

Driving digital transformation of the economy in Kenya

Opportunities, policy reforms and the role of mobile

October 2024



GSMA

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1.

Executive Summary and Key Messages



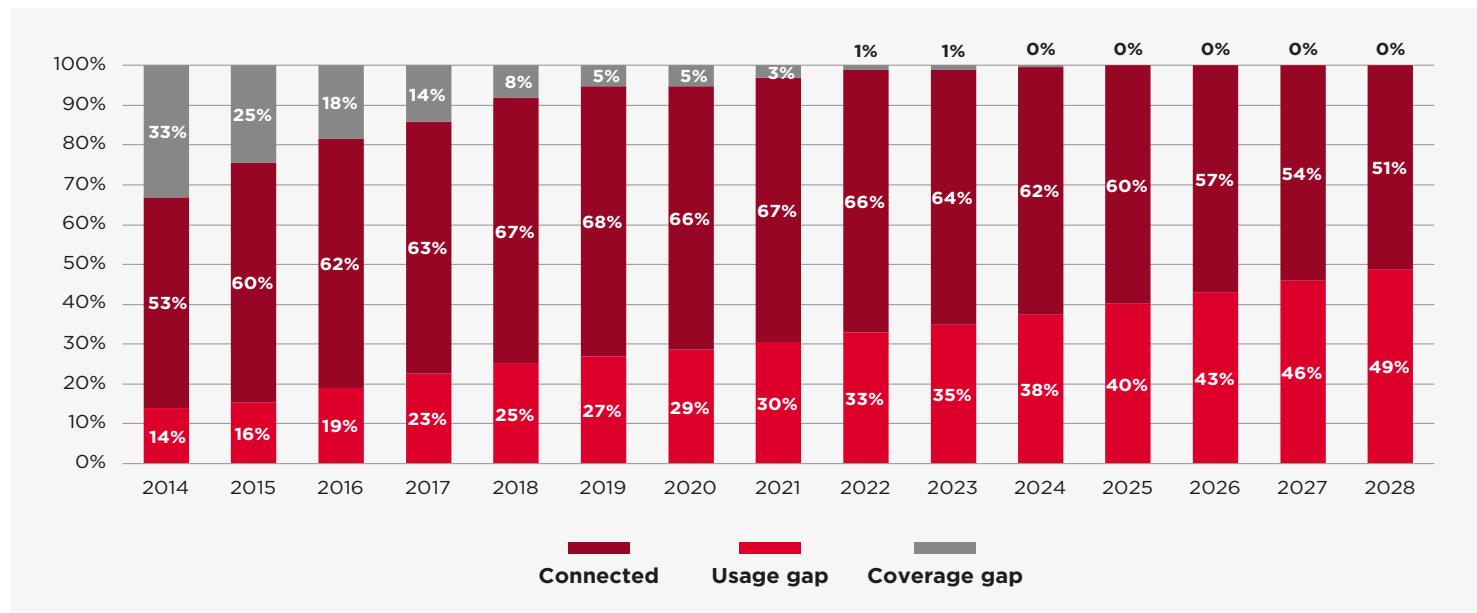
The digitalisation of the economy is a key driver of economic growth and government revenue, as well as supporting socio-economic development and offering a path towards shared prosperity. By leveraging digitalisation opportunities, the Government of Kenya can achieve sustainable economic growth and structural change.

Adoption of digital technologies across both public and private sectors has been observed to positively impact economic growth. It increases productivity in agriculture, improves access to global value chains (GVCs) and improves the efficiency and transparency of government and public services. Moreover, access to emerging technologies such as mobile money,¹ Artificial Intelligence (AI) and cloud computing are desirable as drivers of digital and financial inclusion which in turn supports human development.

This study identifies opportunities and quantifies the economic value of adopting digital technologies across selected sectors of Kenya's economy. It identifies how these opportunities can be unlocked through policy reforms, particularly focusing on the key role that the mobile telecoms sector plays in supporting the process of digitalisation.

Kenya is a regional leader in mobile connectivity and Mobile Financial Services (MFS). It pioneered the use of mobile money, making huge strides in financial inclusion of the unbanked, and has retained its position as a global leader in this area. Further extending its reach as the enabler of electronic payments across the digital economy, as well as traditional sectors, can propel digitalisation and growth for many more Kenyans and achieve increased resilience and revenue for the Government.

Figure 1:
Evolution of mobile internet connectivity in Kenya, subject to policy reforms



Source: GSMA Intelligence and authors' calculations. See separate methodological document that accompanies this report.² "Connected" refers to unique mobile internet subscribers³ as a % of population; "Usage gap" refers to populations that live within the footprint of a mobile broadband network but who are not using mobile internet; "Coverage gap" refers to populations that do not live within the footprint of a mobile broadband network (3G or above).

¹ The term Mobile Financial Services is often used to refer to broad set of financial services provided over mobile networks, including mobile money. For simplicity and consistency, the term "mobile money" is used throughout this report to refer to mobile financial services.

² GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024.

www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

³ In this report "mobile internet users" or "unique mobile internet users" refers to unique individuals using the mobile internet. It does not refer to the number of SIM cards or mobile internet accounts, which is usually greater than the number of individuals using the internet.

This report identifies a series of policy recommendations that, if implemented, will close the internet usage gap from the current level of over 64% of the population to 51% in 2028. This would result in

49% of the population of Kenya being connected to the Internet, equivalent to over 10 million additional people. The priority policy reforms are:

- 1** Tax restructuring in the telecommunication industry to purposefully drive usage.
- 2** Implementing policies and programmes to improve device affordability.
- 3** Ensuring a sustainable and predictable investment environment. This includes:
 - Supporting financial sustainability through tax deductions against spectrum payments,
 - Reducing the cost of energy to power infrastructure,
 - Adopting a favourable spectrum pricing model, and
 - Accelerating the licence renewal process.
- 4** Supporting productive use of digital technologies by businesses across economic sectors, with targeted policies to improve digital skills and human capital, support MSMEs and start-ups and prioritise context-appropriate technologies and local needs.

These policy reforms have the potential to make a significant contribution to Kenya's economic objectives, including economic transformation

across important sectors such as agriculture and manufacturing. The potential macroeconomic impacts are summarised below:

**Figure 2:
Sectoral impacts of increased digitalisation in Kenya following implementation of proposed policy reforms**

	Agriculture	Industry	Transport	Trade	Healthcare	Government
Digital value add (KES)	124 bn	122 bn	107 bn	22 bn	19 bn	-
% of sector GDP	3.0%	3.5%	4.4%	1.4%	5.3%	2.1%
% of Total GDP	0.6%	0.6%	0.5%	0.1%	0.1%	0.4%
Employment	290 k	158 k	152 k	31 k	17 k	-
Tax revenue (KES)	23 bn	22 bn	19 bn	4 bn	3 bn	75 bn

Source: Authors' calculations. See separate methodological document that accompanies this report.⁴

⁴ GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document



2.

Digital Economy Framework



A. Introduction

The African Union Agenda 2063 aspiration to achieve an integrated, prosperous, and peaceful Africa, driven by its citizens and recognised as a global powerhouse, rests on its member countries' commitment to inclusive and sustainable development.

The Government of Kenya, through the Kenya Vision 2030, and the Kenya Kwanza Manifesto⁵ recognised the role of Digital technology as a driver of economic growth and development. The sector has been classified as part of the five sectors that form the core pillars of this plan. These are: 1. Agriculture, 2. Micro, Small and Medium Enterprise (MSME) economy, 3. Housing and Settlement, 4. Healthcare, 5. Digital Superhighway and Creative Economy.

Implementation of such an ambitious plan is not always easy as policymakers are often faced with competing objectives such as increasing domestic revenues and reducing poverty and inequality, while boosting private sector development and attracting investment.

Digitalisation of the economy presents a solution to this challenge. It has the potential to drive the social and economic transformation of Kenya in a way that supports the delivery of the developmental objectives set out in the Manifesto. The mobile sector is the backbone of this digitalisation process, and a growing sector is an essential pre-requisite of a national digital transformation programme.⁶

B. How does the digital economy drive development?

The process of digitalisation is continuing across every country in Africa, including Kenya. Digital services, mostly using mobile telecoms networks, are becoming more widely available, and their usage is continuing to grow. As they do so, they are becoming more integrated into other sectors of the economy.

The mobile telecoms industry, and the digital sector more broadly, contribute significantly to the economy and to public services in Kenya. Widespread adoption of digital technologies across the public and private sectors enables better interactions between individuals and a more efficient use of resources, thereby raising productivity and supporting innovation.

Most of the economic impact of mobile technology is therefore realised outside of the mobile sector itself, through the positive impact that it has on productivity in sectors such as agriculture, manufacturing and retail; and in public services such as government administration, education and healthcare.

In turn, **the adoption of digital technologies across economic sectors and public services can unlock important pathways for inclusive digital transformation**, for example through increasing value from existing agricultural resources, improving access to GVCs, enhancing education and healthcare provision, reducing transaction costs and improving efficiency, transparency and governance of government-to-business and government-to-citizen services. Access to emerging technologies such as AI, big data and cloud computing and to services such as mobile money drive increased digital and financial inclusion which, in turn, supports human development.

As digitalisation works through each sector of the economy, the resulting effects include improvements in productivity, job creation and formalisation of the economy, which in turn lead to increased standards of living, higher economic growth and greater availability of public resources. Of course there are also risks and challenges associated with wider adoption of digital technologies, such as cybersecurity threats, data privacy concerns, misinformation and disinformation. These are not addressed directly in this report although it is recognised that policy needs to address those concerns to balance the benefits.

5 <https://africacheck.org/sites/default/files/media/documents/2022-08/Kenya%20Kwanza%20UDA%20Manifesto%202022.pdf>

6 Throughout this study, the term digitalisation is used to denote the adoption of new technologies by consumers, businesses and governments across economic sectors. Digital transformation is the economic transformation resulting from such adoption. The digital economy encompasses the actors and exchanges taking place in the economy as a result of digitalisation.

Figure 3:
Digital pathways to economic transformation



Source: Authors' synthesis based on literature, Government's strategy, discussion with stakeholders.

C. The role of the telecoms sector in the digital economy

The mobile telecoms sector provides the digital connectivity and platform which forms the foundation on which the digital transformation process is built. This is recognised by the Government of Kenya and reflected in the Kenya Kwanza Manifesto.

Digitalisation of the economy is a key driver for socio-economic growth and government revenue and can offer new opportunities for pathways to growth, job creation and diversification of the economy. The internet economy is projected to reach 5.2% of the GDP in Africa by 2025,⁷ and development of the digital ecosystem has been shown to add up to 1.9% in GDP per capita in Sub-Saharan Africa.⁸ The mobile technology sector is key to realise this potential and the associated economic value, given mobile devices are the most common means of internet and financial access in Africa. For example, 10% increase in mobile Internet penetration is estimated to increase GDP per capita by up to 2.5% in Africa.⁹

Digitalisation is the process of technological change through adoption of digital technologies across economic activities. Such emerging technologies are enabled by telecommunication and internet access, and range from artificial intelligence to cloud computing, from smart grids and Internet of Things to blockchain. These have the potential to reduce production costs, make exchanges (such as trading goods and services) more efficient, and allow ideas and knowledge to spread, thus promoting further innovation and growth.

⁷ Accenture Africa iGDP forecast.

⁸ ITU 2019 Economic contribution of broadband, digitization and ICT regulation: Econometric modelling for Africa.

⁹ Ibid.



The greatest impact is realised through the productivity increase beyond the ICT sector, via adoption in agriculture, manufacturing, retail and other sectors of the economy. Increase in productivity by firms is a key component of the impacts of digitalisation, with higher technology adoption associated with labour productivity increases of up to 2% in Ghana, Kenya, Malawi, and Senegal, and a significantly higher benefit for informal firms.¹⁰ Furthermore, understanding how technological changes ‘work through’ a sector, allows to identify those innovations that create jobs and enhance productivity not through automation but by creating new tasks and efficiencies per worker.¹¹

Adoption of 5G alone is expected to benefit a wide range of economic most sectors of the economy, bringing almost 0.37% of GDP in 2030.¹² The wide area coverage enabled by low band 5G will be particularly important in driving the digital transformation of the agricultural and manufacturing sectors, with IoT applications such as smart farming solutions, smart factories, smart cities and smart grids.¹³ While manufacturing, agriculture and mining will benefit the most, other sectors such as the public sector, the services sector and transport will also account for a significant proportion of the economic benefit.

In the delivery of public services, **digital technology increases visibility and record keeping which helps to reduce corruption and enhance transparency** which results in a more efficient use of public resources. Mobile money services also play an increasingly important role in economic development through enhancing financial inclusion, reducing transaction costs and providing citizens and small businesses with access to a range of financial services.

However, **the mobile sector in Kenya continues to face several policy and regulatory challenges** that risk undermining future sustainability of mobile infrastructure and jeopardising the gains achieved in digital and financial inclusion. If these challenges are addressed, the mobile sector can support a greater economic impact through increased access, adoption and usage of digital technologies.

10 World Bank Jobs and Cirera, Comin, and Cruz 2022

11 Acemoglu and Johnson, 2023.

12 GSMA, Mobile Economy Africa, 2023.

13 GSMA, Socio-Economic Benefits of 5G: The importance of low-band spectrum, 2023.

D. This study

This study examines the role of digital technologies in the economic transformation of Kenya.

The starting point is an analysis of how digital technologies can drive socio-economic development through enhanced productivity and job creation, as well as how they can be used to improve the way in which government functions.

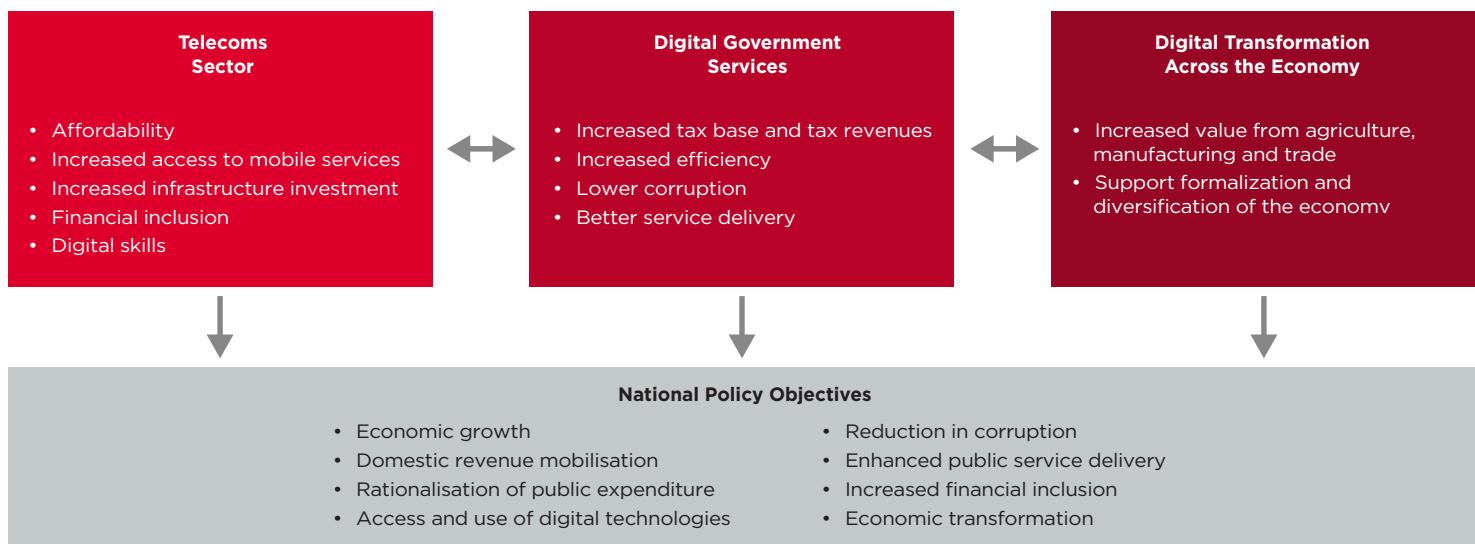
It identifies opportunities and quantifies the economic value of adopting digital technologies across specific sectors of the economy.

It explains

how these can be unlocked through policy reforms, recognising the role that the mobile telecoms sector plays in supporting the process of digitalisation.

The potential quantitative impacts of digitalisation on each sector are based on these policy reform scenarios. Their impact on adoption and usage is modelled and these effects flow through to the other sectors of the economy. This is summarised in Figure 4 and more details are provided in Section 5 of the report.

Figure 4:
Digital economy links to policy



Source: Authors' synthesis.

The sections that follow consider how digitalisation affects outcomes in some of the key sectors of the economy. It is organised as follows:

- Section 3 discusses the digitalisation of the economy of Kenya and explores how it can positively impact productivity, economic growth and job creation. For each sector, the potential economic impact of digitalisation is estimated, based on the policy reforms that are detailed later in the report.

- Section 4 focuses on the telecoms sector, assessing how the sector is performing in terms of infrastructure, access, and adoption of both digital services and mobile money. It identifies some important policy challenges and quantifies the impact of each policy reform scenario.
- Section 5 summarises the policy reforms that the Government could undertake to support the development of the mobile sector and the wider process of digital transformation.



3.

Digital Transformation across the Economy of Kenya



A. Kenya country snapshot

Kenya is a middle income country with a population of approximately 55 million people.¹⁴ The Kenyan economy is the largest in East Africa in terms of GDP and a regional trade, transportation and financial hub.¹⁵ **The country has achieved sustained economic growth, social development, and political stability gains** over the past decade, although vulnerabilities

remain, in particular debt sustainability, youth unemployment, and the impacts of climate change. Kenya's real GDP growth accelerated to 5.4% in 2023, surpassing the previous year's growth of 4.9%, and the country is projected to grow 5.2% on average during 2024-26.¹⁶

Table 1:
Kenya – key indicators

Gross Domestic Product (GDP, KES)	15,000 bn
Gross Domestic Product (GDP, US\$)	107 bn
GDP growth (annual %)	5.4%
GNI per capita (Atlas method, current US\$)	2,110
Infant mortality rate (per 1,000)	30.5*
School enrolment, primary (% gross)	97.2*
Life expectancy (years)	62*
Population, of which % rural pop	55 m, 71%
Poverty headcount ratio at \$2.15 a day (2017 PPP) (% of population)	36.1%
Net ODA received (% of GNI)	2.4%*
Mobile internet unique subs (% pop)	35%
4G network coverage (% pop)	99%
Financial account ownership (% adults)	79%**

Data for 2023, except 2022 if marked * and 2021 if marked **. Source : World Bank World Development Indicators, Findex, GSMA.

Digital and mobile technology have delivered far-reaching economic and social benefits in Kenya and continued investment in telecoms infrastructure has laid the foundations for a strong technology ecosystem. Mobile internet connectivity has greatly improved in the past 10 years, with 3G networks covering 99% of the population in 2023 and 4G coverage at 98%, with a significant percentage of 3G subscribers have already migrated to 4G.¹⁷ 5G networks covered 6% of the population in 2023 and it is expected that 13% will be covered by the end of 2024 and reaching 99% in 2030 – supporting the vision of Kenya as a regional technology hub.

However, there remains a large usage gap – individuals covered by mobile networks but who do not use it. **Over 65% of the population remains unconnected to mobile internet.¹⁸**

14 World Development Indicators 2024.

15 World Bank WDI.

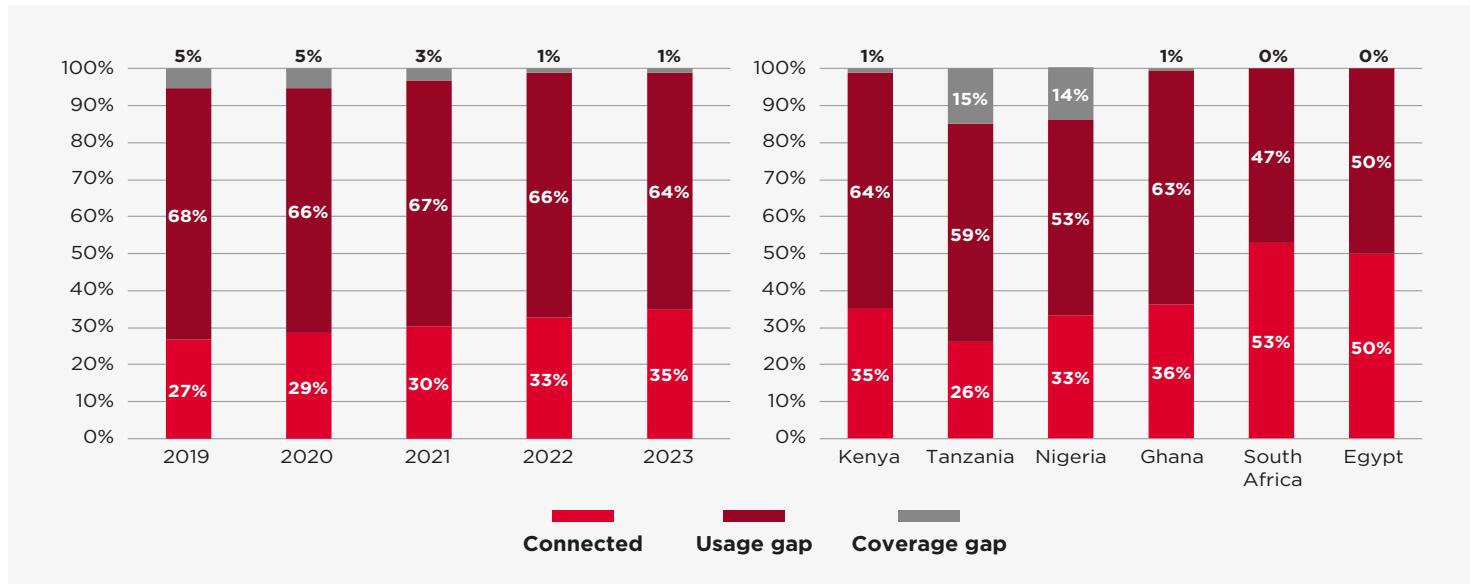
16 World Bank, Kenya Economic Update, June 2024.

17 From interviews with MNOs. It is easier to sunset 3G (than 2G) as most of the devices compatible with 3G can seamlessly adopt 4G. With need to reduce costs, carrying lesser traffic on 3G and more on 4G has been seen to be more efficient, according to Safaricom cost modelling observations.

18 GSMA Intelligence.

Figure 5:

Evolution of mobile internet connectivity in Kenya and comparison with other countries in 2023



Source: GSMA Intelligence and authors' calculations. See separate methodological document that accompanies this report.¹⁹ "Connected" refers to unique mobile internet subscribers²⁰ as a % of population; "Usage gap" refers to populations that live within the footprint of a mobile broadband network but who are not using mobile internet; "Coverage gap" refers to populations that do not live within the footprint of a mobile broadband network (3G or above).

Kenya is arguably a leader in mobile money services, with a mature market contributing to high levels of financial inclusion compared to peers. Mobile money account ownership surpassed traditional financial institution accounts already in 2014 and accounted for 70% of the adult population in 2021. Mobile is increasingly being used as the preferred savings method, with 24% of adults saving through mobile money in 2021.²¹

The Central Bank of Kenya reported 77 million registered mobile money accounts at the start of 2024,²² while the Communications Authority reports 38.7 million active mobile money subscriptions as at the end of March 2024.²³ There were 320,000 active agents at the start of 2024.

Values for agent cash-in and cash-out transactions amounted to a total of 8 trillion KES in 2023, with significant growth achieved over the years in volumes and values. The total volume of mobile money transactions is estimated at 37 billion for 2023.²⁴

19 www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

20 In this report "mobile internet users" or "unique mobile internet users" refers to unique individuals using the mobile internet. It does not refer to the number of SIM cards or mobile internet accounts, which is usually greater than the number of individuals using the internet.

