

# Ethiopia's Digital Transformation Strategy: Current Status, Challenges, and Prospective

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## 1. Introduction

Ethiopia's economy has grown over the past two decades. Government spending on infrastructure and agricultural productivity has played an important role. To continue this success, the country has embarked on export-oriented industrialization that depends on new technologies. *Ethiopia* recently adopted a *ten-year national development plan (2021-2030)*. The plan emphasizes an export-oriented industrialization strategy anchored in agriculture-based manufacturing. Thus, creating a domestic supply network between agriculture and industry is critical. The plan aims for Ethiopia to become a middle-income country and a leading manufacturing and trade center by 2025. It dreams of increasing the share of manufacturing in GDP from the current 5% to 17%. It dreams of doubling the country's exports and ensuring that manufacturing accounts for 40% of exports. The country also plans to create 14 million jobs in the formal sector, preferably in export-oriented sectors (PDC, 2020).

In the above dreams, technology is the main driver of social progress, higher productivity, and economic prosperity. Particularly, ICT provides opportunities for economic growth, and productivity, and improves the country's global competitiveness. Digital delivery of public services using ICT brings several benefits, including lower operating costs, quality services, greater accountability, transparency, and increased participation (Taffere, 2022). To use the benefit of the digital world, *Ethiopia* has adopted a *Digital Transformation Strategy 2025*. The strategy aims to engage Ethiopian sectors and institutions in developing and aligning action plans and creating wealth through technology. Ethiopia's overarching development vision includes job creation, foreign exchange generation, and becoming a middle-income country. In the long term, the country seeks full participation in the Fourth Industrial Revolution (4IR). In this struggle, national policies and investments determine the country's digital readiness and capabilities. This opinion article examines Ethiopia's policies and strategies, as well as recent data on digital transformation. At the end, the author attempts to assess the progress of digital transformation strategy, identify its main challenges and give recommendations.

## **2. Digital Transformation Agenda in Ethiopia**

Ethiopia's digital transformation strategy builds on Ethiopia's comparative economic advantages. It aims to provide digital services to the country's key industries, including agriculture, manufacturing, and tourism, with a focus on the private sector. Digital transformation is the transition from an analog society where business, social, and government interactions take place in person to a fully integrated, inclusive digital economy where technology is used to make transactions faster, cheaper, and more secure, and where most interactions take place online (Taffere,2020). It is an evolution from traditional business practices to more digitized and automated processes. This shift cuts across all industries, sectors, and regions. It is bringing a new world order by joining the digital revolution in Ethiopia. The term "digital economy" describes economic activities that take advantage of networks and digital platforms. The digital economy is not just only about producing digital goods and services. It requires multiple interconnected components, such as infrastructure, supporting systems, and a regulatory environment. These components enable individuals, organizations, and businesses to engage in and contribute to the digital economy. Innovation is essential to the development of the digital economy. Overall, Ethiopia's middle-income and manufacturing goals will depend heavily on its ability to foster indigenous technology and innovation potential (FDRE-MiNT, 2020).

## **3. Ethiopia's Digital Transformation Pillars**

Ethiopia's Digital Transformation Strategy offers recommendations for four cross-sectoral areas: Infrastructure, Supporting Systems, Digital Interaction, and Digital Ecosystem. Infrastructure includes connectivity and energy. Connectivity means setting explicit policies for access to local and global devices. The second area includes digital identification, electronic payments, and computer security. Digital interaction includes e-commerce and e-government. The digital ecosystem comprises financial support for the ICT sector, skilled personnel, and policy and regulation. The strategy suggested the government adopt an innovative and consultative approach to policymaking, develop greater multi-stakeholder engagement, introduce new regulatory solutions for investment and business, and revise public procurement regulations to meet the needs of the ICT sector (Taffere,2020).

#### **4. Ethiopia's Digital Transformation Strategic Sector Focus**

Ethiopia's Digital Transformation Strategy assesses how digital technologies can be used to develop an inclusive, knowledge-based, and prosperous society by identifying four strategic sectors. These sectors are agriculture, global manufacturing value chains, IT-based services, and digitally-enabled tourism. Each sector offers specific opportunities in which Ethiopia can succeed. The first sector is unleashing value from agriculture. This sector builds a platform for digital agriculture and promotes agricultural tech entrepreneurship. The second sector emphasizes global manufacturing value chains. This sector expands fast and reliable Internet connections to enable the adoption of new communication technologies and improve digitized logistics. The third sector aims to build IT-enabled services. This sector includes providing infrastructure for high-potential talent centers and identifying and attracting leading companies to outsource business processes. Sector four emphasizes the role of digitalization as a driver of tourism competitiveness. It proposes a task force for the digitization of tourism, targeted strategies for digital marketing, and strengthen the capacity of small and medium enterprises to adopt and use digital technologies. In general, there are already visible achievements and obstacles to the dreams of digital transformation in Ethiopia, which will be analyzed in the next sections in detail.

