovation.

This growing tech talent is also contributing to the U.S. potential economic opportunity in Africa’s booming tech startup sector. Despite global downtrends in venture capital fundraising for startups, Africa experienced record levels of growth.24,25 African startups raised more than $4.1 billion in 2021, outpacing growth rates in every other region in the world.26,27 Global investors comprise the largest portion of investments in African startups, including China’s venture capitalists, private equity investors, and tech giants that target African startup investments to strategically diversify investments on the continent.28,29 Foreign investors in startups are important actors as they influence the trajectory of global technology advancements.

A core pillar of DTA implementation must therefore include U.S. government investment partnerships and de-risking of U.S.-based venture capital firms and tech companies that are actively investing in African startups.30,31 U.S. government prioritization by the U.S. International Development Finance Corporation, U.S.-Africa Development Foundation, and Prosper Africa in mobilizing public and private funding for Africa’s booming tech startups could present tremendous potential return on investment while driving global innovation.

Leveraging U.S. and African government funding to unlock a mix of blended financing opportunities and de-risk venture capital investment will be more impactful if it is targeted in countries that are actively building up their tech ecosystems. Countries known as “The Big Four”—Egypt, Kenya, Nigeria, and South Africa—are the most sought-after destinations for startup investment, harboring the highest number of tech talent, and experiencing long-standing relations with the U.S. government.32 In 2021, 81% of all venture capital in Africa went to the Big Four.33 Ghana, Morocco, and Rwanda are actively “cultivating the tech landscape for growth.”34 With moderate developer populations and a growing number of mid-to-late-stage startups, these countries are also important partners for the United States in Africa’s tech ecosystem. Algeria, Côte d’Ivoire, Senegal, and Tunisia are also “increasing their focus on digitization and improving the tech and startup landscape to drive economic growth.”35

Increasing U.S. and African startup investment partnerships in this core group of countries could also help to address sustainable development challenges. In Rwanda for example, the government established the Rwanda Green Fund in 2012, which provides technical and financial support to startups that align with the country’s green agenda.36 The fund aligns with various national and international governments, such as the European Union, with similar missions to administer a variety of financing instruments
including innovation grants and low-interest loans that meet the financial needs of Rwanda’s emerging startup industry. This example can serve as a model for U.S. institutions such as the U.S. International Development Finance Corporation to work with African governments to fund strategic startup opportunities.

**Creating a Digital Enabling Environment**

Digital technologies alone, however, do not automatically translate into broad-based economic growth. U.S. companies need the U.S. government to proactively lead foreign policy discussions with African policymakers to usher African policy actions necessary to fully integrate technology into the economy, encourage innovation, and support startups to thrive. As African governments prioritize establishing their own “Silicon Savannahs” to replicate the success of the tech industry in the United States, the U.S. government and private sector have an opportunity to convene tech policy dialogues together with the AU to jointly identify regulatory enhancements for the tech ecosystem to thrive.

AU policy frameworks such as Smart Africa and the AU’s Digital Transformation Strategy create opportunities for the U.S. government to enhance African government tech policy knowledge and implementation capacity. The AU views the Digital Transformation Strategy as a “leapfrogging opportunity for the continent to fully adopt technologies such as artificial intelligence, robotics, blockchain, drones, wearable technologies, 3D printing, big data, and software-enabled industrial platforms.” The AU’s recent launch of a Data Policy Framework provides a mechanism through which U.S. policymakers and the private sector can collaborate on a pan-African level to implement “harmonized digital data governance systems to enable the free and secure flow of data across the continent while safeguarding human rights, upholding security, and ensuring equitable access.”

It is critical for the U.S. government to leverage these frameworks for policy collaboration to defend an open internet model that protects freedom, innovation, and security in the global economy. Freedom House reports that, globally, “at least 48 countries have pursued new rules on content, data, and competition… to subdue free expression and gain greater access to private data.” China’s and Russia’s approaches to internet censorship, surveillance and “sovereignty” have undermined individual rights and cultivated regional champions of its views. Nigeria, for example, is rapidly adopting restrictive Chinese, Russian, and Turkish models of internet regulation. U.S. beliefs in the promotion of democracy and human rights must extend to the internet where regulations can enable citizens “to express themselves freely, share information across borders, and hold the powerful to account.” With the internet in countries such as Ethiopia, Rwanda, and Sudan ranked as “not free” and larger countries such as Kenya and Nigeria ranked as “partly free” (due to obstacles to access, limits on content, and user rights violations), there is a need for the U.S. government to work with the AU to buck this digital fragmentation trend.