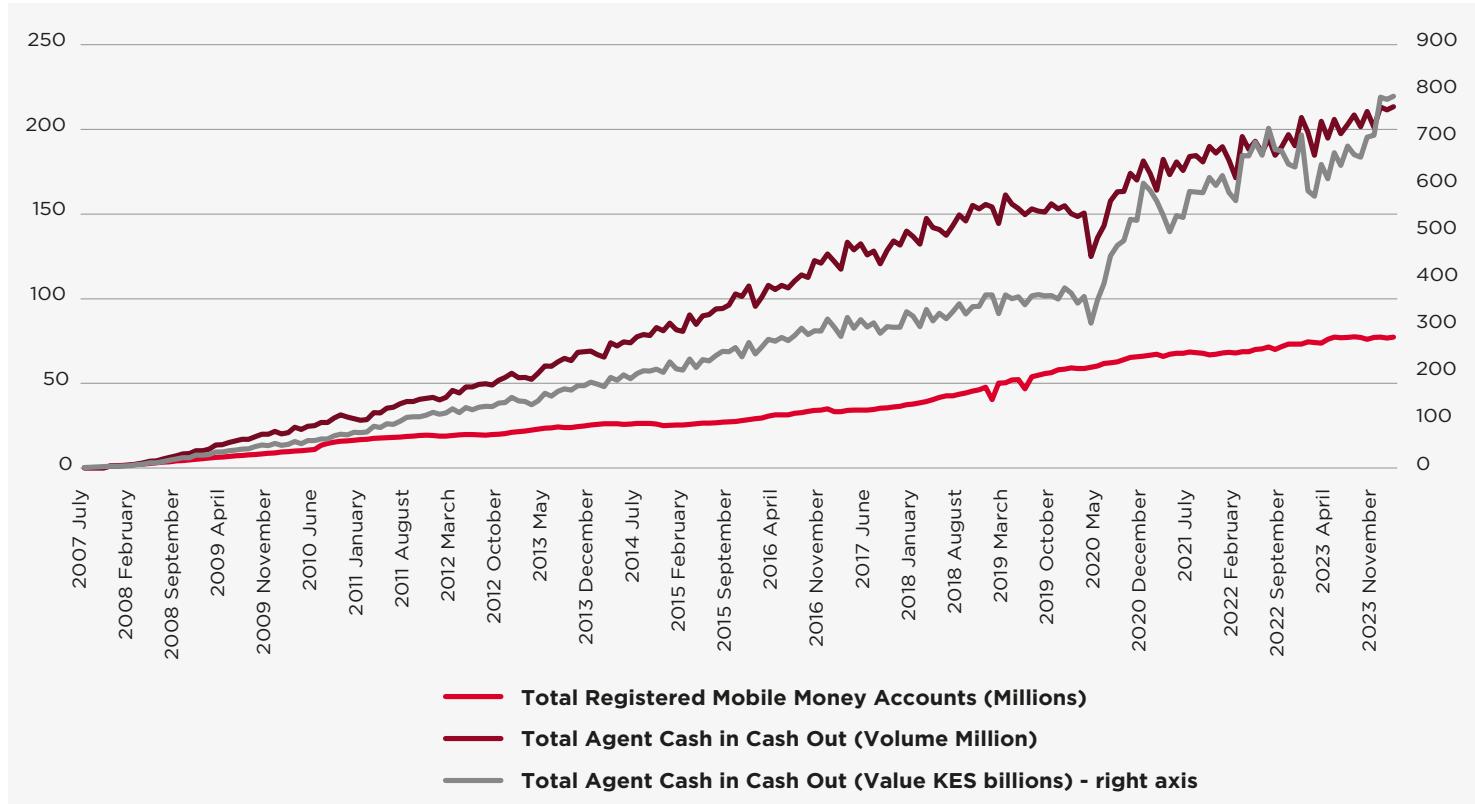
21 World Bank Findex 2021.

22 <https://www.centralbank.go.ke/national-payments-system/mobile-payments/>

23 Communications Authority of Kenya, Third Quarter Sector Statistics Report Financial Year 2023/2024.

24 CICO values are from CBK, while the total value of transactions is an estimate based on data from mobile money operators and Safaricom 2024 annual report. Includes all cash-in and cash-out, P2P, remittances, P2G and G2P.

Figure 6:
Evolution of mobile money accounts and transactions in Kenya



Source: Central Bank of Kenya and mobile money operator data. Transaction value on right axis.

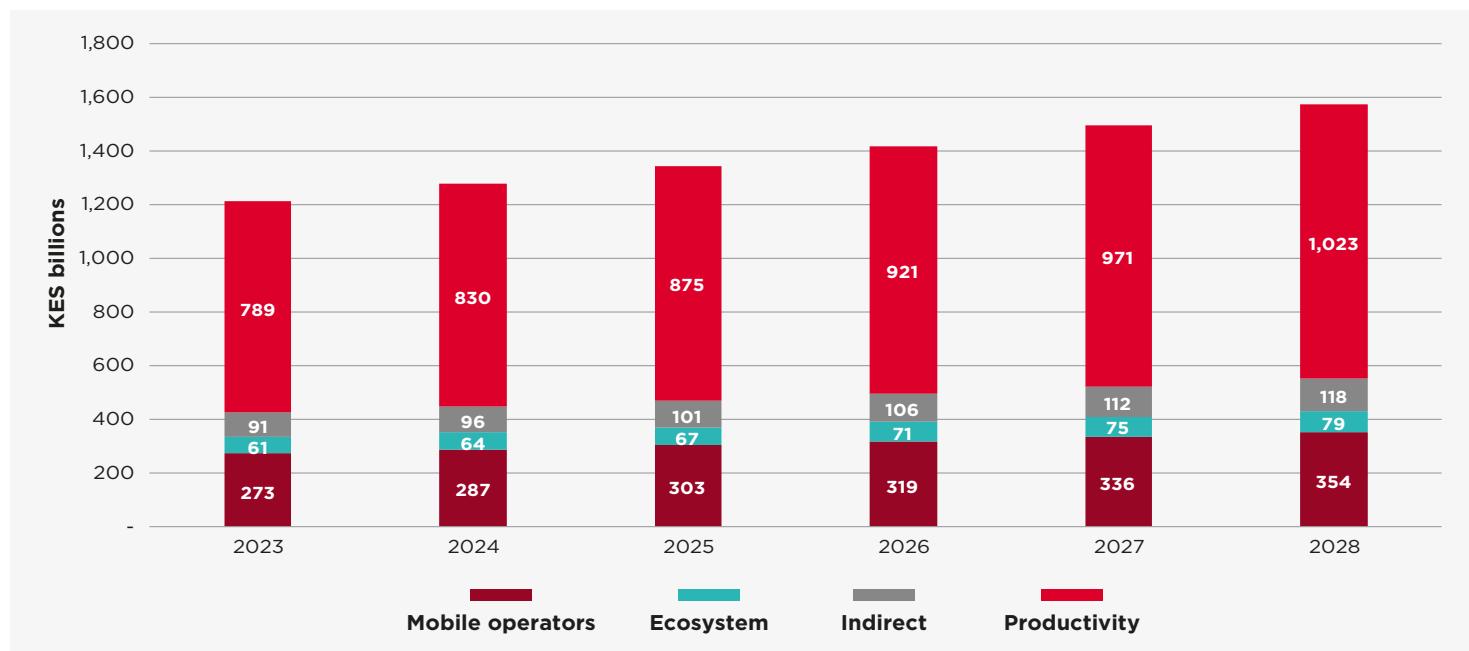




The mobile sector makes a significant contribution to the economy of Kenya. In 2023, it is estimated that the telecommunications sector contributed KES 1.2 trillion to the Kenyan economy, or around

to 8% of GDP, including the ecosystem, indirect and productivity impacts. This resulted in KES 212 billion paid in taxes to the government.

Figure 7:
Direct, indirect and productivity impacts of mobile in Kenya



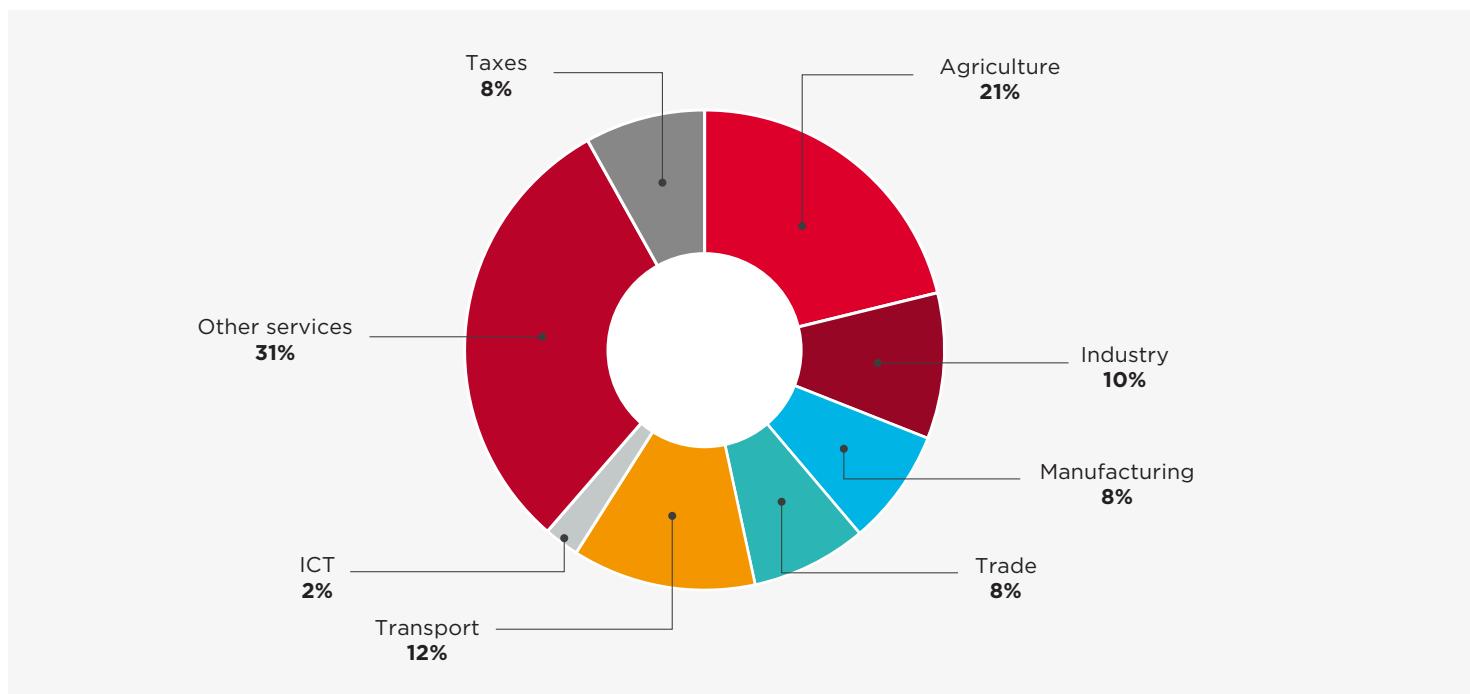
Source: GSMA Mobile Economy SSA, IMF WE, Kenya National Bureau of Statistics, Economic Survey 2023 and authors calculations.

B. The economy of Kenya

Agriculture remains the backbone of the economy in Kenya, contributing over 20% of GDP and employing 33% of the population. Tea and coffee are the main agricultural exports, with other export items including textiles, tobacco, iron and steel products, petroleum

products, cement.²⁵ Manufacturing and industry account for 18% of GDP, **while services contribute to over 54% of GDP**, thanks to strong growth in recent decades.

Figure 8:
Composition of GDP by sector in Kenya, 2021



Source: Kenya National Bureau of Statistics. Industry other than manufacturing includes mining and quarrying; Other services include financial services, public administration, professional services, education, health, real estate and others.

The agricultural sector is increasingly subject to changes in the climate but experienced a strong recovery through rains improving crop yields and livestock health after two years of drought.²⁶ The contribution of agriculture as well as industry to GDP has remained largely stable over the past few years, with little productivity gains. On the other hand, **the services sector has experience strong and sustained growth, thanks to technological change and in particular digitalisation**, increasing productivity.²⁷

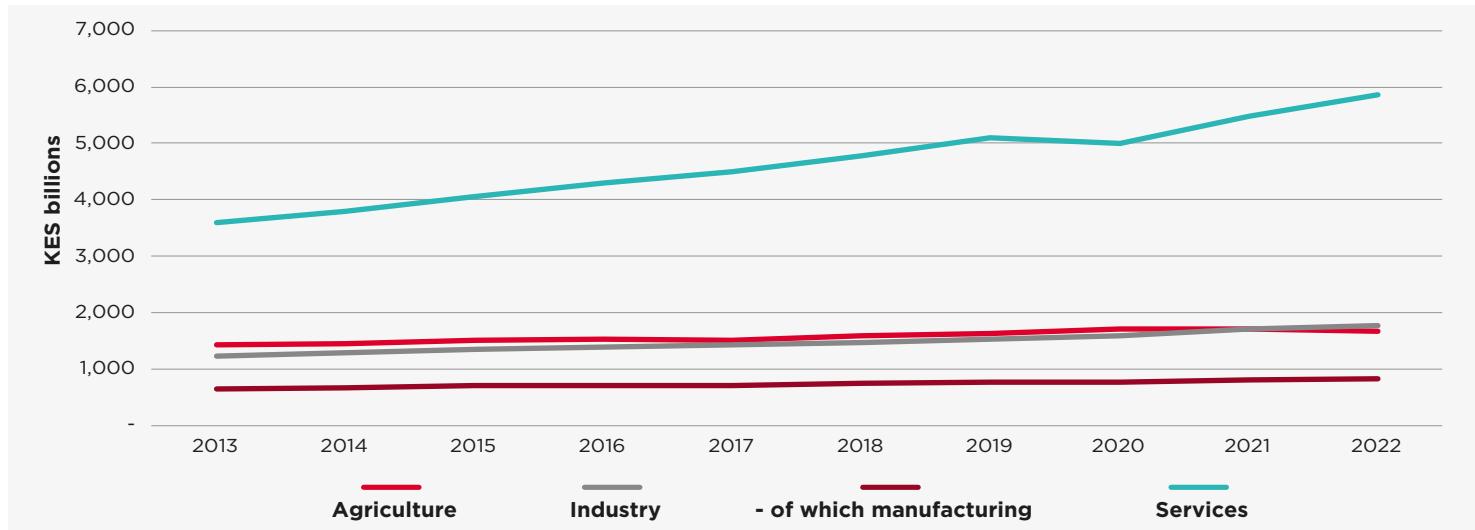
However, as **services form important inputs to other sectors in the economy, this growth can provide growth opportunities for the entire economy**, including both the manufacturing and agriculture sectors, as we will show in the remainder of the report.

²⁵ Trading Economics.

²⁶ WB, Kenya economic update, Dec 2023.

²⁷ WB, Kenya Economic memorandum, 2023, and Nayyar et al. 2021.

Figure 9:
Evolution of value add in Kenya, KES

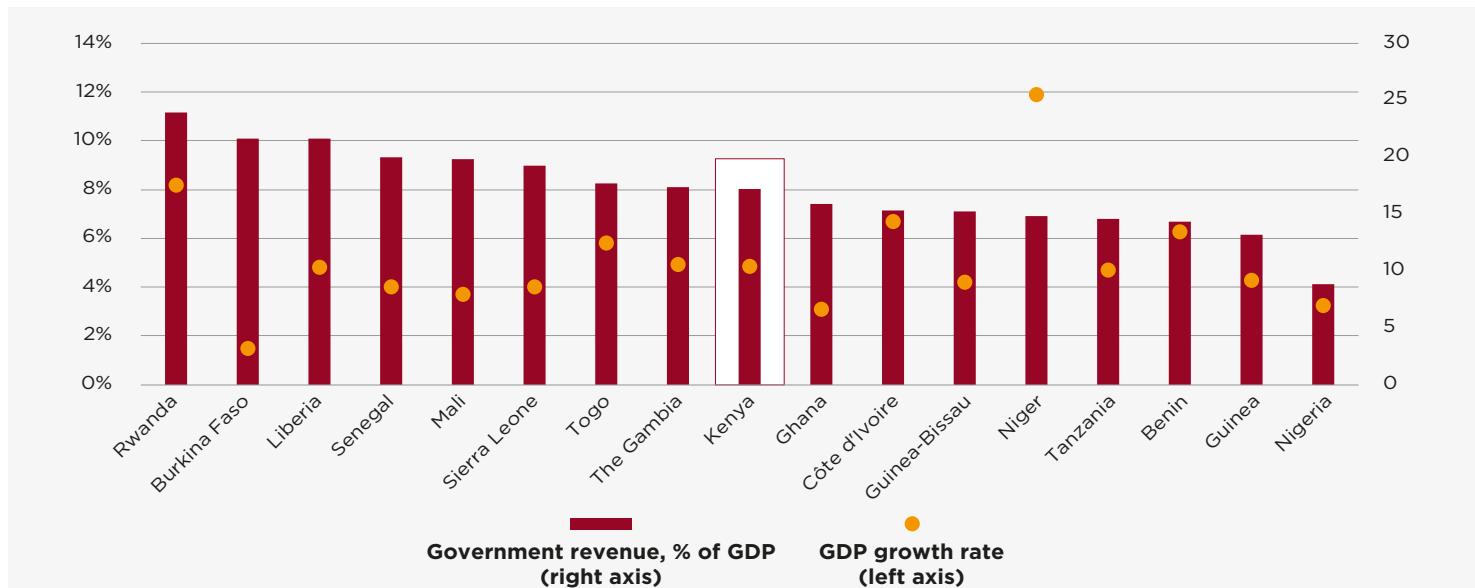


Source: World Development Indicators. Constant 2015 KES.

The Kenyan economy achieved sustained growth pre-pandemic, averaging 4.8% per year between 2015 and 2019. This positive growth is expected to continue in the medium-term. However, the pandemic also reversed Kenya's hard-earned gains in poverty reduction and some important sectors, such as tourism, remained under pressure.²⁸

Moreover, Kenya has experienced a **protracted decline in its tax-to-GDP ratio** since 2014, partly as a result of a narrow the base of key taxes (e.g., CIT, PAYE, VAT),²⁹ and increasing debt servicing payments. As such, the country has resorted to an IMF Extended Fund Facility (EFF)/ Extended Credit Facility (ECF) arrangement program of around USD 2.6 billion and **embarked on a fiscal consolidation path.**

Figure 10:
Government revenues and GDP growth in Kenya and peer countries in SSA



Source: World Development Indicators.

28 WB, Kenya Economic update, Dec 2021.

29 IMF, Article IV

C. Kenya economic and digital strategy

The Kenya Vision 2030 has guided development planning since 2008 in the country through successive five-year Medium Term Plans (MTPs).

Kenya has achieved impressive growth and Lower Middle-Income Country status in 2014 but has also faced prolonged droughts, and invasion of pests and diseases that affected the performance of the agriculture sector; the COVID-19 pandemic; global supply chain disruptions; exchange rate volatility; rising interest rates; and narrow fiscal space.

The Kenya Kwanza administration came to Government in September 2022 and implemented the Fourth Medium Term Plan, aligned to the aspirations of the Kenya Vision 2030 and the **Kenya Kwanza Bottom-Up Economic Transformation Agenda** (BETA), the administration's election manifesto.

Through this planning approach and strategies, the Government is focused on fostering industrialisation and growing productivity of the agriculture sector, and achieving inclusive growth with an emphasis on ensuring food security, increasing employment, and promoting the equitable distribution of income.

Five priority sectors have been identified that are envisaged to have the largest impact on households and that have the strongest linkages to other sectors, namely:

- agriculture,
- MSMEs,
- housing and settlement,
- health care, and
- **the digital superhighway** and creative industry.

By focusing on enhancing growth in these sectors, the Government aims to rebalance the quality of growth from public sector-led investment to dynamic private sector-led growth, while implementing a **growth-friendly fiscal consolidation path that will slow the annual growth of public debt without compromising service delivery**. The MTP focuses on a value-chain approach that can benefit from digitalisation at every step of the production, processing and marketing.

Digitalisation is a key enabler for the overall economic strategy. Earlier this year, the Government had announced USD 125 million to support several initiatives to delivered through the Ministry of ICT, including funds for government-shared services, the digital superhighway initiative, and building the Kenya Advanced Institute of Science and Technology at Konza Technopolis that includes a data centre and smart city features.³⁰ Further funds were committed to the Kenya's Digital Economy Acceleration Project, and the Hustler Fund (digital loans for MSMEs).

D. The potential economic impact of digitalisation in Kenya

This section estimates the macroeconomic impacts of increased digitalisation in Kenya for each key sector of the economy, based on academic and policy research and data on the economy of Kenya. These impacts reflect digital pathways to economic transformation and are mapped onto the Government's strategic objectives, as articulated in the MTP and Bottom Up Economic Transformation Agenda and the Ministry Digital Economy strategic plan 2023-2027.

The policy objectives, impacts of digitalisation by sector and their relationships are mapped in the table below, as well as the evidence used to quantify them. More details on the methodology and evidence review are contained in the separate methodological document that accompanies this report. The methodology and data sources for the impacts calculated in this section are also in the separate methodological document.³¹

³⁰ www.connectingafrica.com/author.asp?section_id=816&doc_id=78691&utm_source=eloqua&utm_medium=email&utm_campaign=FEST_News_ConnectingAfrica_NL_20240621&sp_cid=7710&utm_content=FEST_News_ConnectingAfrica_NL_20240621&sp_rid=13950218&sp_aid=10954&sp_eh=9c210b1efb1e06734cba2e0c098b40f8693a72b-b1a5a0689fc4bcc77f7a4a23

³¹ www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Table 2:

Mapping digitalisation to bottom up economic transformation agenda policy objectives and estimating the impact

Sector	Policy objectives	Outcomes of digitalisation	Impact relationship	Evidence rule
Agriculture	Agricultural development and agricultural productivity, access to markets, increase and diversify production	Precision agriculture, targeted information, better access to markets	Access to technology by farmers → productivity, route to market, profits	Access to technology and precision agriculture increase crop yields between 10.5% and 20%, and profits up to 23%
Manufacturing	Diversify and develop manufacturing, attract FDI, increase technology exports	Expand manufacturing capabilities, diversify production, increase FDI and exports	Adoption of new technologies by firms → productivity, GDP, exports	Application of industrial IoT and Industry 4.0 increases value add between 15-25%
Transport	Improve trade links, infrastructure for transport and logistics, strengthen competitiveness of ports	Reduce transaction and logistics costs, border delays and tax leaks. Increases productivity and integration into GVCs.	Digital platforms and infrastructure → increase productivity, port capacity, GDP	Transport upgrades increase incomes by 10%. Digitising ports reduces logistics costs by 15-25%. Digital customs increases revenue by 54% in 5 years
Trade	Economic diversification, strengthen trade and exports	Improves trade flows, growth of E-commerce and exports of ICT ³² services and digitally delivered services	Digital trade → increased integration in AfCFTA, E-commerce and service exports	Potential to increase E-commerce value to 15% GDP and ICT exports value to 7% GDP
Construction	Stimulate investment in housing and construction, develop production capabilities including green	Remote monitoring and VR of construction sites. Real time data, reduced accidents, building information modelling, analytics and AI	Digitalised construction industry → productivity	Digital building techniques can increase productivity by 15% and reduce cost reductions by 6%
Healthcare	Increase access to healthcare, improve well-being, increase productivity of healthcare sector	Telemedicine, digital health records, digital payments for insurance contributions increase access to health services and productivity	Digital health → increased access to health services and productivity	Digital health solutions enable doctors to increase visits by 30%
Creative industries	Scale up cultural production, empower the youth to access digitally enabled and creative jobs	Digital access and digital technologies and streaming services expand creative industries	Digital access and platforms → enhanced film and creative industries	Creative platforms increase GDP contribution, employment of creative industries
MSMEs	Strengthening competitiveness and formalisation of MSMEs	Improves profits of MSMEs. Facilitates business registration, access to finance, formal contracts	Access to digital by MSMEs → increased incomes and formalisation	Technology adoption is associated with labour productivity of 2-4% for small firms
Government	Strengthen domestic revenue mobilisation, prevent corruption, improve services delivery	Increases tax revenue and provides saving in public expenditure through better targeting, transparency and reduction of corruption	Mobile money, P2G, G2P adoption → increase GDP, tax revenue, reduce leakage	Mobile money adoption increases tax revenue by 12% on average. Digital ID for social protection decreases leakage by 41-47%

Note: For details and references see separate methodological document that accompanies this report.³³

³² ICT means Information Communications Technologies. A commonly used term over the last 2 decades. More recently, now being referred to as "digital".