##### **4.1. Achievements**

Ethiopia's digital transformation strategy motivated the government to build institutes and essential infrastructure, which are the milestone for digital transformation. The country established the Ethiopian Artificial Intelligence (AI) Institute in 2020 and Science Museum in 2022. The government has worked on connectivity, power, e-governance, digital ID, and cybersecurity. The International Telecommunication Union launched Digital Transformation Centers in Addis Ababa in 2022. The government adopted the National Digital Payments Strategy (NBA,2022), the Electronic Transaction Proclamation 1205/2020, and the 2022 Draft Ethiopian Digital Identification. In addition, the World Bank approved \$200 million in concessional loans for the implementation of the Digital Ethiopia Strategy 2025 (World Bank, 2022). This will enable private and government institutions to implement reforms and digital projects in support of the Digital Economy Strategy. Particularly, Chinese companies like Huawei, and ZTE have made significant contributions to Ethiopia's digital transformation and digital economy. They have supplied telecommunications and Internet equipment and participated in network expansion. The state-owned Ethio-telecom gets Safaricom, a private

telecommunications provider as an additional telecom provider. The government views ICT as both an enabling environment and a sector in its own right. The issuance of digital ID is reaching the final stage. Many Ethiopians graduate yearly in ICT, computers, and engineering. The private sector, especially the Ethiopian Diaspora, is participating in digital businesses. All above mentioned achievements are essential infrastructure and milestone in further succeeding in Ethiopia's digital transformation.

## **4.2. Challenges**

Ethiopia's economy is struggling due to internal and external factors. The conflict in Northern Ethiopia, the Covid-19 pandemic, weather-related food insecurity, locust plague, global situation, low human capital index and immature private sector, inflation, trade imbalance, debt trap, unemployment, etc. are affecting the digital transformation strategy (PDC,2020).

Ethiopia has a huge young population of 117 million in 2021; 70% of the population is employed in agriculture, and nearly 85% of Ethiopians live in rural areas that are less connected to infrastructure and the Internet (World Bank, 2022). The lack of access to electricity is a major barrier to digital transformation. Ethiopia's import tariffs are too high. This makes ICT devices in Ethiopia, including computers and cell phones, very expensive. Even the industrial parks, which were expected to narrow the digital gap in the manufacturing sector, are not doing well. Ethiopia's share in the value chains of goods produced in the industrial parks is small. Workers in the parks tend to be physical laborers rather than digital and technological professionals (Taffere,2022). Above all, the recent civil war devastated the country's digital and technological infrastructure, and it will take decades for Ethiopia to catch up with its competitors. Internet quality and coverage are still poor and limited. The 2G and 3G networks cover 85.5 percent of the Ethiopian population, and 4G access is available in certain areas of Addis Ababa. Sporadic Internet outages occur throughout the country. Mainly, government agencies, businesses, private and international organizations, and the private sector have weak digital transformation strategy coordination. Above all, the country's education system lacks quality, especially in learning and producing digital technologies. The country's monetary policy is too traditional for the digital world.

Ethiopia's effort to implement the digital transformation strategy and create a digital economy faces problems such as a lack of public awareness and human resources, resistance to adopting new technologies, and lack of funding. Some policymakers believe that the country needs to absorb the huge young population through massive industrialization rather than in

the technology sector (Taffere,2019). They claim that the recent move to shift jobs to technology would render many youth unemployed. They added that if Ethiopia focuses on digital technologies, it would lose its comparative advantage as many industrial parks came to Ethiopia in search of cheap labor. According to Taffere(2022), Ethiopia would like to emulate China's success, especially in bringing rural businesses to the national market through e-commerce platforms. However, he noted that Ethiopian policymakers have not understood China's adoption, assumption, development, and use of digital technologies, as well as China's policies, regulations, investment levels, and systemic growth path. He argued trade and foreign direct investment, which are Ethiopia's main drivers of knowledge transfer and technological learning, are still insufficient. In cursory observation, the financial sector and its regulatory framework are underdeveloped. Especially, lack of a skilled workforce in AI, data analytics, blockchain, and cybersecurity, as well as inadequate organizational culture in digital transformation, financial resources, and leadership engagement are some of the challenges facing digital transformation. Largely, the country's various policies related to digital transformation lack coherence. On the whole, Ethiopia lags in global benchmarking on key indicators of technological development and innovation.

#### **4.3. The Way Forward**

Although the digital economy in Ethiopia is poorly developed, the government plans to establish a centralized data management system and digital governance, expand the already established ICT Park, and issue several proclamations on data storage, data access, data privacy, and cybersecurity. Ethiopia's Grand Renaissance Dam is generating electricity and will address power shortages. Government and private institutions have begun digital startups and are conducting training on e-commerce and e-government. Ethiopia has plans to become a logistics hub in East Africa and build Big Data analytics and national technological manufacturing. These conditions will make digital transformation and the digital economy successful in Ethiopia. There is a tendency for sectoral and institutional collaboration between and within government and private institutions to make digital transformation flourish in Ethiopia.

### **5. Conclusions and Recommendations**

The status of digital transformation in Ethiopia is not as good as it should be, but many signs point to a brighter future. Recent experiences with digital transformation in the transport sector, such as Ride and mobile banking apps, the Ethiopian airlines ticketing app, and the

learning management systems of Ethiopian universities, have been of great benefit to Ethiopians. There are achievements and tremendous prospects for digital transformation, although the limitations outweigh the achievements. The lack of Internet access, low literacy rates, high cost of Internet access, and lack of skills needed for digital transformation are some of the challenges. Stakeholders need to better understand and implement how digital technologies will spread in Ethiopia, what policies and regulations will boost the digital economy, what basic infrastructures will be developed and how they will be financed, how the digital revolution will affect business operations, and how it can be harnessed for small businesses, including those in rural areas, etc. The government must empower the private sector and civil society to complete the digital transformation and the digital economy. Learning, collaboration, and larger partnerships-both inside and outside Ethiopia-are necessary to realize the digital economy.

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