U.S. government efforts to work with the AU to fast track implementation of proactive regulatory practices across the continent are also key. Beginning with Tunisia and Senegal, at least sixteen other countries have undertaken processes to enact startup legislation that provides incentives for entrepreneurs, startups, and investors, with an eye toward developing a pro-competitive regulatory framework for innovation and entrepreneurship. For example, despite Nigeria’s success in attracting $1.37 billion of Africa’s $4 billion venture capital funding in 2021, Nigerian startups reported a failure rate of 61% due to “aggressive government policies, regulatory bottlenecks, over-saturation of startups in select locations, talent dearth, high cost of doing business, and funding challenges.” In October 2022, the Nigerian government enacted the Nigerian Start-up Act, a joint initiative between the private sector and government in developing a law to effectively build up the startup ecosystem.
Policy Options and Recommendations

The U.S. government has a unique opportunity to anchor DTA on building up the African startup ecosystem by investing and partnering with the private sector in infrastructure, talent, and enhancing regulatory frameworks. By focusing on these policy actions, DTA's framework can enable African countries to become “Digital Sprinters”—developing countries that effectively harness technology to transform their societies and leapfrog toward economic growth.49

   a. The U.S. government can expand the U.S. Trade and Development Agency’s Access Africa initiative50 to broaden the range of U.S. industry partners investing in digital infrastructure through coordinated private-public partnerships. In particular, by enabling private entities to form infrastructure partnerships and conducting feasibility studies, governments can drive investments in underfunded areas and promote fair competition for infrastructure deployment.
   b. The U.S. Millennium Challenge Corporation’s (MCC) can collaborate with the AU, NEPAD, and AfDB on regional compacts and leverage the Partnership for Global Infrastructure to target investments in regional programs through the PIDA framework.51,52 This will facilitate the participation of U.S. private sector entities in financing and implementation of cross-border infrastructure projects.
   c. Through the U.S. Department of State and Department of Commerce,53 the U.S. government can strengthen its advocacy program for U.S. companies to bid for and win public African procurement opportunities related to ICT infrastructure.

2. Build a joint growth agenda around African talent.
   a. The U.S. government can increase trainings and exchange programs focused on tech innovation, such as the Mandela Washington Fellowship for the Young African Leaders Initiative (YALI).
   b. The U.S. government can also pursue educational partnerships with U.S. companies to institute tech training programs such as software developer training in African technical and vocational education and training programs, and develop skills-based training programs and certifications for high-growth, high-demand jobs to deploy these at scale.
   c. The U.S. government can expand the focus of the University Partnerships54 initiative to include increased focus on tech and AI.43 The UPI fosters collaboration between U.S. and African universities through faculty and student exchanges, joint research, administrative capacity-building and public-private partnerships.

3. Foster innovation to spur economic growth.
   a. Funding for Research: African governments may encourage the funding of AI research in both the private and public domains. Such initiatives may include subsidies to support the infrastructure underpinning AI, including critical cloud infrastructure. Adopting constructive governance frameworks can help African policymakers to promote AI development and responsible data sharing.
   b. Government-backed Investments: Government investments in startups can have positive effects on job creation and economic growth.55 The U.S. government may support African AI startups by developing government-backed funding mechanisms. The U.S. International Development Finance Corporation, Prosper Africa, and the U.S. Africa Development Foundation can help to mobilize capital and de-risk investments in African entrepreneurs and startups at an accelerated pace in targeted countries with emerging startup ecosystems. The objective would be to strengthen the African venture capital ecosystem and invest in early-stage companies addressing sustainable development challenges through innovations in areas ranging from climate change to health care.
   i. U.S. and African governments can consider facilitating matchmaking for U.S. investors with African startups. This model can replicate an example of the Malaysia Digital Economy Corporation (MDEC), which partnered with a venture capital firm to match Malaysian start-ups with suitable investors.56
ii. Similarly, the U.S. government can create a program similar to the Small Business Innovation Research (SBIR) Program that can focus on leveraging U.S. government funding for African founders.46 SBIR is a national program that offers early-stage founders funding to help bring innovative technologies to market.57

4. **Create an enabling regulatory environment for the tech ecosystem.**
   a. Creating a pro-competitive, pro-innovator regulatory framework that can shoulder progress for Africa’s startups to thrive is essential. African adoption of startup acts across the continent can encourage startup creation.
   b. Prioritizing U.S. partnership with the AfCFTA Secretariat58 is crucial to the future of U.S.-Africa trade, particularly as it relates to digital trade, tax provisions, work protections, competition rules, intellectual property, cross-border trade and data flows.
   c. Developing capabilities and sharing global best practices between U.S. and African policymakers through the creation of a tech policymakers forum can enable a strengthened regulatory environment in Africa fit for the digital age.

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5. Smart Africa, https://smartafrica.org/

18. “Equiano Subsea Cable.”


33. “Africa’s Developer Community.”

34. Ibíd.

35. Ibíd.


42. “Freedom on the Net 2021.”


45. “Freedom on the Net 2021.”


52. “Partnership for Global Infrastructure.”


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