³³ GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36.

www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document



Impact of digitalisation on the agricultural sector in Kenya

Increasing productivity and boosting agricultural production are key priorities for the Government, given agriculture has remained the largest contributor to the Kenyan economy, with more than two-thirds of Kenyans deriving livelihoods directly or indirectly from agriculture.³⁴ Agriculture is also Kenya's most globally competitive sub-sector for both traditional exports such as tea, coffee, cut flowers and vegetables and emerging export crops such as avocado and macadamia nuts and livestock-related exports.

Digitalisation can support diversification of food crop production, as well as improve agricultural productivity, both of which can be enhanced through information and training tools online, real time **information on crops and weather patterns and precision agriculture** delivered with digital tools. Recent progress allows more effective advice to be delivered to farmers

through '**precision**' agriculture utilising **big data, GPS, drones, and high-speed communication**, with considerable impact deriving from delivering expert knowledge, whether data and information to farmers in real time. It has been shown that information combined with access to fertilizer increases agricultural **yields by 20% and profits by 23%**.³⁵

Increase access to regional markets can also be facilitated by digital agricultural exchanges and support MSMEs in providing services to the commodity value chains. Mobile money is also the backbone of payments in the agricultural value chain for smaller holder farmers, with many initiatives grown in Kenya to address farmers' needs. For example, the Government's partnership with Safaricom has supported 8.5Mn farmers with 16 million fertilizer bags via eVoucher/M-PESA.³⁶

³⁴ MTP IV.

³⁵ Arouna et al. 2021.

³⁶ Safaricom annual report and information request to Ministry of ICT Kenya.



How Agri-tech start ups are powering digitalisation of agriculture in Kenya

Kenya has a successful and growing Agri-tech start-up ecosystem that has been at the forefront of adopting digital technologies to boost agricultural performance and access to market. For example, Start-up **UjuziKilimo** provides tailored recommendations on planting via text message to farmers by using sensors to measure and analyse soil qualities. It also provides a data platform for farm management and data analytics to support decision-making.

Apollo Agriculture provides financing for smallholder farmers to scale, enabling them to buy better products, increase their harvest, and turn their subsistence farming into commercial farming. Farmers can buy inputs with Apollo in cash or credit. Farmers can buy inputs from Apollo on credit and pay back using their mobile money account, and together with the loan they received training and insurance. Apollo reports that their farmers typically produce **2.5x more than the average Kenyan farmer**. **One Acre Fund** provides a similar combination of inputs, training and micro-finance targeted at smallholder farmers.

A number of companies are also involved in improving access to market through digital platforms. For example, **CoAmana's** digital agricultural marketplace management and trade platform provides farmers and stakeholders in the

agri-value chain with essential digital tools (via USSD, web and mobile app) to support sales and procurement, facilitate price comparisons, enable digital payments. Aquatech provides a similar digital platform specialised in fish farming connecting fishers, feed manufacturers and buyers.

Sun Culture provides a bundle of digital services to boost agriculture and support farmers through better access to energy and water: off-grid solar technology provide reliable access to water, irrigation, lighting, and mobile charging and farmers can pay via mobile money in instalments. The company says its system can increase crop yields by **300%** and reduce water usage by **80%**.

The Government of Kenya is supporting these efforts through the Commodities Fund, government agency established under Ministry of Agriculture to provide sustainable, affordable and accessible financial services for development of the agricultural sector. Aiming to encourage adoption of IT technologies by the farming community, it has partnered with VunaPay to hashtag#digitize hashtag#agricultural hashtag#cooperatives and utilize our hashtag#LastMile hashtag#Payment solution to empower hashtag#smallholder hashtag#farmers with access to subsidized loans and advances.

Sources: www.twigafoods.com ; <https://sunculture.io/> ; <https://www.apolloagriculture.com/> ; <https://oneacrefund.org/> ; <https://www.aquarech.com/> ; <https://www.farmtofeedkenya.com/> ; <https://coamana.com/> ; <https://www.ujuzikilimo.com/> ; www.vunapay.com ; www.comfund.co.ke

World Bank's Firm-level Adoption of Technology (FAT) survey indicates that formal firms with more than five employees in Kenya have a high degree of technological sophistication, however given most production is undertaken by informal smallholder farms, there are likely large gaps in technology adoption still. GSMA's survey of micro enterprises found that between 38 and 68% use mobile internet, as detailed below.

The policies described in section 4 would increase access and adoption of mobile technology by farmers, especially small scale, and therefore have a positive effect on the level of digitalisation of agricultural value chains.

We estimate that an additional 10 million people adopting mobile technologies would increase agricultural productivity as the applications described above become more utilised, increasing yield per acre, reducing post-harvest wastage and improving route to market. Therefore this has the potential to add 124 billion KES to agricultural value add, equivalent to 3% of the sector's total value add by 2028. This would result in additional employment in agriculture of around 290,000 people by 2028 and 23 billion KES in additional tax revenues generated by the sector.

**Table 3:
Potential impacts of increased digitalisation of agriculture in Kenya in 2028**

Digital agriculture value add (KES billion)	124
% Sector GDP	3%
% of GDP	0.6%
Employment	290,000
Tax revenue (KES billion)	23

Constant 2023 KES. See separate methodological document that accompanies this report.³⁷

Impact of digitalisation on manufacturing and construction in Kenya

The manufacturing sub-sector in Kenya is largely agro-based and there is large potential to diversify and increase industrial production, increase R&D and technology export share of manufacturing, promote food transformation through local processing and value-addition.

Kenyan firms could benefit from Industry 4.0 technologies by adopting advanced digital technologies, such as cloud computing, 3D-printing, big data analytics and AI. Factory automation with cellular IoT technology optimizes manufacturing processes with increased efficiency, fewer human errors, increased reliability and safety and reduced

wastage and downtime. Expanded manufacturing capabilities can lead to greater integration to global value chains and further increase in outputs, reduced concentration in products and markets and links to specialised markets.³⁸ Across a wide range of sectors, implementing industry 4.0 technologies has been shown to achieve 30 to 50% reductions in machine downtime, 10 to 30% increases in throughput, 15 to 30% improvements in labour productivity, and 85% more accurate forecasting.³⁹ The application of the Internet of Things in the manufacturing context alone could **increase manufacturing productivity by 10 to 25% and value add by 20%.**⁴⁰

³⁷ GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36. www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

³⁸ World Bank, World Development report 2020.

³⁹ www.mckinsey.com/capabilities/operations/our-insights/capturing-the-true-value-of-industry-four-point-zero ; www.ptc.com/en/solutions/maximizing-revenue-growth

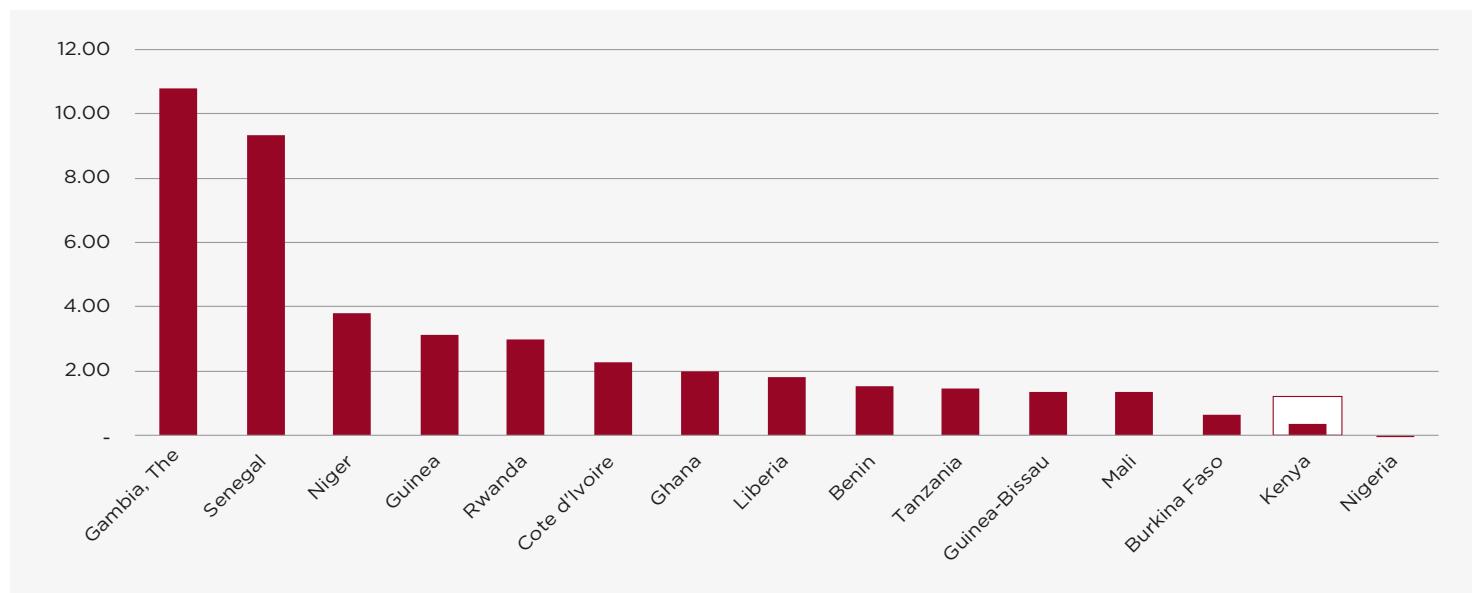
⁴⁰ European Parliament Member's Research Service, "Industry 4.0: Digitalisation for Productivity and Growth," (European Parliament, September 2015).

A survey by the Kenyan Association of Manufacturing showed that Kenyan firms are already using advanced manufacturing capabilities such as 3D printing, but challenges remain on development of relevant skills and financing, especially for MSMEs, which constitutes the large part of manufacturing firms in the country.⁴¹

Moreover, the industry is supporting the Government's objective of developing manufacturing capabilities of affordable smart devices with a price range of US\$ 40 through the promotion of local manufacturing.⁴²

Foreign companies have an important role in strengthening industrial capacity and accelerating growth in local production and they are attracted by investments with strong connectivity infrastructure and a thriving digital ecosystem. While Kenya has lagged behind in FDI flows in recent years, it can **attract more investments through championing digital transformation in Kenya's industrial sector**, greater availability of digital technologies for manufacturing and know-how.

Figure 11:
Country comparison of FDI flows



Source: World Development Indicators 2022.

41 How to grow manufacturing and create jobs in a digital economy, 10 policy priorities for Kenya, KAM and ODI, 2018.

42 MTP



The Government has designed and invested in Konza Technopolis, a smart city that aims to attract business process outsourcing, software development, data centres, disaster recovery centres, call centres and light assembly manufacturing industries. The Government recognises that the success of the project relies on a thriving information, communications and technology (ICT) sector and connectivity reliable infrastructure to attract investors, as well as partnerships with universities and startups to support research and development.⁴³

The construction industry is a sector that also stands to gain from digitalization. While still being largely behind in leveraging digital technologies, the sector could rapidly take advantage of efficiencies through Remote monitoring and VR of construction sites, real time data, reduced accidents, building information modelling, analytics and AI. This could contribute substantially to the Housing and Settlement pillar of Bottom-Up Economic Transformation Agenda

and Fourth Medium Term Plan, and towards the specific objectives of increasing affordable housing, deploying new technologies in the construction of affordable modern houses and entrenching ICT and Telecommunications infrastructure within the planning and construction of all buildings.

The policies described in section 4 would increase the level of digitalisation of the manufacturing sector. We estimate that an additional 10 million people having access to mobile technology would result in increased adoption of more advanced technologies in the manufacturing sector. This has the potential to add 122 billion KES in industry value add, equivalent to 3.5% of the sub-sector's total value add, by 2028 and of which 37 billion KES would be from the construction sector. This would result in additional employment in industry of about 158,000 people by 2028 and 22 billion KES in additional tax revenues from the increase in value addition to the economy.

Table 4:
Potential impacts of increased digitalisation of industry in Kenya in 2028

	Digitalisation of industry	Of which construction
Value add (KES billion)	122	37
% Sector GDP	3.5%	2.6%
% of GDP	0.6%	0.2%
Employment	158,000	47,000
Tax (KES billion)	22	7

Constant 2023 KES. See separate methodological document that accompanies this report.⁴⁴

43 <https://konza.go.ke/>

44 GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36. www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Impact of digitalisation on the transport sector in Kenya

The transportation and logistics subsector is one of the key enabling subsectors for Kenya's manufacturing industry, a key input into the agricultural sector and to greater integration into GVCs. The performance of the logistics subsector in Kenya has been improving, but there remains scope for improvement. The median dwell time of Kenyan exports is 5.3 days.⁴⁵

Digitalising the transport backbone and border procedures facilitates trade and enhances the connectivity of international trade flows. For example, Lori Systems operates in Kenya to match cargo owners with trusted transporters to move cargo efficiently across Africa. It manages a network of 20,000+ trucks across Kenya, Nigeria and Uganda, using technology to optimise the rates charged by transporters and coordinate movements of trucks. Lori estimates that leveraging backhaul digitally could **lower the cost of transport by 20 to 25%**. This could prove extremely advantageous financially for Kenya, which exports large quantities of raw material and commodities that could become more competitive if transport costs were reduced: if these savings were materialised for all goods exports, **it would save the country up to 2 billion USD per year**. Real-time digital confirmation of delivery can also drastically reduce waiting time in port, as proof of payment reaches the cargo owner immediately that can release the cargo.

Modern digital platforms allow port stakeholders to share data and information and pay for customs digitally, improving port logistics and administrative processes and streamlining operations and increasing revenues. The Port of Mombasa, which is an important regional hub and handles over 1.6 million 20-foot equivalent units (TEUs) per year, has rolled out MPesa seamless integration targeting especially small payments below KES 70,000.⁴⁶

Digital innovation can also play an important role in delivering efficient and effective transport and mobility systems in cities, from GIS systems that support the development of multi-modal transit systems to real-time collection and analysis of traffic information, to smart traffic signage and automated fare collection for parking and public transport.

The policies described in this report would increase the level of digitalisation of the transport sector and digital port infrastructure. This has the potential to add 107 billion KES to transport value add, equivalent to 4.4% of the sub-sector's total value add by 2028. This would result in additional employment in transport of 152,000 people by 2028 and 20 billion KES in additional tax revenues from the increase in value addition to the economy.

Table 5:
Potential impacts of increased digitalisation of transport in Kenya in 2028

Digitalisation of transport value add (KES billion)	107
% Sector GDP	4.4%
% of GDP	0.5%
Employment	152,000
Tax (KES billion)	20

Constant 2023 KES. See separate methodological document that accompanies this report.⁴⁷

45 World Bank, Kenya Economic Memorandum, 2023.

46 Kenya Ports Authority.

47 GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36.

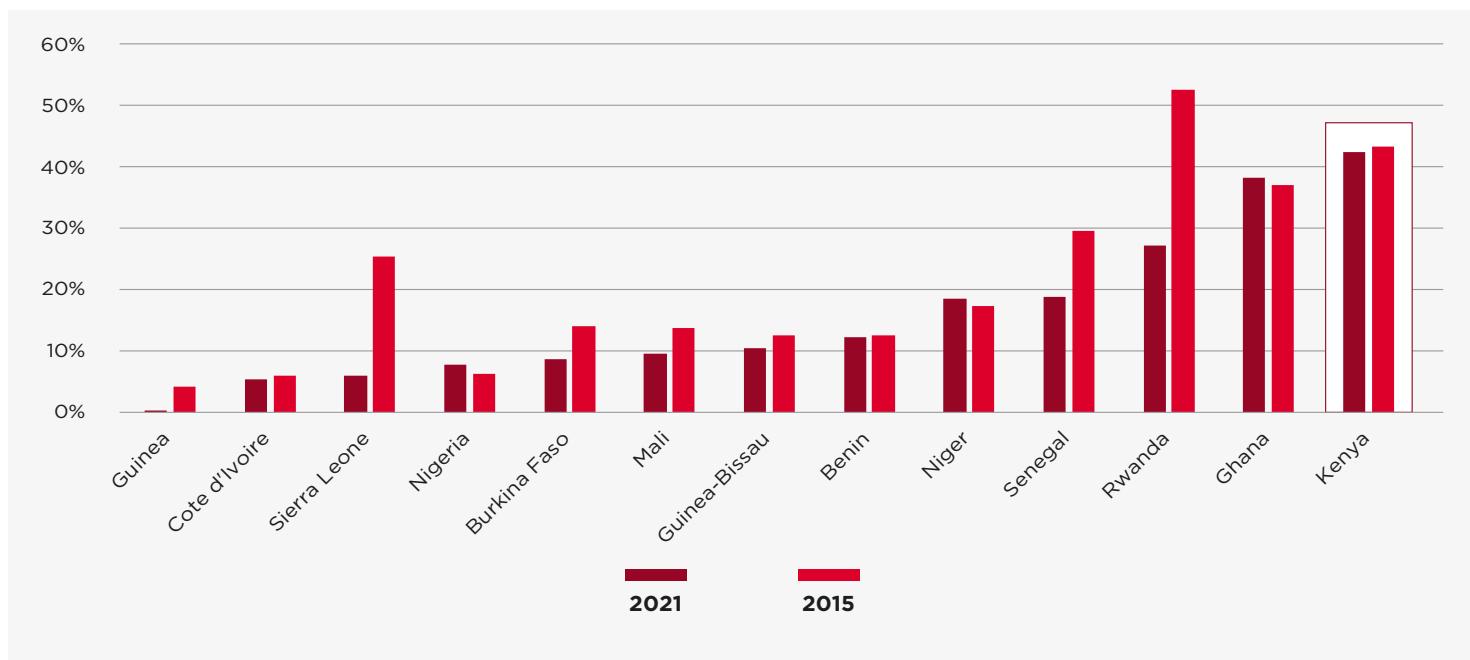
www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Impact of digitalisation on trade and services in Kenya

The development of the trade sector has played an important part of Kenya's strategy for economic diversification, and exports of services stood at over 42% of GDP in 2022. Adoption of new technologies can further expand the tradability of some services and growth in digitally delivered services. The

Government seeks to expand E-commerce and enhance information and knowledge management of MSMEs, while promoting Kenya as an Africa Regional e-commerce hub. This can be achieved through supporting adoption of digital technologies by firms and partnering with the digital industry.

Figure 12:
Exports of services, % of total exports



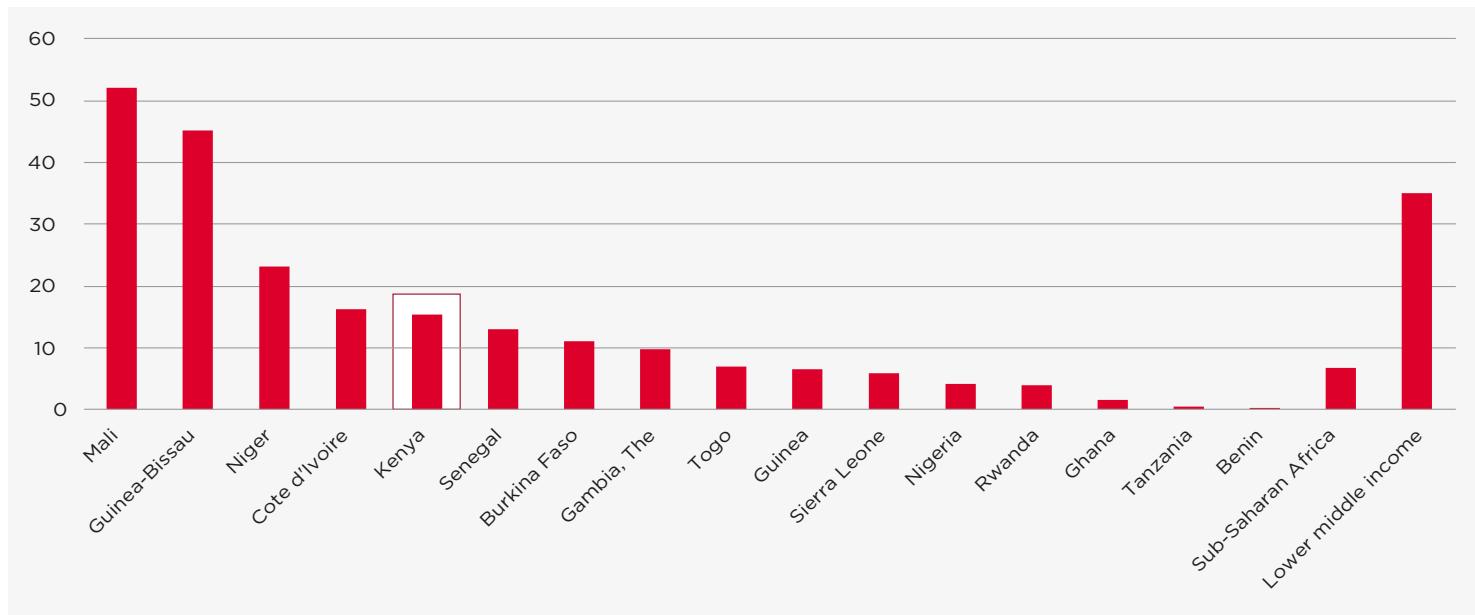
Source: World Development Indicators.

Tradeable services consist of ICT services and financial services, as well as professional and technical services. These subsectors tend to be knowledge intensive, can often be traded using digital technologies and many of them form important inputs to other sectors. Kenya's digital services exports now account for

about one-third of Kenya's services exports up from just above 10 percent in 2005 making the country the second-largest exporter of digitally-delivered services in sub-Saharan Africa, while ICT related exports account for around 15% of service exports.⁴⁸

⁴⁸ World Bank, Kenya Economic Memorandum, 2023.

Figure 13:
Information and communications technology exports as % of total services exports



Source: World Development Indicators.

Through growth in digital payment services, E-commerce and the reduction of barriers to cross-border digital trade, Kenya will also be able to **take advantage of opportunities in digital trade arising from the African Continental Free Trade Area (AfCFTA)**. This will further support diversification of the economy and deepening of economic cooperation in the sub-region. To enable such growth and the tradability of digital services regionally, regulation of cross border data flows will need to be carefully considered and localisation requirements set to the minimum necessary to achieve essential policy objectives and in ways that minimise restrictions to trade.⁴⁹

The policies described in section 4 would increase the digitalisation of the trade sector. An additional 10 million people using mobile technologies would result in more demand for E-commerce by consumers, as well as additional adoption by service firms and expansion of digitally delivered services. This has the potential to add 22 billion KES in value add, equivalent to 1.4% of the sub-sector's total value add by 2028. This would result in additional employment in trade by over 31,000 people by 2028 and 4 billion KES in additional tax revenues from the increase in value addition to the economy.

Table 6:
Potential impacts of increased digitalisation of transport in Kenya in 2028

Digitalisation of trade value add (KES billion)	22
% Sector GDP	1.4%
% of GDP	0.1%
Employment	31,000
Tax (KES billion)	4

Constant 2023 KES. See separate methodological document that accompanies this report.⁵⁰

49 WTO, IMF, Digital Trade for Development, 2023: https://www.wto.org/english/res_e/booksp_e/dtd2023_e.pdf

50 GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36.

www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Impact of digitalisation on healthcare in Kenya

Digital solution for healthcare can deliver better well-being outcomes through improved access to healthcare services, as well as contributing to the economy via cost savings and increased productivity. Digital healthcare applications range from telemedicine consultations allowing doctors to consult with patients over a digital voice or HD video, to electronic health records that enable more accurate diagnoses and reduce administrative costs. Digital technology can also support collection and analysis of data on disease diffusion and treatment, to enable better disease management as shown in the successful example below.

Only one in four persons in Kenya (26% of females and 27% of males) have some form of health insurance.⁵¹ Digital payments and digital insurance penetration drive and improve processes for insurance claims and facilitate contributions and enrolment to national health insurance requirements. For example, in Ghana a mobile money payment system for membership renewal and premium payments to enhance enrolment and retention rates, resulting in the proportion of mobile renewals to total renewals to increase from 67.4% to 82.3% in one year.⁵² If a similar increase in enrolment were to materialise in Kenya, **adoption of digital health insurance might result in 20% more people having health insurance, bringing insurance to 34% of Kenyans.**

The Ministry of Health has implemented the Electronic Community Health Information System (ECHIS) in Kisumu County to digitalise the work of community health workers, including registering households,

visits, referrals and follow ups, logging information, reporting and communications via mobile tablet. Health workers report that the system reduces workloads and makes visits quicker, avoids them carrying heavy books and is much more accurate than paper. Ultimately it improves health management and decision making as the data can be accessed by relevant institutions at the county and national level and therefore health delivery systems and health outcomes.⁵³

In addition, the Ministry of Health's digital priorities include the digitalisation of 14,000 health facilities including 46 hospitals that have been connected to both Local Area Network and NOFBI backbone (Wide Area Network). The potential benefits for digital health is significant, for example, a 2021 McKinsey study estimates digital health adoption (through digital applications, moving to paperless) could unlock USD 400 million to USD 2.5 billion in Kenya (4 to 14 percent of total projected healthcare spending) by 2030.⁵⁴

The policies described in section 4 would increase use of mobile technology for digital health applications, by patients and health works, improve connections between patients and doctors and efficiencies in service delivery. These effects of digitalisation of the healthcare sector have the potential to add 19 billion KES to value add, equivalent to 5.3% of the sub-sector's value add by 2028. This would result in additional employment in healthcare of 17,000 people by 2028 and 3 billion KES in additional tax revenues from the increase in value addition to the economy.

Table 7:
Potential impacts of digitalisation of healthcare in Kenya in 2028

Digitalisation of healthcare value add (KES billion)	19
% Sector GDP	5.3%
% of GDP	0.1%
Employment	17,000
Tax revenue (KES billion)	3

Constant 2023 KES. See Methodology Document that accompanies this report.⁵⁵

51 Kenya Demographic health survey, 2022.

52 Addae-Nketiah A. Factors influencing subscribers' use and adoption of the NHIS mobile renewal service. Open J Soc Sci. 2022;10:451-475.

53 https://www.youtube.com/watch?v=kYAT2s_twEg

54 <https://www.mckinsey.com/industries/healthcare/our-insights/how-digital-tools-could-boost-efficiency-in-african-health-systems>

55 GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36. www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document



CEMA Kenya providing data-driven health solutions

The Center for Epidemiological Modelling and Analysis (CEMA) is a partnership between the University of Nairobi and Qhala, a consultancy providing digital transformation solutions in Kenya. It is a multi-disciplinary center to support the control, elimination and eradication of infectious diseases, providing locally relevant disease projections in real time, using data-driven digital approaches to improve health outcomes.

The CEMA expertise includes epidemiologists, modellers, microbiologists, infectious disease specialists, clinicians, data engineers and computer scientists. The team works to bring together health data from across public institutions and communities in Kenya and process it in a way that is available to use for decision making by clinicians, as well as policy makers.

For example, when COVID-19 was declared a global pandemic, Kenya was heavily reliant on global data, and grappled with projections that didn't always align with its unique circumstances. Qhala addressed this critical data gap and was able to identify and map cases of Covid and support decisions by the

Ministry of Health. They are now working to extend the platform to all primary health data, as well as neglected tropical diseases and other infectious diseases, to support disease management through epidemiological modelling.

The data collected and the modelling can be used to monitor disease elimination targets of the government, understanding how long it will take to eradicate a disease depending on treatment frequency and monitor treatment levels and areas. Mobile data tracking could be used to track and target mobile communities that are difficult to reach with treatments, for example in Trachoma county treatment penetration is only 50% due to part of the population regularly migrating to Uganda and Sudan and back. The data and analysis also supports evaluation of cost-effectiveness of treatment decisions

In the future, the team plans to collect more data through community health workers's use of a mobile app on tablets to log patient information. A trial has resulted in 20k cases of diabetes identified in one community as a result.

Source: <https://cema-africa.uonbi.ac.ke/about> and interviews with CEMA staff.

MSMEs, tech hubs and creative industries

The MSMEs sub-sector cuts across all sectors of the Kenyan economy, contributing about 24% of GDP and accounting approximately for 90% of private sector enterprises. In 2022, the informal sector, majority of which are Micro, Small and Medium Enterprises (MSMEs), accounted for 83% of total employment, or about 16 million out of the 19 million workforce.⁵⁶ As such, encouraging the growth of digital businesses, particularly MSMEs, and supporting the formalisation of businesses are key objectives of the Government. Through the Startup Act, the Government facilitated the establishment and certification of incubator programmes, as well as incentives for startups, generating a significant acceleration of activity in the startup ecosystem.⁵⁷

Access to ICTs and digital services are essential for making this vision a reality and supporting the start-up ecosystem. This access has been associated with benefits for MSMEs ranging from better access to information and markets, to increased productivity and job creation. For formal firms, higher technology adoption is associated with labour productivity of up to 2%, reaching 4% for informal firms.⁵⁸

As part of this, **digital entrepreneurship provides new opportunities for job and skills creation.** Kenya has a well-established start up ecosystem,⁵⁹ and a large share of digital businesses thanks to digital business models across economic sectors and largely driven

by availability of mobile money solutions and its use by the population, where 93% of micro-entrepreneurs own a mobile money account.⁶⁰ It is the third-largest **technology incubation and acceleration hub** in the region, with most businesses focusing on **FinTech, followed by e-commerce and software as a service**, totalling about USD 4.8 billion in investments in a year.⁶¹

For example, Nailab is a start-up incubator for technology-based companies that offers 3-6 months entrepreneurship programmes with a focus on growing innovative technology driven ideas. Nailab secured a 1.6 million USD Tech Incubation project from the Ministry of Information and Communications and the World Bank.⁶²

Moreover, mobile technology is also an important enabler of the gig economy, which is estimated at USD 345 million, employing between 90,000 and 1.2 million online gig workers in Kenya.⁶³ Platform or gig work refers to transactions mediated by an app or a website, which matches customers and clients with workers who provide services in return for money, such as Upwork and Uber. Social media platforms also enable workers to advertise their services and to search employment. While the platforms have shortcomings in lack of security and safeguards, they offer opportunities for income generation and can provide significant employment potential.

56 MTP IV.

57 Republic of Kenya, The Startup Bill, 2022.

58 Cirera, Comin, and Cruz 2022. Also: Bhattacharya, 2019 and Mothobi, Gillwald, and Aguera, 2020.

59 The Kenya start up ecosystem report, 2022, Disrupt Africa.

60 Zhu et al. 2022 and GSMA Consumer Survey.

61 World Bank, Kenya Economic Memorandum, 2023.

62 www.forbes.com/sites/mfonobongsehe/2013/01/24/1-6-million-tech-incubation-program-launched-in-kenya/

63 Women in the platform economy Women's experiences of platform livelihoods in Ghana, Kenya, and Nigeria September 2022 by Caribou Digital in partnership with the Mastercard Foundation.



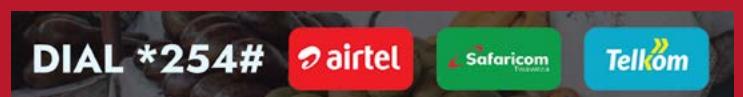
Hustlers Fund: Micro credit via digital technologies

The Hustler fund is a digital financial inclusion initiative designed to improve financial access for personal, micro, small, and medium-sized enterprises (MSMEs) in Kenya. It offers personal loans and micro enterprise loans (Biashara loan) targeting the financially excluded segment of the population.

It is delivered in partnership with mobile operators and customers can register and access the Hustler Fund on any mobile network and make and receive payments via mobile money through the customers' mobile wallets. Borrowing amounts range from KES 500 for a personal loan to KES 1,000,000 for group enterprise loan, with interest rates between 7-8%. There is also a mechanism for mandatory saving

on the amounts borrowed, as well as the option for voluntary saving.

In one year to the end of 2023, the fund has disbursed KES 39.7 billion to 21.8 million people and mobilised KES 2 billion in savings. Total repayments stand at KES 28.75 billion. Safaricom reported in end of FY24 year results that 21 million people and 651,000 groups had been enrolled, disbursing KES 49.58 billion with repayment rate of 77%.



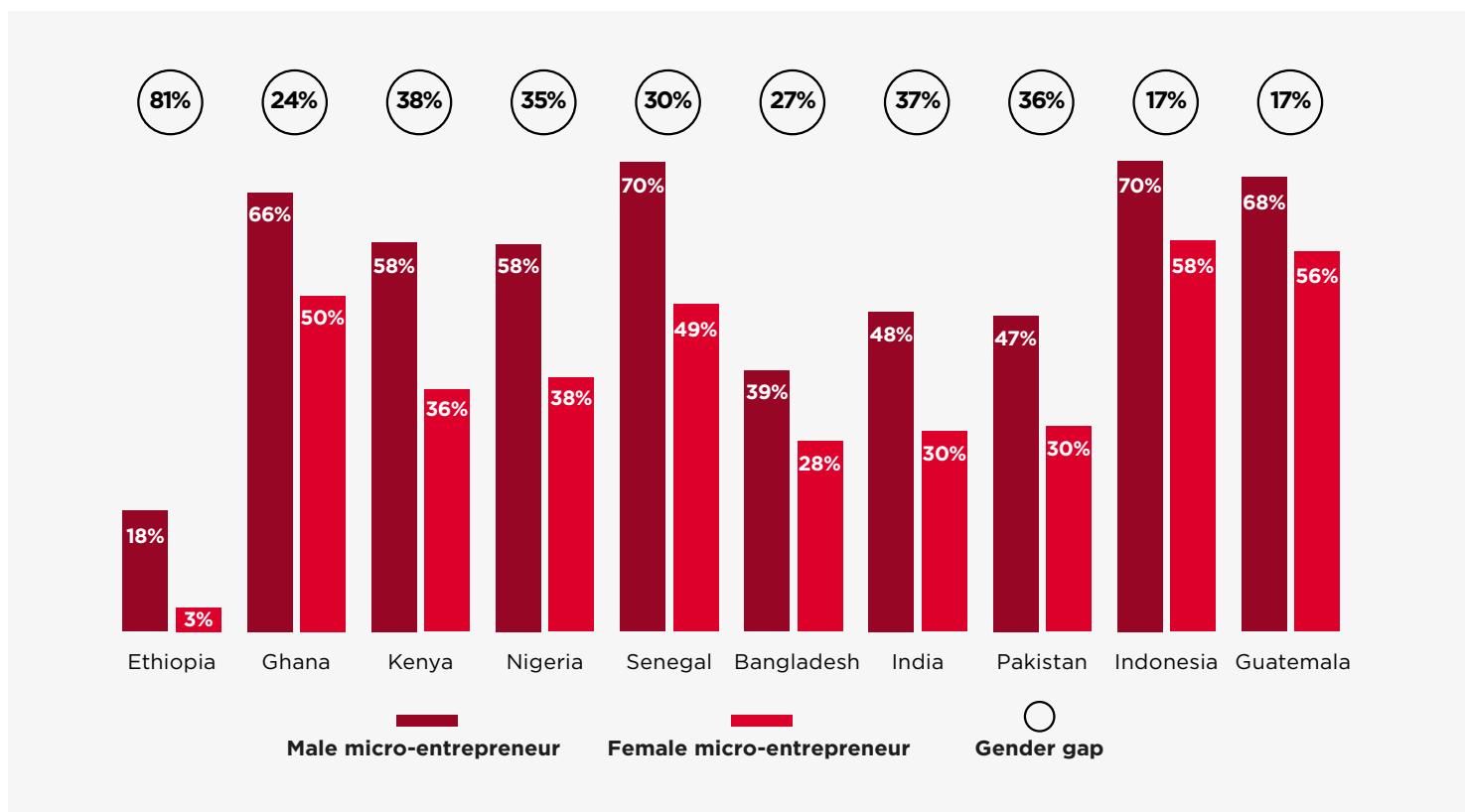
Source: <https://www.hustlerfund.go.ke/> and <https://www.president.go.ke/hustler-fund-loan-limit-raised-president-ruto/> and Safaricom annual report.

However, challenges remain in Kenya on adoption and awareness of digital technologies by micro-entrepreneurs. A survey by GSMA of over 8,000 micro-entrepreneurs in Kenya and other African countries in 2022⁶⁴, collected data on their **use of mobile for business and found that among surveyed micro-entrepreneurs in Kenya only 58%**

of men micro-entrepreneurs are using the mobile internet, with a significant gender gap of 38% of women micro-entrepreneurs using the technology.

Despite this 92% of women and 93% of men micro-entrepreneurs amongst those surveyed own a mobile money account, which is key to their ability to process payments and adopt innovative business models.

Figure 14:
Mobile internet adoption by micro-entrepreneurs



Source: GSMA Understanding women micro-entrepreneurs' use of mobile phones for business, 2023.

Finally, digitalisation has a big role to play in Kenya's creative industries as the Government recognises in its objectives to **enhance digital content development**. The value chain of the creative sector includes inputs from transport and logistics, to finance and product merchandise, all of which can be enhanced by digital

technologies. As an output, they nurture local talent and skills, contribute to value add and to the cultural influence of Kenya worldwide. Investment in the digital creative industries can achieve an impact multiplier of between 1.43 and 1.97 for every unit of investment.⁶⁵

64 GSMA, Understanding women micro-entrepreneurs' use of mobile phones for business Evidence from 10 low and middle-income countries, 2023.

65 Netflix's socio-economic impact, South Africa Nigeria and Kenya, 2016-2022.

Impact of digital government in Kenya

The UN E-Government Digital Index (EGDI) 2022 ranks Kenya as having “High EGDI” at 113 of 192 UN Member States, 10th highest in Africa and the highest in East Africa (excluding Mauritius and Seychelles).⁶⁶ An improvement from 122nd ranked and “Medium EGDI” in 2018 report. This reflects the prioritisation by the Government of Kenya to a “digital super highway” and digital government in the Bottom-up Economic Transformation Agenda (BETA) and the Kenya Vision 2030.

Digital government was a key pillar under the Ministry of Information, Communications, and Digital Economy (“Ministry”) 2018 – 2022 Strategic Plan. Achievements included: ecitizen government services platform launched with over 5000 services; Government Common Core Network (GCCN) upgraded and connected 78 government ministries

and agencies; 443 Government buildings, 91 hospitals and 23 police stations to government backbone network; and connected 884 public secondary schools to internet services. However, the Ministry’s own assessment was that the implementation of this strategic plan was “undermined by inadequate funding; low literacy levels and slow adoption of technologies; cyber threats and attacks; and COVID-19 pandemic”.⁶⁷

This has informed the development of the Ministry’s current 2023 – 2027 Strategic Plan (“Strategic Plan”) as a whole and specifically to Strategic Objective 6 to improve access to digital Government services and products with very clear deliverables and measures as summarised below:

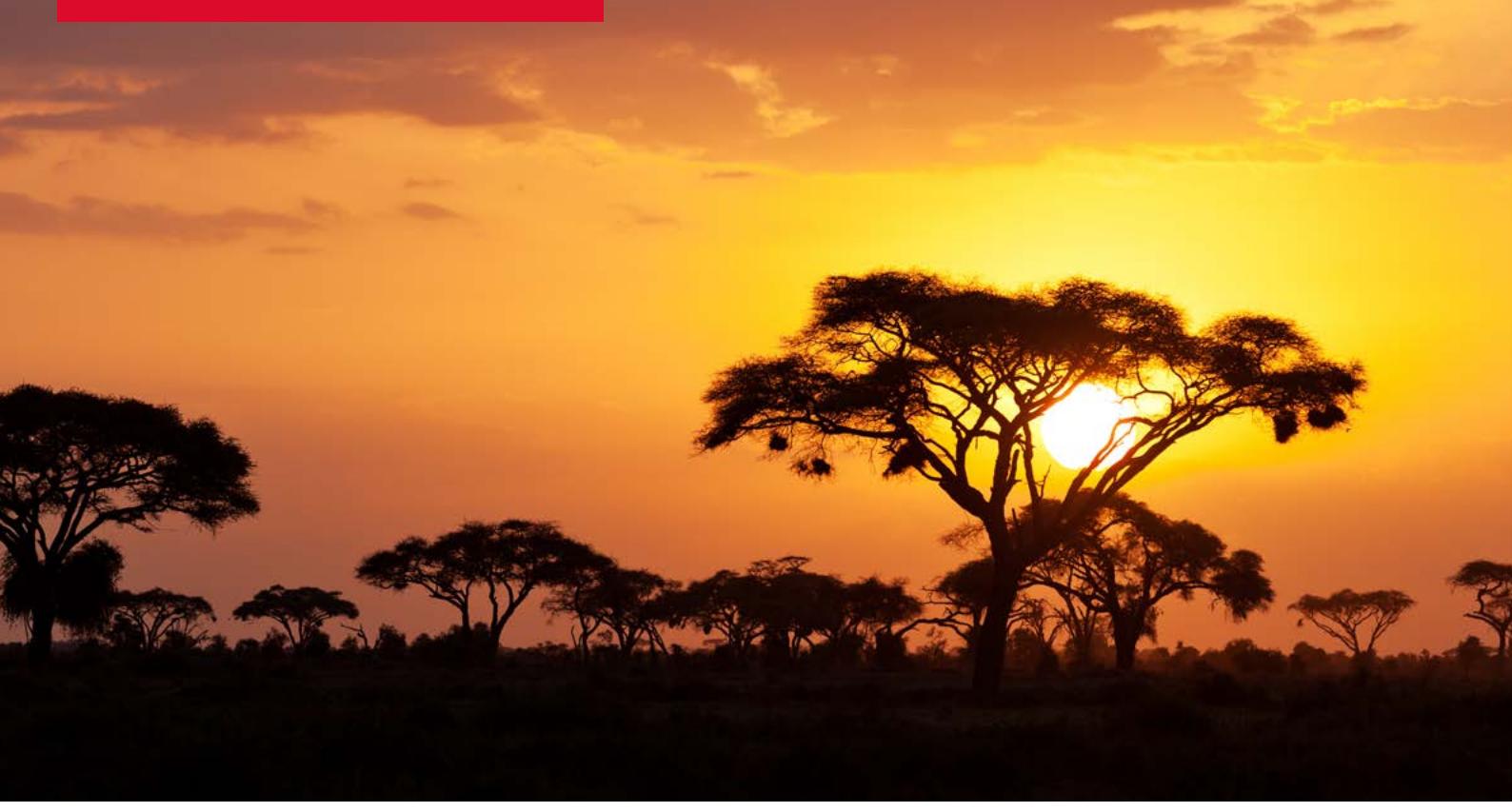
Table 8:
Strategic objectives 6 - improve universal access to digitized government services

Measures	<ul style="list-style-type: none">• % of government services onboarded online: Year 1 30%, Year 5 80%• % of govt back office process digitalized: Year 1 25%, Year 5 100%• citizens trained on digital skills: Year 1 50,000, Year 5 150,000• % of population accessing digital products and services: Year 1 24% , Year 5 70%
Outcome performance indicators	<ul style="list-style-type: none">• Population registered on Government online platforms: Base Point 102,000; Mid Point 103,000; End Point 104,000• Proportion of population accessing digital products and services: Base Point 18, Mid Point 45, End Point 70

Source: Authors’ summary of Strategic Plan 2023 - 2027.

66 Table 2.1 UN EGDI 2022 Report [Web version E-Government 2022.pdf \(un.org\)](https://un.org/development-group/e-government/)

67 Ministry of Information, Communications, and Digital Economy Strategic Plan 2023 – 2027; Executive summary <https://ict.go.ke/wp-content/uploads/2024/02/STRATEGIC-PLAN-2023-2027.pdf>



Importantly to support the delivery of the Strategic Plan, in June 2023, the Ministry negotiated USD 570 million World Bank Funding for the Kenya Digital Economy Acceleration Programme, and has agreed partnership programmes where digital government is a key pillar such as UNDP and ITU (Global Innovation and Entrepreneurship Center to be established in Kenya).

Further in the design of the digital government pillar of the strategic plan, learnings from previous phases are being considered, notably:

- re-engineering of business processes and the application of digital technologies to enhance government service delivery;
- aligning institutional structures, functions, policies and strategies that will facilitate progressive digitalisation;
- onboard citizen-facing services to the e-citizen platform and adopt paperless office for government operations;
- establish a knowledge management system to collect, organize, store and share data; and
- develop a detailed Standard Operation Procedures for key processes.⁶⁸

68 Pg 35- 36, Strategy Plan 2023 - 2027

The Ministry has made good progress with the digital government pillar in the first year of the strategic plan, together with other programmes undertaken by the government. Examples are provided in the below table.⁶⁹

Digital government services E-citizen portal	<p>15,692 services are fully on-boarded on the e-citizen portal and now 5,000 services being rolled out to Gava Mkononi e-citizen mobile app. This includes passports, visas, birth registrations, company registration services, taxation, customs, and other government services.</p> <p>Many services are paid only with digital payments/mobile money, and will increasingly be incorporated with the government Maisha digital identification and biometrics card programme which was launched end of 2023, replacing the previous digital ID programme which was delayed due to human rights and privacy concerns.⁷⁰</p> <p>An example of how digitalisation is being used to increase efficiency of digital government services is Posta, the Kenyan post office, working with the Department of Immigration, to offer a one-stop service from ordering a passport to tackling last-mile delivery as a service. Posta has generated revenue over KES. 200 million from the delivery of passports across the country.</p> <p>The e-citizen portal is supported by a national government services contact centre, with piloting underway by KONZA in Nandi, Elgeyo, Marakwet, and Baringo.</p>
Taxation	<p>Kenya Revenue Authority has implemented technology systems, in accordance with its ICT Strategy enabling greater efficiencies in tax administration, collection, and compliance, resulting in increased fiscal revenue. This includes:</p> <ul style="list-style-type: none"> • Integrated Tax Management System (iTAX) is a system that allows taxpayers to update their tax registration details, file tax returns, register tax payments and make status enquiries with real - time monitoring of their ledger account. • iCMS –Integrated Customs Management System (ICMS) streamlines customs operations as well as automate manual operations. • RECTS – Regional Electronic Cargo Tracking System (RECTS) is a system that facilitates end-to-end monitoring of transits along the Northern Corridor. RECTS has greatly improved cargo security and helped fast-track the movement of goods along the Northern Corridor. • Data warehouse, data analytics, and planning to utilise AI. <p>The Government has also pioneered digital service tax (1.5% of gross transaction value), introduced in 2020. In FY23, the KRA collected a total of KESs 5.328 Billion, a 207.9% increase compared FY22.</p> <p>Safaricom is working in partnership with counties to rollout an integrated county revenue management system “my county app”, with 2 counties onboard and driving 5x revenue growth at the end of FY24.</p>
Government cash transfer wallet	Launched in January 2024, in conjunction with the launch of the e-citizen mobile app, with target of 2 million beneficiaries by September 2024. Safaricom reported at end of FY24 that 253,000 beneficiaries enrolled with KES 1.28 million distributed.
East Africa devices assembly	<p>The device assembly plant is a pioneering initiative by the government, local mobile operators, and international device manufacturers to help increase affordability of devices, develop assembly capability, create employment opportunities and contribute to the broader economy. It was launched in October 2023, targeting 3 million devices per annum and creating 300 – 500 jobs. To date 360,000 devices sold, valued at KES 21 billion. The Government reduced the costs of importing some of the components, enabling reduction of the cost of a smartphone by 30%.</p> <p>Further, mobile operators have introduced device financing schemes to support device affordability, for example Safaricom has partnered with Google on the Lipa Mdogo Mdogos scheme.⁷¹</p>
Transportation	The Ministry of Transportation is commencing and coordinating a programme with 14 government organisations to digitalise payment and replace manual processes of all public transportation fares, and the Ministry of Roads has developed an integrated road sector information management system.
Cabinet & Government meetings and facilities	<p>The cabinet held its first paperless cabinet meeting at the end of January 2023 and all cabinet sessions have since gone digital.</p> <p>92 video conferencing facilities in all government Ministries and state departments, the Presidency, and the office of the Prime Cabinet Secretary as of June 2023.</p>
Smart Water	Smart water metering with IOT solutions are being deployed by Safaricom as part of a partnership with the Kenyan Water Institute to help with managing the abstraction, production, distribution, and consumption of water. The smart water meters ensure effective monitoring of utility consumption data thereby detecting loss & leakage, ensuring accurate billing, enhancing revenue collection, improving operational efficiency, and as a result saving costs. Safaricom reported that 1.5 million IOT devices are operational and connected at end of FY24.

⁶⁹ Sources for the table: ecitizen.go.ke/en; Ministry of Information, Communications, and Digital Economy's digital economy scorecard as of 21 March 2024 and responses to authors' information request; ardhisa.lands.go.ke/home; www.businessstoday.co.ke/safaricom-partners-with-kenya-water-institute-to-deploy-smart-water-system/; www.safaricom.co.ke/media-center-landing/press-releases/kenya-sets-up-first-smartphone-assembling-plant-in-east-africa; kra.go.ke/images/publications/ANNUAL-REVENUE-PERFORMANCE-FY-2022-2023-1372023-Final-Version.pdf; www.kra.go.ke/images/publications/KRA-ICT-STRATEGY-Online-Version.pdf;

⁷⁰ For further information about digital ID programmes in Africa, please see Pg 19 of the accompanying methodology report https://www.gsma.com/subsaharanafrika/wp-content/uploads/2024/05/spec_digi_africa_05_24.pdf

⁷¹ [Lipa Mdogo Mdogo: Affordable Payment Plans - Safaricom](#)

Countries with advanced digital government services are seeing benefits, notably when integrated with digital payments. A respondent to the author's information request commented: "By encouraging electronic transactions, digital payments bring more economic activity into the formal sector, making regulation and taxation easier. Digital payments create clear transaction records, reducing opportunities for tax evasion and non-compliance. Digital systems automate compliance processes, easing the burden on taxpayers and ensuring regulatory adherence".

This has been documented by research and analysis of the effects of digital transformation in the public sector. For example, studies have found that digitalizing government payments could save

roughly 0.8–1.1% of GDP.⁷² Similarly, it has been shown that countries that have adopted digital Payment 2 Government (P2G) services experience a 1.2–1.3 percentage point boost in direct tax revenue as a share of GDP.⁷³

The policies described in section 4 could increase access to mobile technology by citizens, who could then leverage these to access more government services, including paying taxes digitally and increasing the tax base. It is estimated that the increased adoption of digital government services that would arise has the potential to add 75 billion KES in additional tax revenues for the Government, equivalent to 2% of total tax revenue by 2028.

Table 9:

Potential impacts of increased adoption of digital government on tax revenue in Kenya in 2028

Digital government revenue increase (KES billion)	75
% tax revenues	2%
% of GDP	0.4%

Constant 2023 KES. See separate methodological document that accompanies this report.⁷⁴

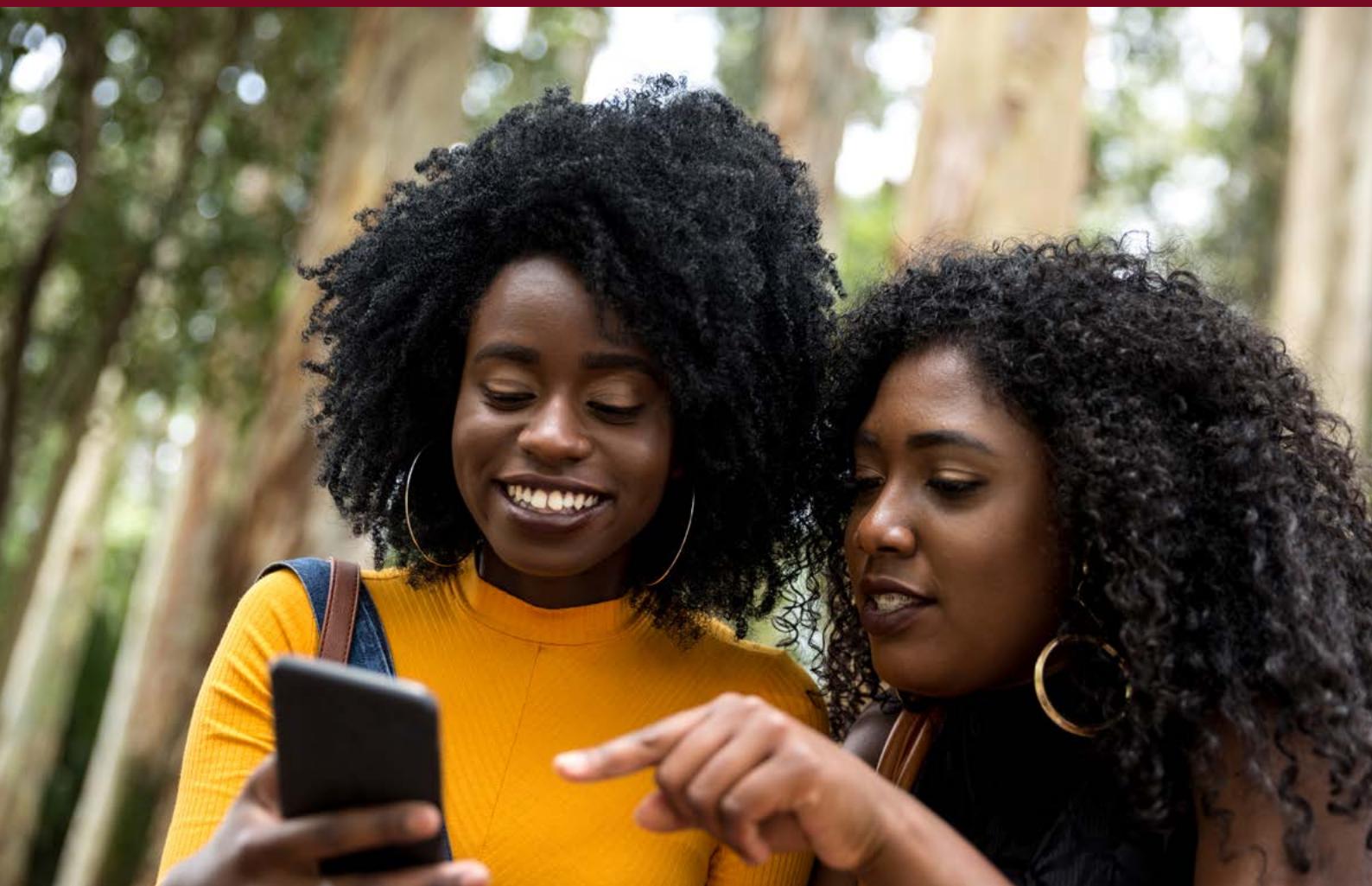
72 Susan Lund, Olivia White, and Jason Lamb, The Value of Digitalizing Government Payments in Developing Economies, in Digital Revolutions in Public Finance, IMF 2017.

73 UNU-WIDER Working Paper 2022/18 Does the adoption of peer-to-government mobile payments improve tax revenue mobilization in developing countries? Abdoul-Akim Wandago, 1 Fayçal Sawadogo, 2 and Jesse Lastunen3 February 2022

74 GSMA, Driving digital transformation of African economies Evidence and methodology document, May 2024. Pages 33 to 36. www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

4.

The Telecommunications Sector in Kenya



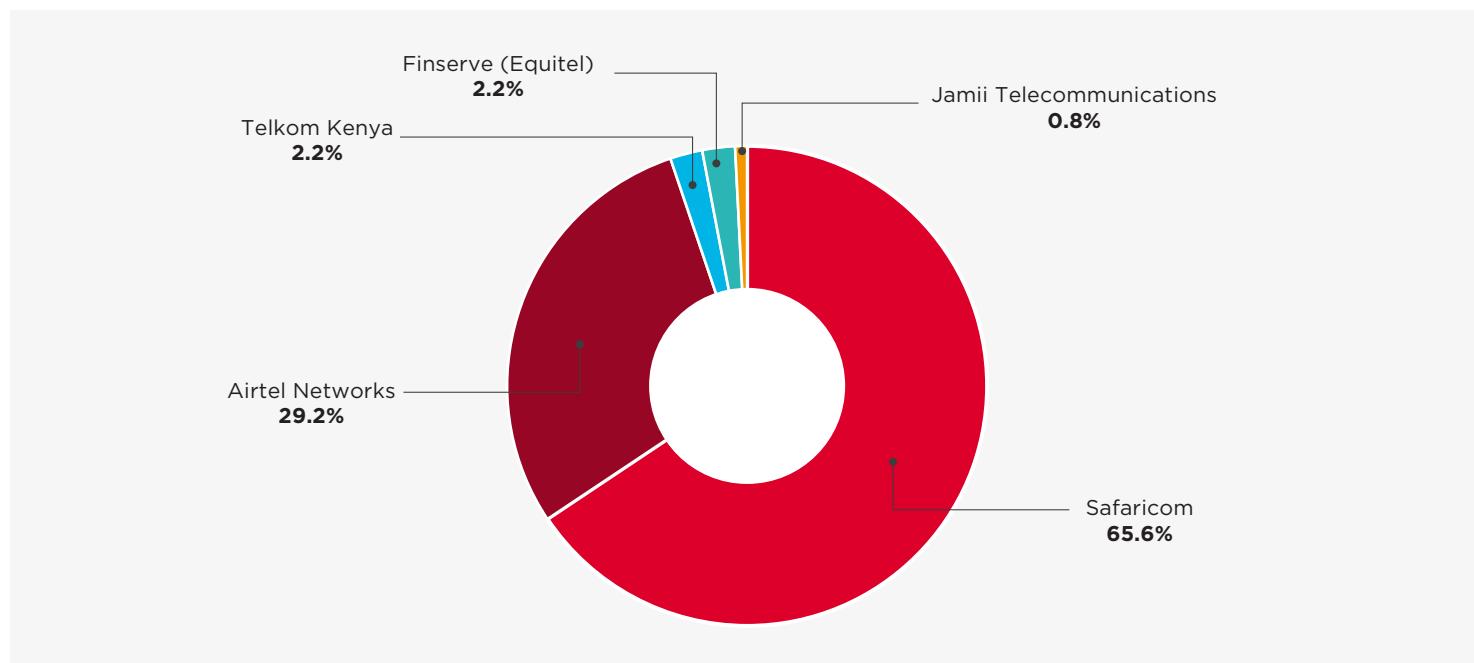
A. Sector Overview

Mobile market

Kenya has a mature telecoms market, with five service providers in total – Safaricom, Airtel, Telkom Kenya, Finserve Kenya and Jamii Telecommunication. Safaricom and Airtel have 95% subscriber market share and Safaricom is the largest MNO with 65.6%

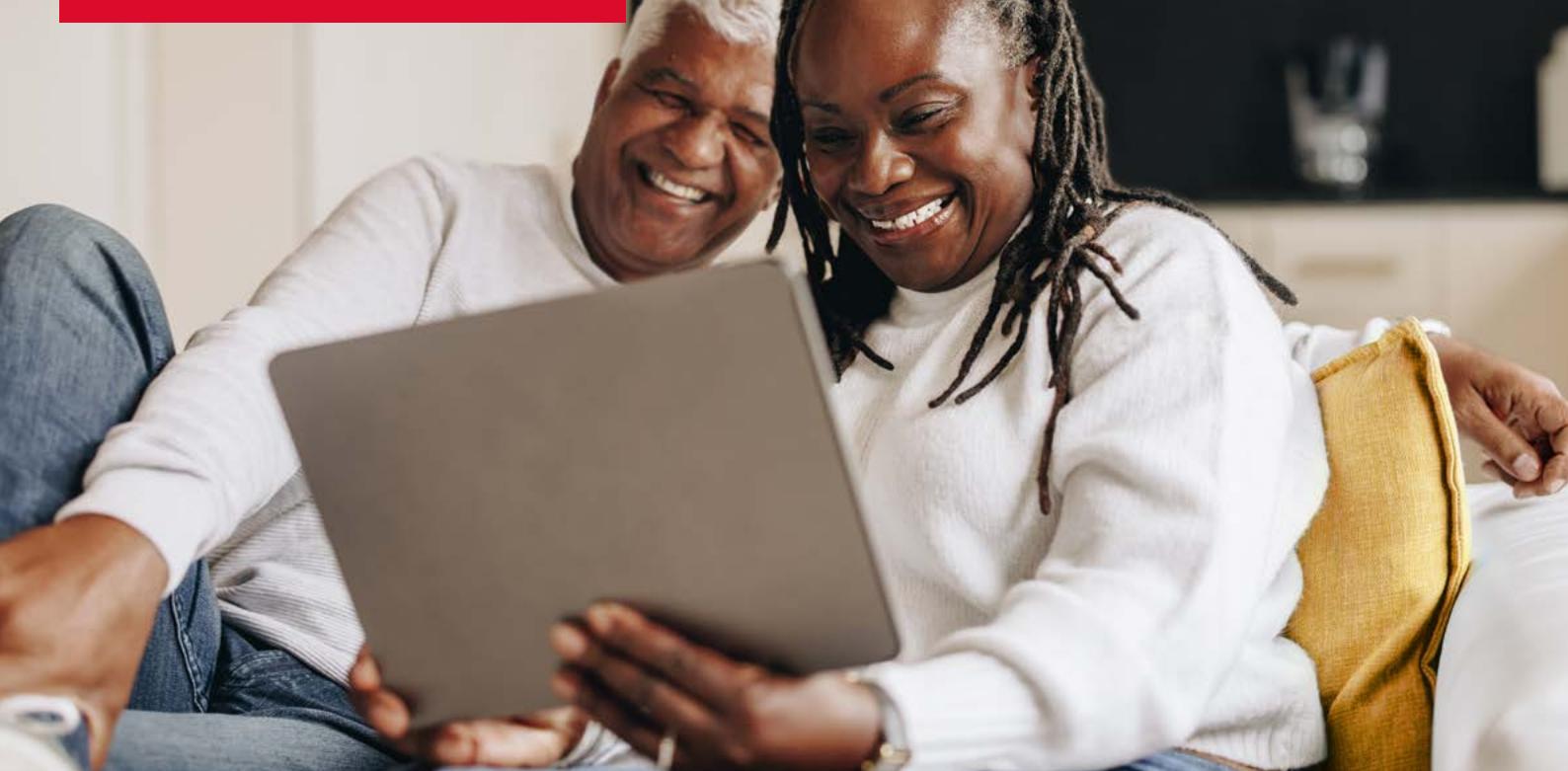
subscriber market share. This is followed by Airtel and Telkom Kenya with 29.2% and 2%, respectively. There are 68 million mobile subscriptions in total and 37 million mobile broadband subscriptions.⁷⁵

Figure 15:
Mobile subscriber market share



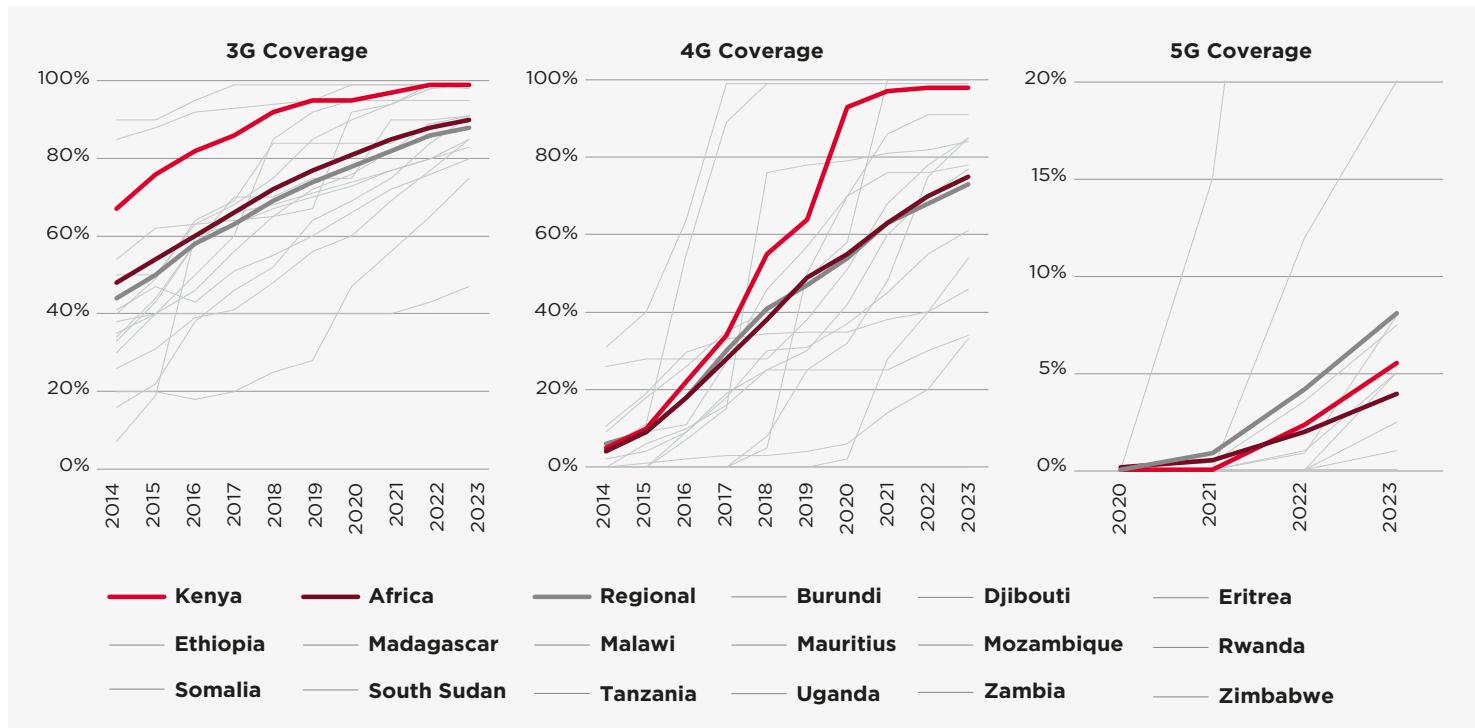
Source: Communications Authority of Kenya.

⁷⁵ Source: Communications Authority of Kenya, Third Quarter Sector Statistics Report Financial Year 2023/2024. Data for end March 2024. Subscriptions are different from unique subscribers, as each unique subscriber could have multiple subscriptions (SIM cards).



The results of this competition have been rapid growth in mobile broadband coverage which has placed Kenya ahead of many of its regional peers.

Figure 16:
Broadband network coverage by technology

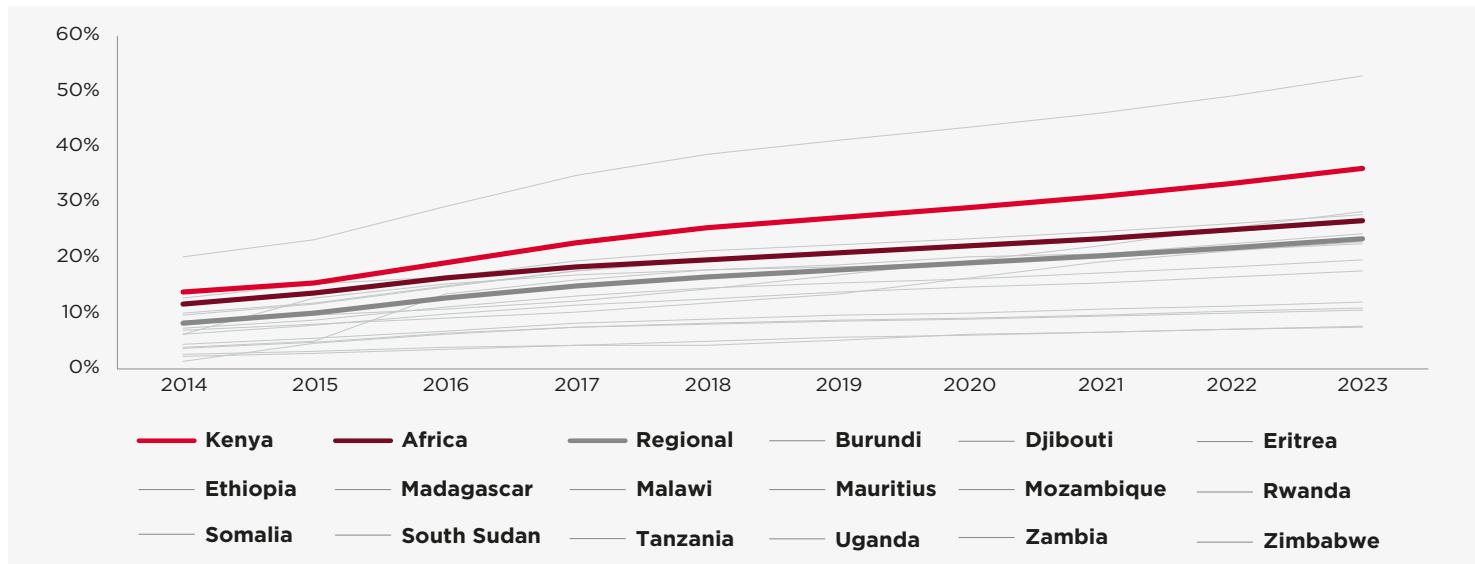


Source: GSMA Intelligence.

Kenya is also above the regional average for internet usage with around 35% of Kenyans using it. Significant progress has been achieved over the past 10 years, with the number of unique mobile internet

subscribers, as a percentage of the population, growing by over 21 percentage points from 14% of the population in 2014.

Figure 17:
Unique mobile internet subscribers⁷⁶

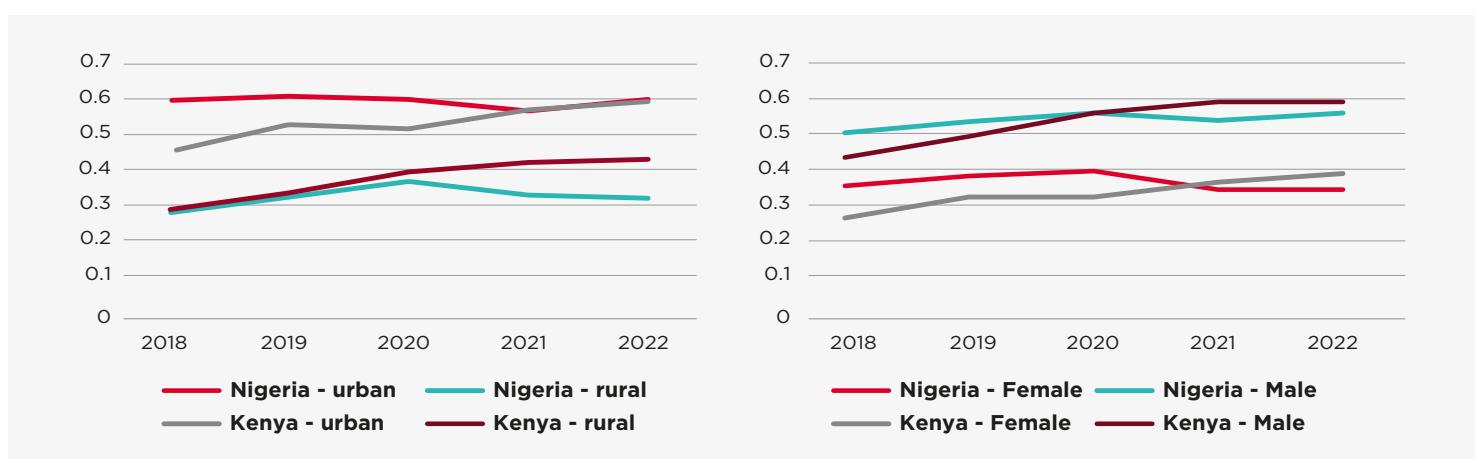


Source: GSMA Intelligence.

However, many people remain without connectivity. **The difference between the number of people that live within the footprint of a mobile broadband network and those using mobile internet is referred to as the “usage gap”.** As shown in Figure 5, at 64% of the population, the usage gap in Kenya is somewhat below the average for Sub-Saharan Africa but still high compared to the rest of the world.⁷⁷

Digital adoption varies within population groups in Kenya. Levels of digital adoption are lower in rural than in urban areas. It is also lower among women than among men. However, Kenya has been making progress in growing the level of digital adoption in underserved groups of the population. Compared with Nigeria, for example, Kenya has been more successful in raising levels of digital usage in these markets (Figure 18).

Figure 18:
Mobile internet adoption (as a % of adult population) in Kenya and Nigeria, over time and by population segment



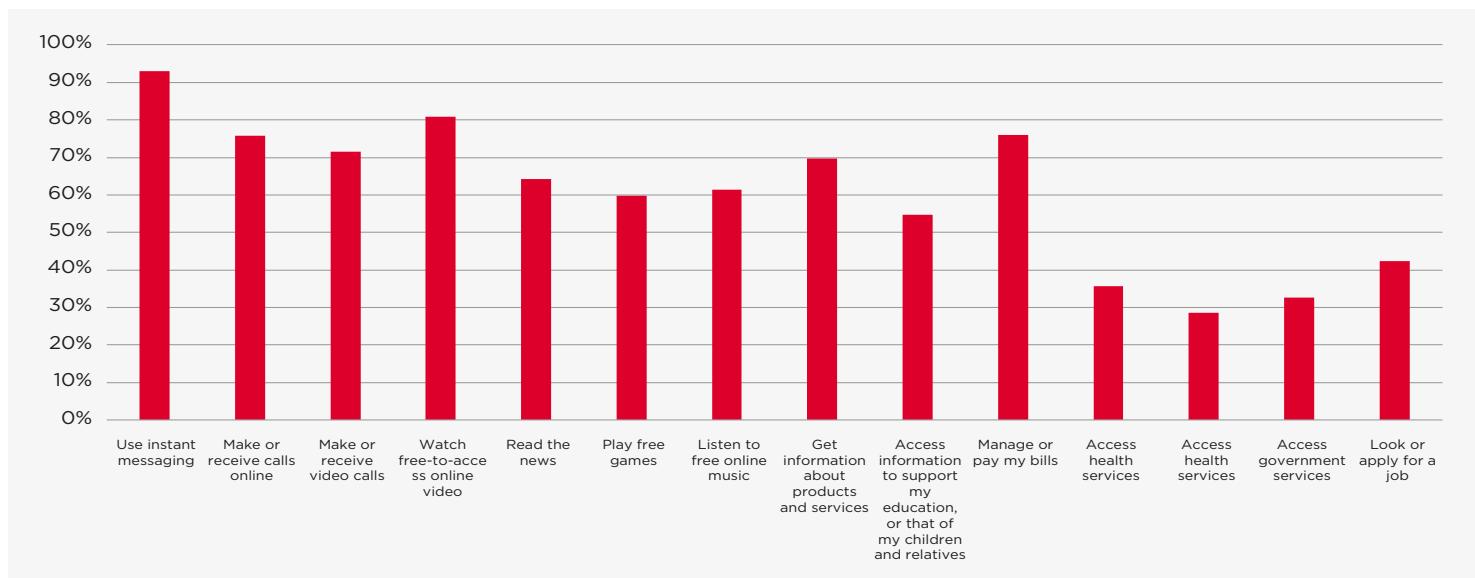
Source: GSMA Consumer Surveys (2018-2022).

⁷⁶ Unique mobile internet subscribers refers to individuals who use the mobile internet. This is different from the total number of mobile internet subscriptions because the latter can include individuals with multiple SIMs.

⁷⁷ Source: GSMA

The GSMA assesses mobile internet usage and barriers in several countries through an annual consumer survey, which covers a nationally representative sample of at least 1,000 adults (18+) per country, interviewed face-to-face. It includes data on attitudes and perceptions on barriers to mobile internet adoption and use, behaviours and ownership of mobile services and use cases. The results of this survey are presented below for Kenya.

Figure 19:
Activities done online in Kenya



Source: GSMA Consumer Survey, 2022.

Figure 20:
Barriers to mobile internet adoption in Kenya, urban (U) and rural (R)

Handset cost		Data cost		Do not know how to access internet on a mobile		Do not know how to use a mobile		Reading / writing difficulties		Do not have time to learn how to access internet on a mobile phone		Not sufficient support in learning to use internet		Internet is not relevant for me		Insufficient content in local language		Harmful content (self/family)	
U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R
51%	52%	4%	6%	4%	3%	0%	1%	2%	7%	4%	3%	3%	1%	13%	13%	0%	1%	9%	3%
Strangers contacting me		Information security		Internet drains my battery		Network coverage		Family does not approve		Access to agent support		Slow connection / cannot do what i want		No access to internet enabled phone		Hard to find where to buy internet enabled phone		Don't know	
3%	0%	0%	2%	1%	4%	0%	1%	0%	0%	1%	0%	1%	0%	2%	0%	1%	2%	0%	0%

Source: GSMA Consumer Survey, 2022.

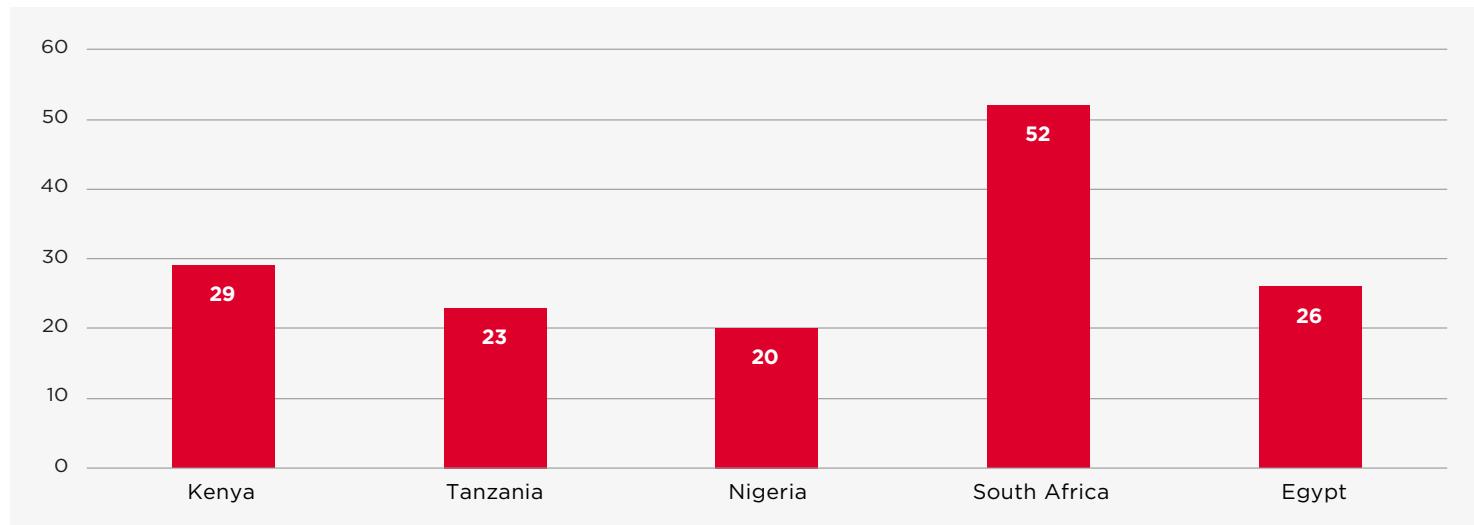
Kenyans use mobile internet for a wide range of purposes. The most popular activities for Kenyans on the mobile internet are messaging and communications, followed by video streaming, gaming and news (Figure 19).



The technical performance of the mobile networks in Kenya also compares well. Average data download speeds are around 24 Mbit/s which places it among

the better performing countries in the region, thanks to the levels of investment from the industry in recent years.⁷⁸

Figure 21:
Average mobile download speeds in Kenya and other SSA countries



Source: Ookla Speedtest, accessed 09/2024.

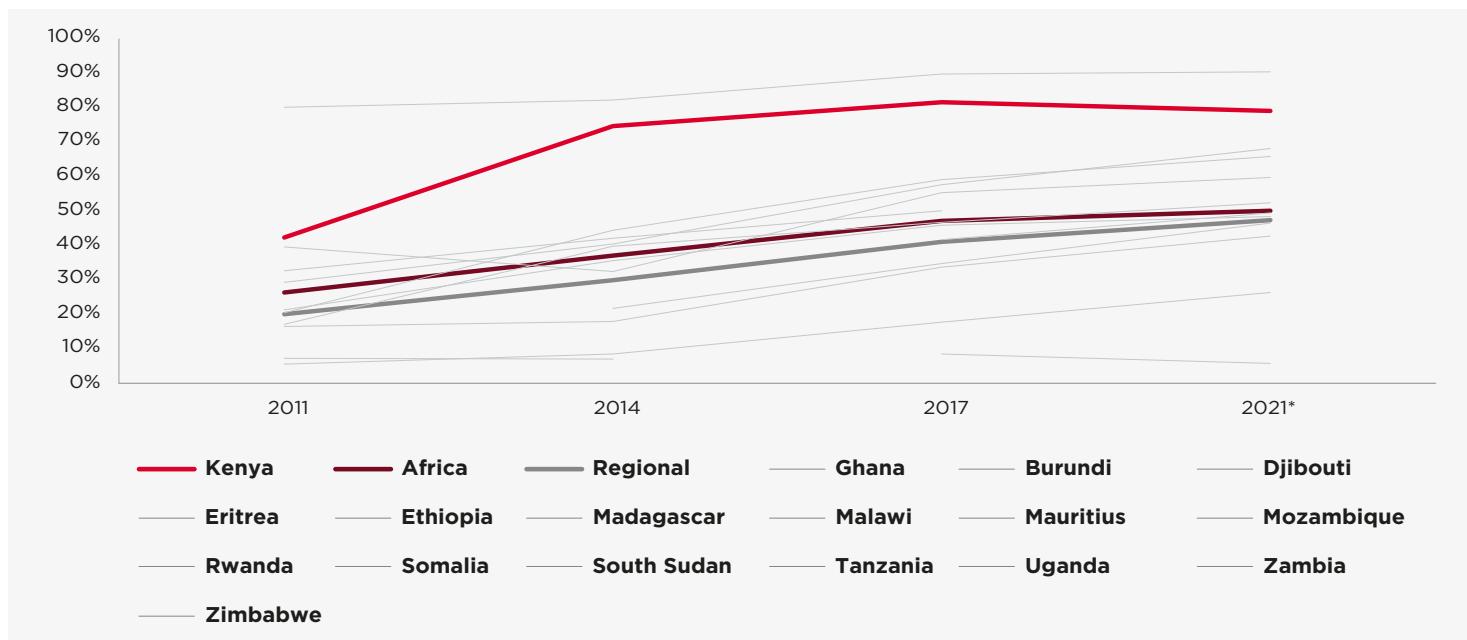
⁷⁸ Source: Ookla.

Mobile Money

Kenya was a pioneer of mobile money services in Africa and one of the leading countries globally in this area. As a result, the level of financial inclusion

in Kenya has been far ahead of other countries in the region. Other countries are beginning to catch up but Kenya remains a regional outlier.

Figure 22:
Proportion of adult population with a financial services account in Kenya, compared to other countries in Africa



Source: Findex data.

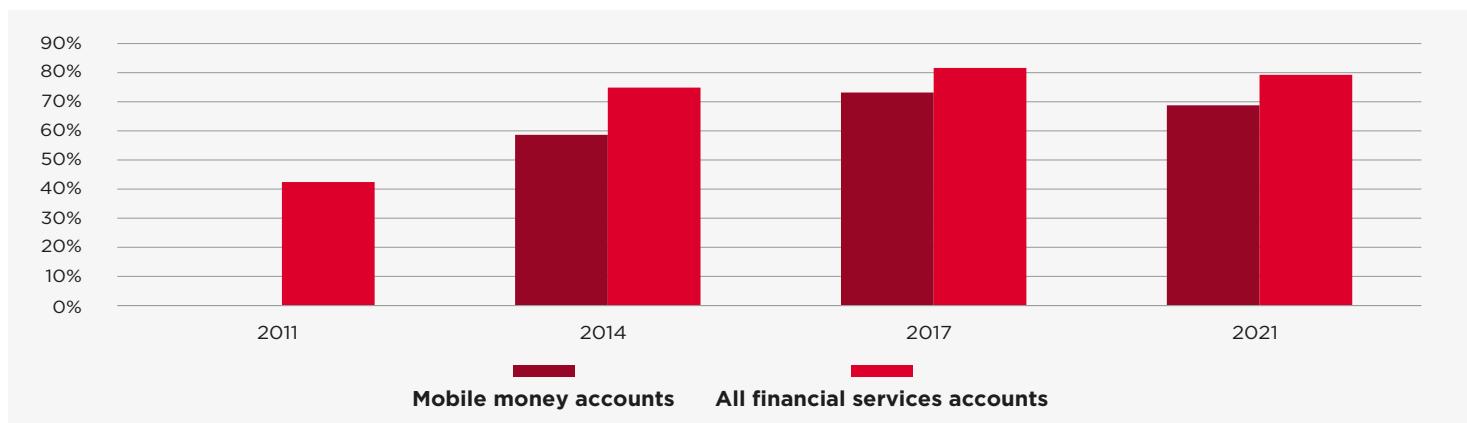
*Some countries reported in 2022 rather than 2021.

**Only considers population who are 15+. Financial services account includes both accounts at formal financial institutions and mobile money accounts.

It is the growth of mobile money that has been the primary driver of the high level of financial inclusion in Kenya. Mobile money accounts represent a large

majority of the overall financial services accounts in the country (Figure 23).

Figure 23:
Mobile Money vs total financial services accounts

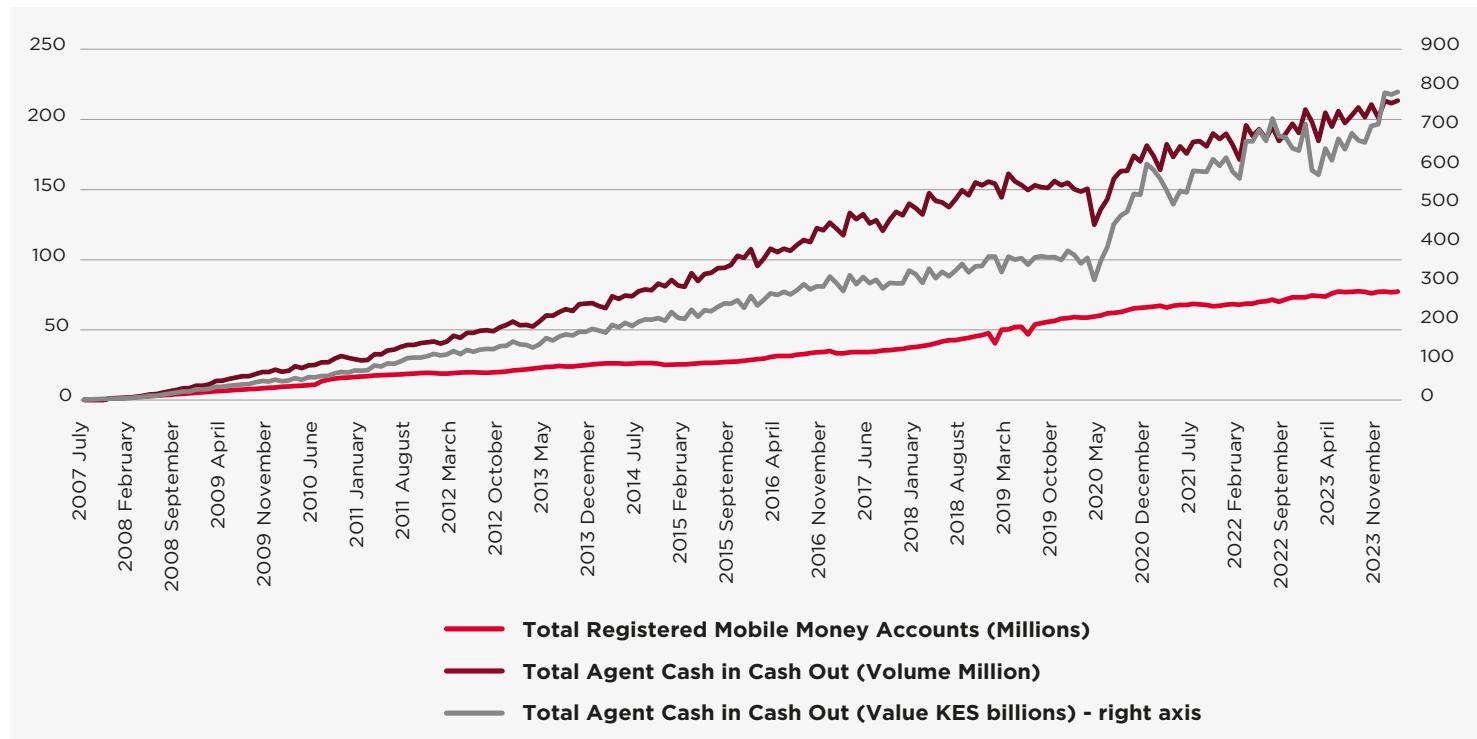


Source: World Bank Findex 2021.

The Central Bank of Kenya reported 77 million registered mobile money accounts at the start of 2024,⁷⁹ while the Communications Authority reports 38.7 million active mobile money subscriptions as at the end of March 2024.⁸⁰ There were 320,000 active agents at the start of 2024.

Values for agent cash-in and cash-out transactions amounted to a total of 8 trillion KES in 2023, with significant growth achieved over the years in volumes and values. The total volume of mobile money transactions is estimated at 37 billion for 2023.⁸¹

Figure 24:
Evolution of mobile money accounts and transactions in Kenya



Source: Central Bank of Kenya and mobile money operator data. Transaction value on right axis.

79 <https://www.centralbank.go.ke/national-payments-system/mobile-payments/>

80 Communications Authority of Kenya, Third Quarter Sector Statistics Report Financial Year 2023/2024.

81 CICO values are from CBK, while the total value of transactions is an estimate based on data from mobile money operators and Safaricom 2024 annual report. Includes all cash-in and cash-out, P2P, remittances, P2G and G2P.

B. Policy priorities for the telecoms sector

Policy priority 1: Reducing taxation of mobile services

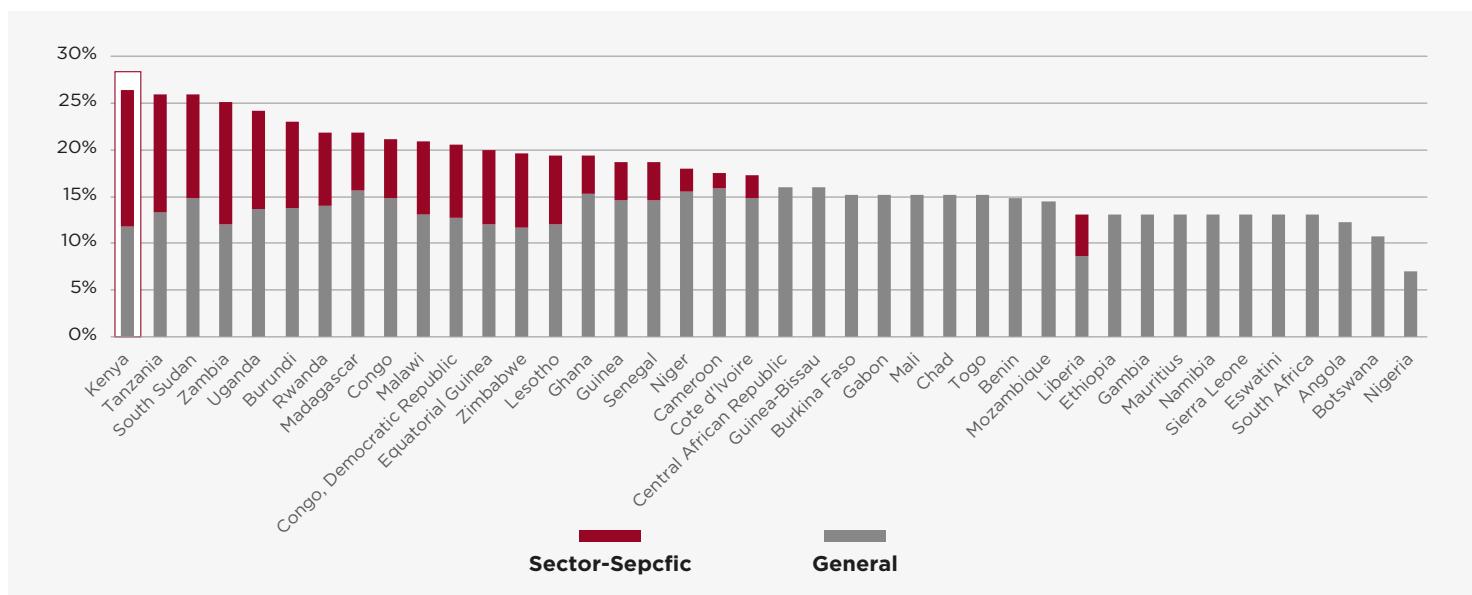
The level of taxation of mobile services in Kenya is high by regional standards. The Finance Act 2018 increased the excise tax on mobile services from 10% to 15% and the excise on mobile money fees from 10% to 12%. The Finance Act 2021 introduced a further increase in excise duty on all mobile services to 20% making it one of the highest in Sub-Saharan Africa, while the Finance Act 2023 revised it back to 15%. The 2024 Finance Bill, which has been subsequently withdrawn, included a provision to increase the tax on mobile services to 20%.⁸²

The main taxes currently paid by mobile consumers in Kenya are:

- 16% VAT levied on mobile services (inclusive of excise taxes), handsets and SIM cards (mobile money is exempt);
- 15% excise duty on the value of mobile services (including voice, SMS and data); and
- 15% excise duty on mobile money transaction fees

The cumulative effect of this tax structure is to make the telecoms industry in Kenya subject to the highest overall tax burden in the region (Figure 25).

Figure 25:
Tax as a proportion of the cost of 1 Gb data basket (2022)



Source: GSMA tax and digital development report 2023.

⁸² The 2024 Finance Bill also include other financial and tax measures which would have offset, to some extent, the impact of the increase in taxes. This included provisions that would allow the cost of investments in ICT (e.g. spectrum fees, building fibre optic network infrastructure etc.) to be deductible costs under Income Tax Act.

The GSMA has conducted a face-to-face survey in several low- and middle-income countries since 2017 to understand the barriers to broadband adoption among the unconnected, including Kenya. **For those who are aware of broadband services but are not using them,**

affordability has been persistently cited as the most important factor stopping them from using mobile internet. In 2021, 44% of the unconnected reported affordability as the most important barrier, followed by 24% reporting skills and literacy.

Table 10:
Barriers to mobile broadband adoption in Kenya

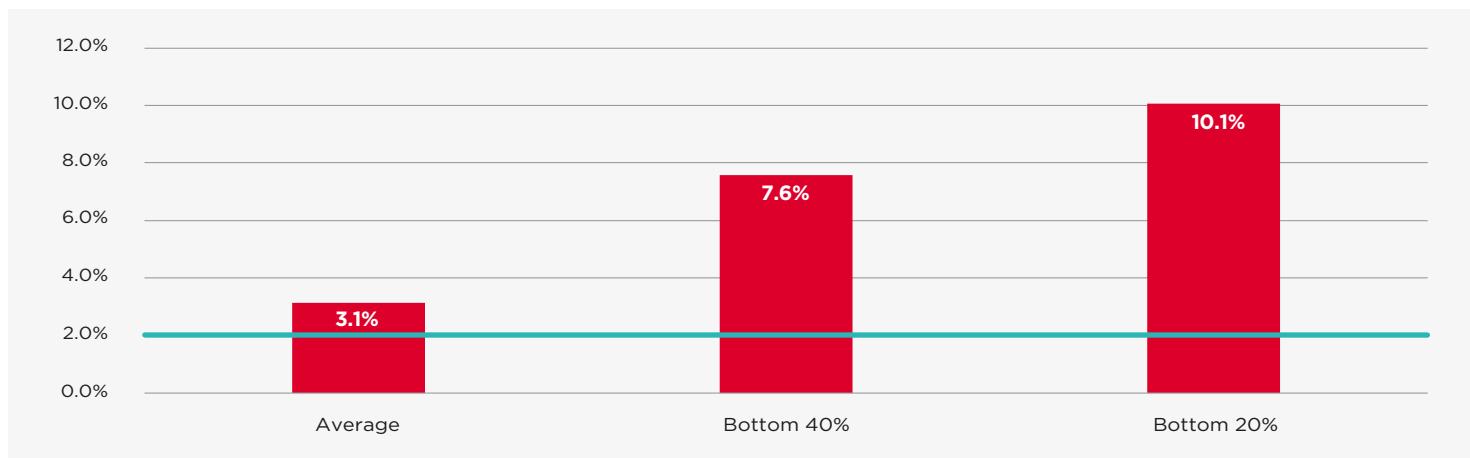
	Affordability	Literacy and Skills	Relevance	Safety and Security	Network coverage	Other access barriers
2018	43%	26%	13%	8%	3%	6%
2019	35%	30%	13%	10%	4%	9%
2020	43%	26%	12%	10%	3%	7%
2021	44%	24%	13%	8%	1%	11%
2022	57%	15%	13%	8%	1%	7%
2023	52%	16%	9%	11%	2%	9%

Source: GSMA SOMIC 2024.

Additionally, the cost of mobile broadband in Kenya remains above the international target for the price of an entry-level broadband subscription, set by the International Telecommunication Union (ITU) at less than 2% of GNI per capita AND less than 2% of average income for the poorest (bottom) 40% of the population.⁸³

Based on a monthly data plan of 2GB, affordability in Kenya remains above the international target at 3.1% as demonstrated by the below figure. Mobile connectivity is less affordable for the poorest 40% of the population at 7.6% of the average income. For the poorest 20% of the population, the cost is more than 10% of the average income.

Figure 26:
Cost of a basic broadband subscription in Kenya



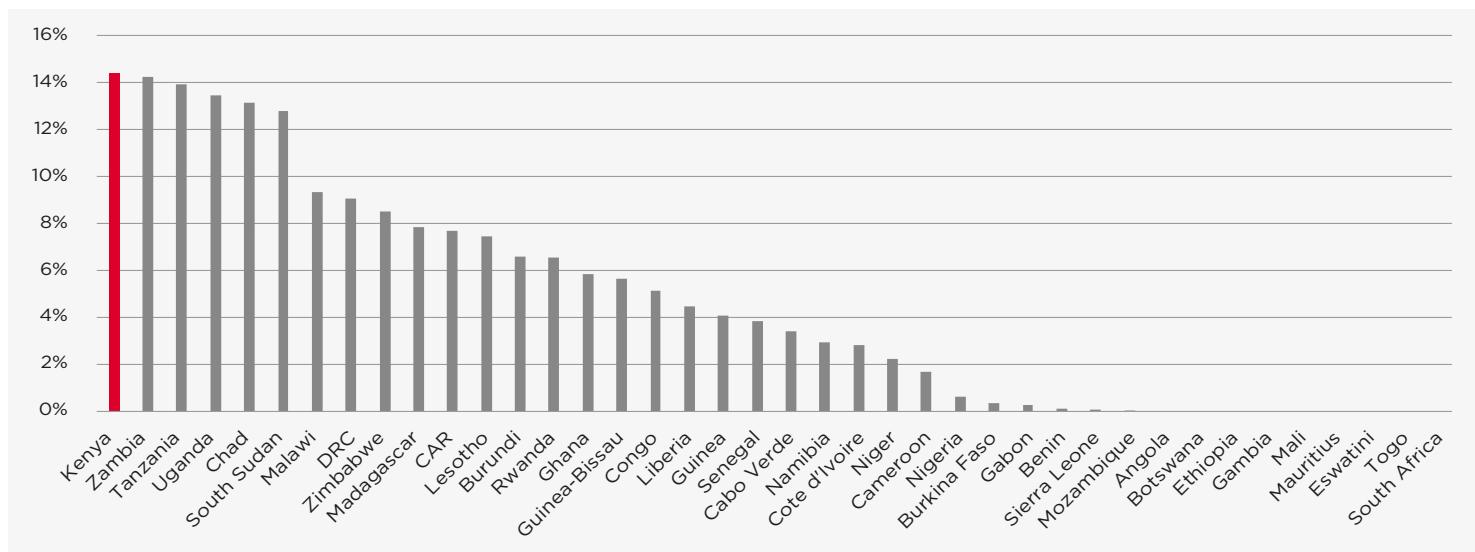
Source: GSMA Intelligence.

83 ITU, Aspirational targets for 2030: www.itu.int/umc2030

Affordability of service can be improved by alleviating the tax burden consumers face. Specific taxes should narrowly target a few goods mainly because their consumption entails negative externalities on society. Given the positive externalities of broadband connection to the economy at large, mobile phones and services should not generally be included in a list of goods and services singled out for exceptionally harsh tax treatment. Therefore, a reduction of excise duty is critical.

The impact of increasing excise duty from 15% to 20% in the 2022 Finance Act has implied a reduction in data traffic and an increase in the cost of purchasing a device and using mobile internet. The 20% excise duty on airtime was the largest imposed in Sub-Saharan Africa. As demonstrated below, sector-specific taxes on consumption account for a higher proportion of mobile ownership costs in Kenya than in other countries in the region. This means it is likely that the cost of broadband services is higher in Kenya than in other countries in the region. This disadvantages Kenyans in the digital economy as they are not able to compete effectively in this era of digital trade.

Figure 27:
Sector-specific taxes as a % of monthly cost of ownership in Kenya



Source: GSMA Intelligence. Cost of ownership is based on a 1GB monthly basket and internet device spread over a 36-month period.

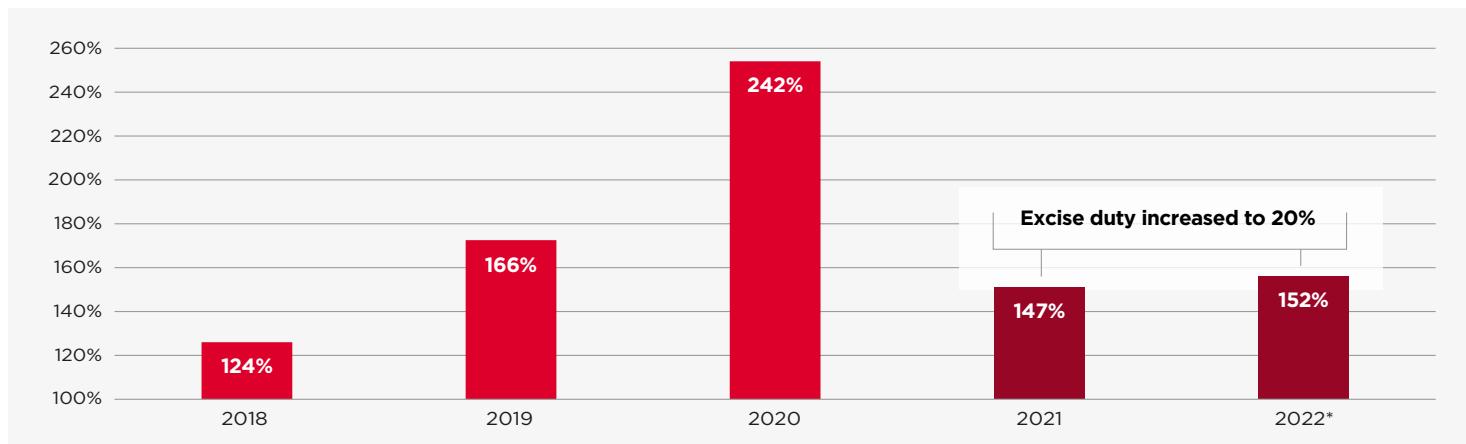


As shown in Figure 28, data traffic has continued to increase due to higher demand for mobile broadband services. There was an even higher increase in 2020 occasioned by changes in consumer behaviours such as working from home, e-commerce, and schooling from home as consumers adjusted to cope with various interventions to curb the spread of the Covid 19 virus. The pandemic demonstrated just how critical

digital penetration is regarding business continuity, as it enabled many essential services to proceed with minimum interruption during the lockdowns.

However, growth in data consumption slowed down in 2021 following the increase in excise duty and thus far in 2022, the year-on-year growth has not significantly increased.

Figure 28:
Mobile data traffic growth trend between 2018 and 2021 in Kenya

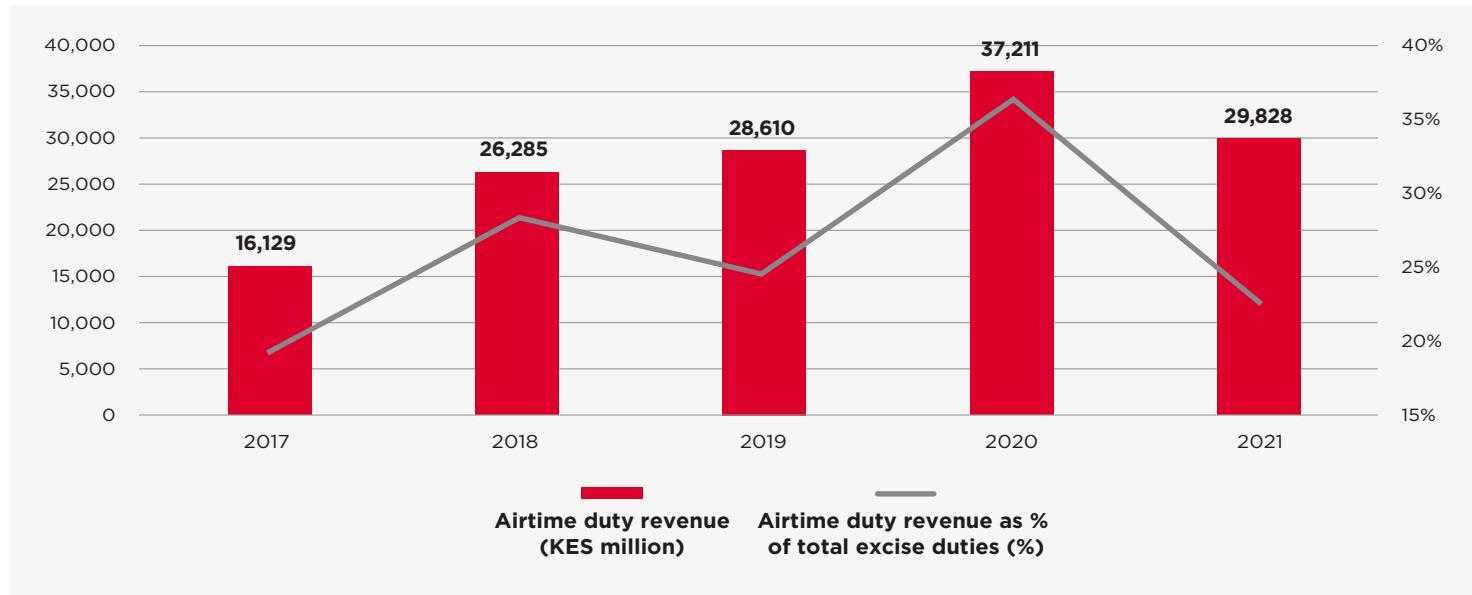


Source: GSMA Intelligence.

The reduction in usage for certain segments led to a 20% reduction in revenues collected from the Airtime tax in 2021. Revenues levied fell from KES 37.2 billion in 2020 to 29.8 billion in 2021 – as a proportion of all excise duties, mobile's contribution

fell from 36% in 2020 to 23% in 2021. This is similar to the revenue raised in 2019. In relative terms (as a proportion of all excise duties), mobile contributed less than the previous three years.

Figure 29:
Excise revenue levied on airtime in Kenya



Source: GSMA Intelligence. Cost of ownership is based on a 1GB monthly basket and internet device spread over a 36-month period.

A reduction in the rate of tax imposed on the mobile sector would benefit customers, as higher taxes on services feed through into higher retail prices paid by consumers for those services. A reduction in the level of tax would feed through into lower prices as competition forces operators to pass on the lower costs to their subscribers. This would help to address one of the key factors driving the current usage gap in Kenya – affordability.

Any reduction in the revenues raised by direct taxes would be partially offset by the increased tax revenues generated from increased use of mobile services. This effect would be further enhanced by the additional tax revenues generated from higher levels of productivity that would be experienced in other sectors of the economy.

Reducing the overall level of tax on mobile services by 5 percentage points would result in lower prices paid by customers. This would result in 180,000 additional unique mobile internet subscribers by 2028. The table below shows outputs from modelling of the impact of a mobile tax reduction on mobile internet uptake.⁸⁴

⁸⁴ See separate methodological document for detailed assumptions. www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Table 11:
Mobile internet uptake with reduction in tax on mobile services

Mobile internet subscribers (m)	2023	2024	2025	2026	2027	2028
BAU	19.45	20.55	21.72	22.93	24.21	25.55
Service tax reduction	19.45	20.58	21.78	23.04	24.35	25.73
Y-on-Y difference to BAU	0%	0%	0%	0%	1%	1%
Increase in growth vs BAU	0%	+0%	+0%	+1%	+1%	+1%

Policy priority 2: Reducing or removing taxation of devices and SIM cards

The affordability of internet-capable devices is a major constraint on adoption of mobile internet among many Kenyan households. Families and individuals are often able to pay for services but the cost of a device may be unaffordable. This problem persists, despite falls in the cost of smartphones and other internet capable devices. They remain unaffordable to a large number of low and lower-middle income households in the country. As a result, they are excluded from internet adoption and usage.

The issue of device affordability is widely recognised as a challenge for the industry and for policymakers. There are a number of initiatives could potentially ease the problem. These include:

- stimulating the provision of consumer credit to allow subscribers to buy devices and pay for them in instalments;
- public subsidies to help specific groups of subscribers to buy devices; and
- reduction of any taxes relating to the import and purchase of devices.

Kenya has established the East Africa Device Assembly Kenya (EADAK), with the objective to reduce the cost of devices but also to encourage the development of the local manufacturing sector. This has the potential to improve device affordability for Kenyan consumers. However, such a policy would have the maximum benefit to consumers if their ultimate objective is to reduce device prices. There are a range of policies that could contribute to this, such as low-interest loans, credit guarantees, tax incentives (e.g. tax deferments, credits or holidays) or other regulatory benefits.

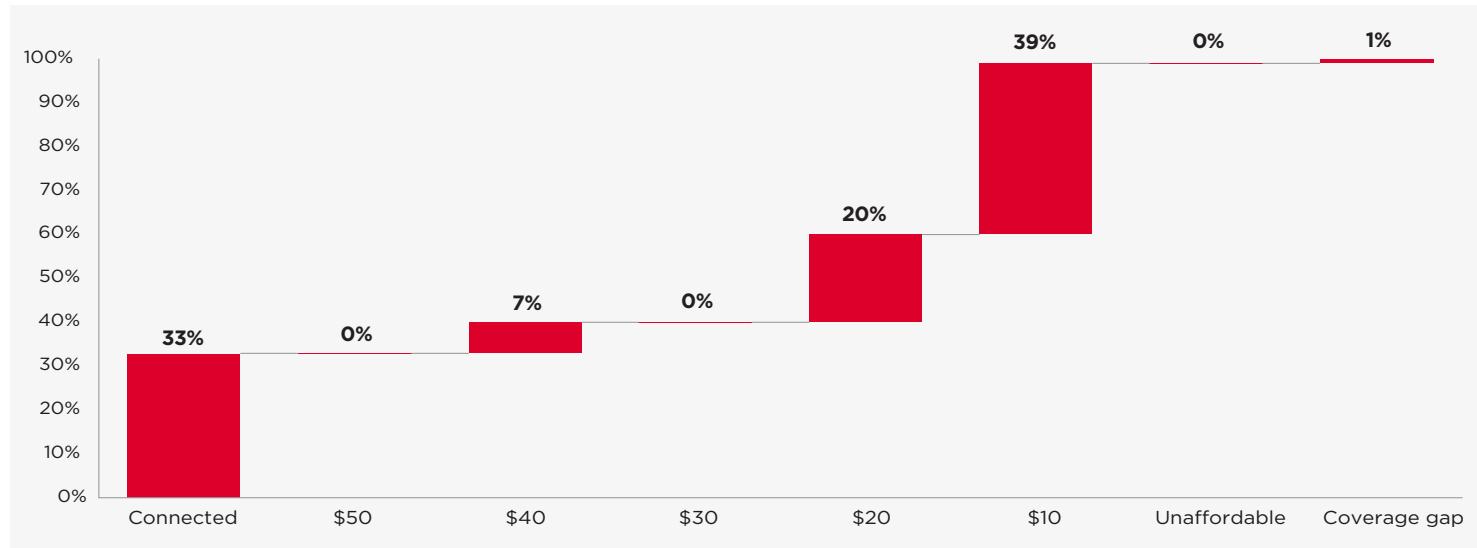
Taxes are currently levied on the import of devices into Kenya. These include the following:

- Import duties – 25%
- VAT – 16%
- Excise duty – 10%
- Import declaration fees and railway development levy -2% +1.5%
- SIM card tax – 50 KES per SIM

In addition, the Finance Bill 2024 proposed the introduction of an Echo levy of 225 KES per unit, which would further increase the cost of devices for Kenyans.

Such taxes and levies raise the price of digital adoption paid by subscribers in Kenya. This further exacerbate the problem of device affordability that is constraining uptake. Based on income percentiles and the cost of a device, we estimate that the potential impact of the reduction of device prices on usage gap in Kenya could be sizeable, with 39% more people being able to access a device at the price of 10 USD. The lower the cost of a device the higher the impact on the usage gap in a positive manner.

Figure 30:
Potential impact of a reduction of device prices on usage gap in Kenya



Source: GSMA Intelligence.

Reducing the overall level of tax on handsets by 10 percentage points would result in lower costs of mobile internet handsets for customers. This would result in 460,000 additional unique mobile

internet subscribers by 2028. The table below shows outputs from modelling of the impact of a mobile tax reduction on mobile internet uptake.⁸⁵

Table 12:
Mobile internet uptake with reduction in tax on mobile handsets

Mobile internet subscribers (m)	2023	2024	2025	2026	2027	2028
BAU	19.45	20.55	21.72	22.93	24.21	25.55
Handset tax reduction	19.45	20.64	21.89	23.20	24.57	26.01
Y-on-Y difference to BAU	0%	0%	1%	1%	1%	2%
Increase in growth vs BAU	0%	+0%	+1%	+1%	+2%	+2%

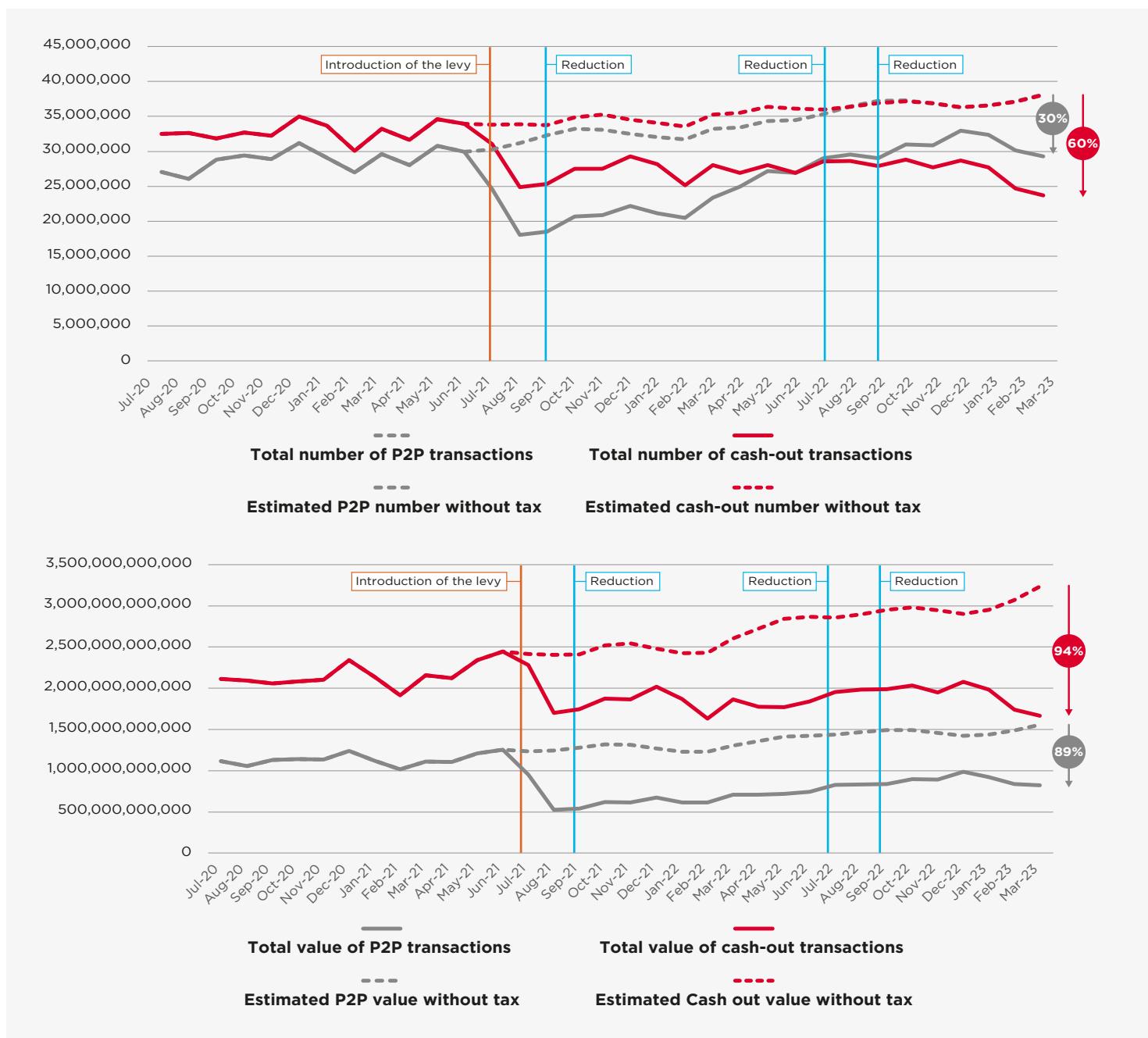
⁸⁵ See separate methodological document for detailed assumptions.
www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Policy priority 3: Reducing or removing the excise duty on mobile money

Studies have consistently shown a negative effect of mobile money levies on both uptake and usage of mobile money. In Tanzania, the introduction of a levy on mobile money withdrawals and P2P transactions resulted in a large decline in both the value and

number of these transactions. Even after three reductions in the size of the levy, P2P transaction numbers remained 30% below their pre-levy trend, with an even larger reduction in withdrawals.⁸⁶

Figure 31:
Volume and value of mobile money transactions in Tanzania before and after the introduction of the levy



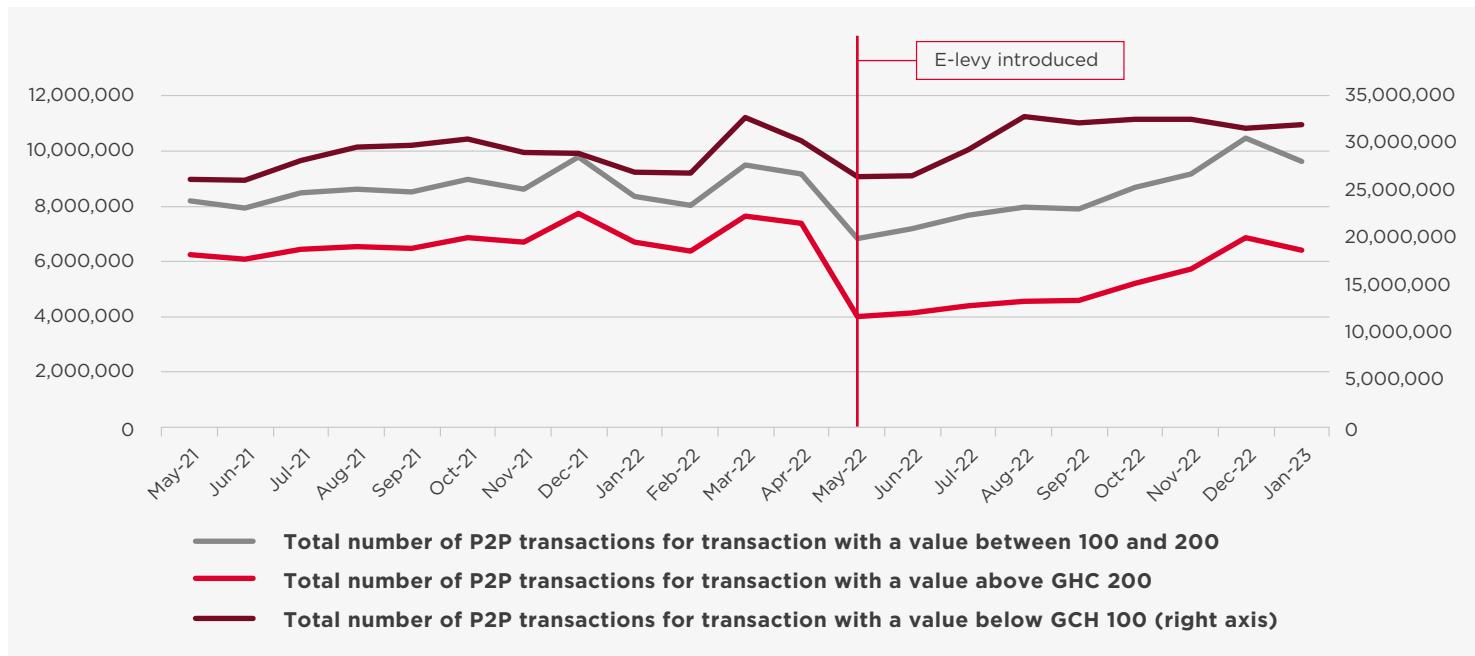
Source: GSMA, Tanzania Mobile Money Levy Impact Assessment, 2023.

86 GSMA 2023: Tanzania Mobile Money Levy Impact Assessment. [Tanzania-Mobile-Money-Levy-Impact-Assessment.pdf \(gsma.com\)](https://www.gsma.com/tanzania/mobile-money-levy-impact-assessment.pdf)

In Ghana, the introduction of a levy on mobile money transaction values resulted in a 5% reduction in the number of active subscribers compared to the pre-levy trend.⁸⁷ Transaction numbers overall decreased following the introduction of the levy in May 2022.

The total number of P2P transactions fell by 25% on average immediately after the implementation of the levy in May, from a peak of almost 50 million transactions in March.⁸⁸

Figure 32:
Volume of mobile money transactions in Ghana before and after the introduction of the levy



Source: GSMA, The E-levy in Ghana: Economic Impact Assessment, 2023.

Similarly, in Benin, although the government barred mobile operators from passing through its new mobile money levy to consumers, the introduction of the levy resulted in a significant reduction in investment in mobile money agent networks compared to the pre-levy trend. As a result active user growth also decreased, with mobile money subscribers forecast to be almost 10% lower in 2028 than they would have been without the levy.⁸⁹

Reducing the excise duty on mobile money transaction fees by 5 percentage points could increase the number of active subscribers by 5%.⁹⁰ This would mean at least 2.2 million additional active subscribers in 2028. The table below shows outputs from modelling of the impact of a 5 percentage point reduction on mobile money uptake.⁹¹ Conversely, a 5 percentage point increase in excise duty (as was proposed in the Finance Bill 2024) could be expected to have the opposite effect and reduce active subscribers.

87 GSMA, Driving digital transformation of the economy in Benin, forthcoming.

88 GSMA, The E-levy in Ghana: Economic Impact Assessment, 2023.

https://www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/the-e-levy-in-ghana-economic-impact-assessment

89 GSMA, Driving digital transformation of the economy in Benin, forthcoming

90 This impact was not significant at the 10% level in the Kenyan data. However, taken together with the evidence from other countries, we have assumed in this analysis that reducing the levy by 5 percentage points would result in mobile money active user numbers recovering to a pre-levy trend 5% higher. Conversely, a further increase in the levy as proposed in the withdrawn Finance Bill 2024 would likely see a further reduction in active users, compared to the trend

91 See separate methodological document for detailed assumptions.

www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

Table 13:
Mobile Money uptake with reduced excise duty

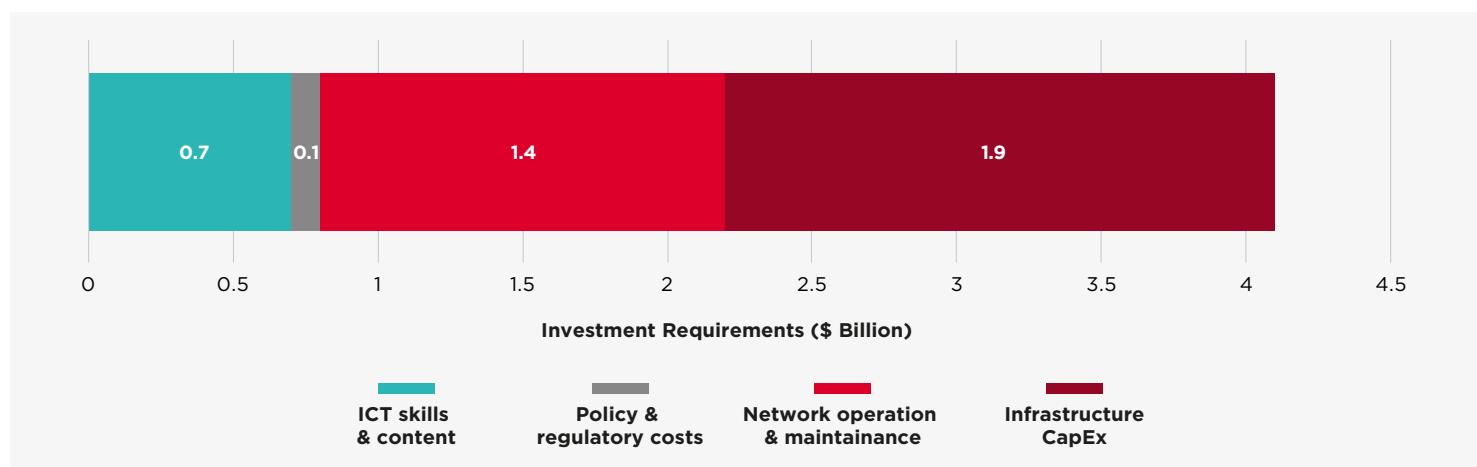
MM active accounts (m)	2023	2024	2025	2026	2027	2028
BAU	38.12	38.82	39.51	40.21	40.90	41.60
Reduce excise duty	38.12	40.86	41.59	42.32	43.05	43.79
Y-on-Y difference to BAU	0%	5%	5%	5%	5%	5%
Increase in growth vs BAU	0%	+5%	+5%	+6%	+6%	+6%

Policy priority 4: Ensuring a sustainable and predictable investment environment

Mobile operators in Kenya have invested significant amounts in networks and upgrades, and more is needed to continue to maintain the quality of services, rollout new 5G networks and close the usage gap.

Ensuring financial sustainability of the sector and a predictable regulatory and policy environment is therefore important to achieve the Government's digital objectives.

Figure 33:
Investment needed to achieve universal access to connectivity in Kenya by 2030



Source: GSMA, Mobile taxation in Kenya, 2020.

To improve financial sustainability of the sector, the following specific policy measures have been identified:

- i. **Introducing a tax deduction for licence fees**
- ii. **Reducing the cost of energy to power infrastructure**
- iii. **Ensuring fair and affordable pricing of spectrum**
- iv. **Accelerating the licence renewal process**

Between 2019-2030, **more than \$4.1 billion of investment would be required for Kenya to achieve the SDG target of universal broadband coverage by 2030**, as shown in Figure 33. Most of this investment would be in mobile infrastructure, for example deployment and upgrade of 2G and 3G sites to 4G and deployment of 5G base stations.

i. Introducing a tax deduction for licence fees

The introduction of a tax deduction for telecommunication and spectrum license fees⁹² would help to attract the necessary investment to realise this. In particular, an investment allowance of at least 10% per year for capital expenditure incurred by a telecommunication operator in purchasing or acquiring the indefeasible right to use fibre optic cable or spectrum license, would encourage the much-needed investment in the sector given its capital-intensive nature.

ii. Reducing the cost of energy to power infrastructure

Moreover, the industry faces significant opex costs. **Mobile network operators and tower operators in Kenya, own operate and maintain more than 10,000 points of presence on sites** powered by the National Grid. These points of presence include, but are not limited to base stations and data centres.

While the use of renewables and Green Energy Innovations and solutions such as solar photovoltaics are being pursued by the telecom companies, these measures only play a complementary role to the existing power sources. These sources comprise primarily of **power supplied by KPLC through the National Grid, and engine generators that provide backup power provisioning or are primarily used in areas that have no access or limited access to the national grid.**

Based on the current schedule of electricity tariffs, 70% of the telecom companies tower sites are billed at the rate of KES 13.58 per KWh under the small commercial customer category, while 30% of tower sites are being billed at the rate of KWh 26.17 per KWh. Due to the decentralised and capillary presence of tower sites, the monthly **consumption per site does not meet the consumption threshold to classify as a commercial and industrial consumer, who are billed at lower rates**. This limits the ability of MNOs to recover costs and expand to rural areas where electricity provision is more difficult. Moreover, more certainty around the cost of provision power and energy on the sites, would encourage more investment and increase sustainability for the industry.

There's an opportunity for consideration of a special electricity tariff category for telecommunication infrastructure, mainly tower sites, to support telecom companies to continue offering ubiquitous and affordable ICT services in the country, while supporting the Rural Electrification plan. The new tariff regulations, ahead of the next power tariff review in 2026, could ensure that telecom towers are recategorized from the current small commercial category to street light tariff (currently at KES 17.56 per KWh and for non-fuel KES 9.24 per KWh, or alternatively establish a preferential electricity tariff for MNOs and tower companies including a consideration for time of use (TOU) tariff.

This model has been tried in Rwanda, where the telecommunication industry is under the special tariff incentive category. The incentive in the form of the special tariff reduces the cost of energy to Telcos in operating their networks and leads to more reliance by Telcos on grid power due to its affordability even as they transition to the 5G network that will require twice or thrice the amount of energy currently being consumed by Telcos. This increased demand offsets the cost reduction that will be offered by the Special Tariff. In the case of Kenya, **this could not only lead to increased revenues for KPLC but also in the immediate term aid to solve the demand risk that KPLC faces in electricity supply distribution.⁹³**

⁹² The fees payable by MTSPs by amending the second schedule of the Income Tax Act.

⁹³ www.reg.rw

iii. Ensuring fair and affordable pricing of spectrum

The radio spectrum that governments license to operators is central to the quality and affordability of mobile broadband services. However, some government policies – inadvertently or not – result in high prices being paid to access spectrum. This includes the design of spectrum awards, such as auctions and other types of assignment. Spectrum prices can influence investment and pricing decisions and – when excessive – result in inefficient outcomes that have far-reaching negative consequences for consumers and the digital economy that outweigh the benefits from higher auction revenues.⁹⁴

Consultation with the industry for this report has indicated that for Kenya, the current spectrum fees should be reduced by 40% to 50% to ensure

sustainability and that conditions should ensure a level-playing field for all players utilising spectrum in the country. The primary objective should be to assign spectrum to those users that will be able to extract most value from this scarce and finite resource for the benefit of society as a whole, prioritising digital consumer protection, reliability of service and affordability.

iv. Accelerating the GSM licence renewal process

Spectrum can be assigned through different methods determined on a case-by-case basis, i.e auction, administrative assignments (beauty contest) or a combination of both. There is no single best assignment approach. Instead, there is a need to assess the merits of each on a case-by-case basis, taking into account the market conditions.

Table 14:

Advantages and disadvantages of spectrum assignment methods

	Advantages	Disadvantages
Auctions	<p>Well-designed auctions result in spectrum being assigned to the operators who value it most and will generally use it to improve connectivity</p> <p>Auctions seek to discover the market value of spectrum and obtain a fair return</p> <p>Outcome is typically transparent and legally robust</p>	<p>Poor auction design can lead to spectrum being assigned inefficiently or in way that harms competition in communications markets</p> <p>Inflated prices risk restricting the licensee's ability to invest in their network</p>
Administrative assignment	<p>Enables a range of criteria to be taken into account and for authorities to balance the trade-off between objectives</p> <p>Authorities can select the level of the licence fee, which may improve operators' ongoing financial viability and assist in raising capital for network investment</p> <p>Ability to set network investment or coverage requirements to focus on delivering high quality services rather than raising state revenues</p> <ul style="list-style-type: none"> - Can be quick and affordable to organise 	<p>Licences may be assigned to the candidate that presents an attractive proposal rather than the candidate that can make best use of the spectrum</p> <p>When operators fail to meet commitments after the auction, authorities may face difficult choices as to whether to cancel the licence or otherwise penalise the operator</p> <p>Administrative assignment is vulnerable to bias or corruption. Even the perception of such issues can lead to protracted legal disputes that delay spectrum being put to good use</p>

Source: GSMA, Best Practice in Mobile Spectrum Licensing, 2022.

94 GSMA, The impact of spectrum prices on consumers, 2019.

On the other hand, license renewal cannot be subjected to a market-based approach such as auctions as it creates uncertainty in securing spectrum already in use and serving active customers. This should follow the process of negotiations between the regulator and the licensee to determine the objective new price and license obligations that encourage investment.

A presumption of licence renewal encourages long-term network investment. Due to the sector's capital-intensive nature, transparent and timely renewal decisions are crucial. They give licensees the certainty to make significant, long-term investments in mobile services. According to GSMA research⁹⁵ and in line with the Africa Telecommunications Union ATU-R

Recommendation 002-O,⁹⁶ license-renewal processes should be done in consultation with the licensee at least 3 to 5 years before the expiration of issued licenses. Moreover, licence durations should be set at least at 25 to 30 years because of the long payback time to telecoms' investment.

Ensuring clarity and predictability on the timely renewal of licences would avoid creating uncertainty in investment decision and holding back network rollout and upgrades. It is estimated that expeditious completion of the licence renewal process in a transparent and predictable way would result in an additional 590,000 unique mobile internet subscribers by 2028.

Table 15:
Mobile internet uptake without licence renewal

Mobile internet subscribers (m)	2023	2024	2025	2026	2027	2028
BAU	19.45	20.55	21.72	22.93	24.21	25.55
Timely licence renewal	19.45	20.67	21.95	23.29	24.68	26.13
Y-on-Y difference to BAU	0%	1%	1%	2%	2%	2%
Increase in growth vs BAU	0%	+1%	+1%	+2%	+2%	+3%

Other policies that improve certainty of investment should also be encouraged. In October 2023, the amendment of the ICT Policy removed the requirement that any ICT licensee of CA should have at least 30% local shareholding. The repeal of this provision was received well by ICT players as a positive development for the investment environment and FDI.⁹⁷

The USF policy can also be improved by transitioning to a pay-to-play model as seen in other countries, by including MNOs on the Universal Service Advisory Council and waiving of spectrum fees on USF funded projects.

95 GSMA, Best Practice in Mobile Spectrum Licensing, 2022.

96 Africa Telecommunications Union ATU-R Recommendation 002-O: <https://atuuat.africa/wp-content/uploads/2021/04/English-ATU-R-Spectrum-Recommendation-002-O.pdf>

97 <https://investmentpolicy.unctad.org/investment-policy-monitor/measures/4425/kenya-removes-the-30-per-cent-local-shareholding-requirement-in-the-ict-sector-and-interview-with-ict-ministry>.



Policy priority 5: Addressing demand barriers

Demand for mobile internet is driven by a wide range of uses, including communications, information collection, entertainment, education etc. The government has a role to play in this because, as it increasingly makes services available online, it creates demand for people to have access to the internet. There are many good examples of this. By shifting to digital forms of delivery of critical public services such as driving licences, passport applications and property registration, the government creates demand for people to have access to the internet.

This is a win-win process. On the one hand, the government reduces costs and improves access to services by making them available through digital channels. On the other, citizens are able to access public services more easily and benefit from better quality of service when they are delivered through digital channels.

The other key benefit of this is that, by encouraging people to adopt the internet, this process stimulates demand for digital services more broadly. The more people that become internet subscribers, the more the government is able to reach via digital channels. Similarly, as the user base grows, the service providers also grow which delivers greater tax revenues.

Implementing such policies to increase demand could result in at least 3.26 million additional unique mobile internet subscribers in 2028. The table below shows outputs from modelling of the impact of a demand stimulation on mobile internet uptake.⁹⁸

Table 16:
Mobile internet uptake with demand stimulation

Mobile internet subscribers (m)	2023	2024	2025	2026	2027	2028
BAU	19.45	20.55	21.72	22.93	24.21	25.55
Demand stimulation	19.45	21.07	22.82	24.68	26.67	28.79
Y-on-Y difference to BAU	0%	3%	5%	8%	10%	13%
Increase in growth vs BAU	0%	+3%	+6%	+9%	+13%	+17%

⁹⁸ See Appendix and separate methodological document for detailed assumptions.

C. Modelling future developments in the telecoms sector

There is substantial empirical evidence on the dynamics of telecommunications markets. The telecommunications market has been extensively studied by academics and policy makers. Much of this research has been in relation to markets in Africa. This has been applied in a model of the telecoms market in Kenya that combines up-to-date information on the current market with this body of evidence.

The base case forecast of the market projects market developments, assuming that the policy environment

remains as it is today. It is based on historical trends and sector analysis which are used to extrapolate market outcomes to 2028. This base case focuses on mobile subscriptions, mobile broadband adoption, and mobile money usage.

The impact of changes in regulation and policy towards the sector are modelled by analysing how these changes would affect the operators in general and, in particular, how they would affect adoption and usage of mobile broadband and mobile money (Table 17).

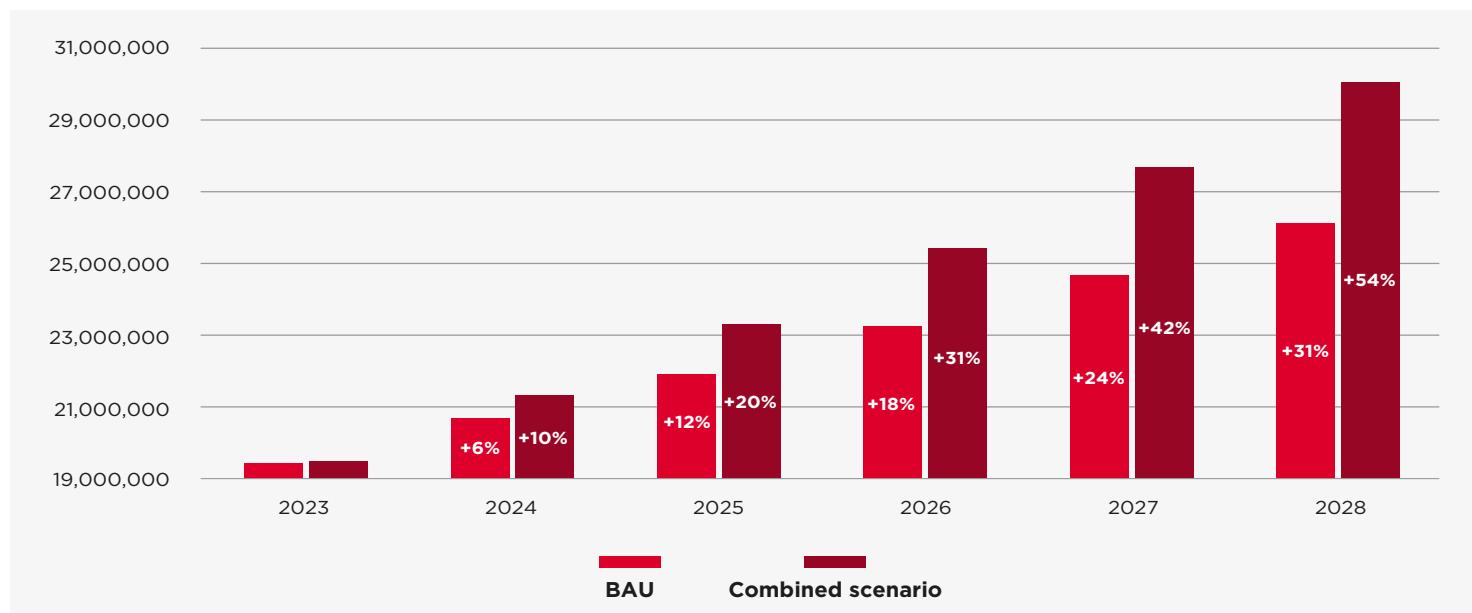
Table 17:
Modelled policy and regulatory reform scenarios

Policy/regulatory change	Expected Impact	Increase in subscribers vs BAU in 2028
1. Reducing taxes and fees on mobile services	Reducing taxes on mobile services and setting appropriate spectrum fees, will lower retail prices which will boost uptake and adoption of mobile broadband. It will also make it more commercially viable to invest in rural areas which will increase network coverage.	1% - 180,000 additional unique mobile internet subscribers.
2. Reducing taxes on handsets	Reducing the overall level of tax on handsets by 10 percentage points would result in lower costs of mobile internet handsets for customers and additional unique mobile internet subscribers.	2% - 460,000 additional unique mobile internet subscribers.
3. Reducing excise duty on mobile money fees	Reducing the excise duty on mobile money transaction fees by 5 percentage points would make payments more affordable and could increase the number of active subscribers and avoid a return to cash transactions.	5% - 2.2 million additional active subscribers.
4. Accelerating the licence renewal process	Completion of the licence renewal process will provide certainty to the industry about the future commercial and operating environment. This will allow it to commit to investment into network and service expansion. The effect will be to accelerate the transition to 4G and 5G technologies which are much lower cost to operate than earlier generations of technology. This lower costs will, in turn, result in greater investment and/or lower prices to customers.	2% - 590,000 additional unique mobile internet subscribers.
5. Demand-side policies including reducing device price	Adoption and usage of mobile internet and mobile money is also affected by demand-side factors. Increased demand increases adoption and usage. Policies aimed at supporting demand and close the usage gap could include interventions such as handset subsidies, digital skills training programmes, business support for SMEs, digitalisation of government services, programmes to increase adoption of new technologies by business and consumers, including mobile money.	13% - 3.2 million additional unique mobile internet subscribers.

The base case scenario (Business as Usual or BAU) shows a steady increase in mobile broadband. In this scenario, the number of unique mobile subscribers is forecast to increase from 29.7 million in 2023 to 36 million in 2028. The number of mobile broadband subscribers is expected to increase from 19.5 million in 2023 to 25.5 million in 2028.

The policy recommendations described above would increase adoption of mobile telecoms services substantially. If policy measures were taken to address the key challenges facing the industry – as described above – it would have a material impact on the industry. Reducing taxes, accelerating completion of the licence renewal process, improving device affordability and stimulating demand for mobile internet would result in a faster rate of adoption by Kenyans (Figure 34). The forecast impact is summarised below in Figure 34.

Figure 34:
Impact of combined policy scenario (number of mobile internet subscribers)



Source: See separate methodological document that accompanies this report.

The impact of the policy recommendations would be to boost the level of mobile broadband adoption over the period by more than 70%, from 6.1 million new unique subscribers in the BAU scenario to 10.6m if all policies are implemented. Taking into account the existing base of mobile internet subscribers, this would increase the number of unique mobile internet subscribers by 23% compared to the BAU scenario. This would mean that 54% more people will be using the mobile internet in 2028 than were using it in 2023. Table 18 and below shows outputs from modelling of the combined impact of mobile internet uptake policies.⁹⁹

Moreover, **higher rates of internet adoption would result in** a wide range of positive knock-on effects on the rest of the economy through its impact on productivity and growth in those sectors, as well as **higher amounts of tax revenue generated by the industry.** These impacts are calculated for specific sectors of the Kenyan economy in the previous section.

⁹⁹ See separate methodological document for detailed assumptions.
www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

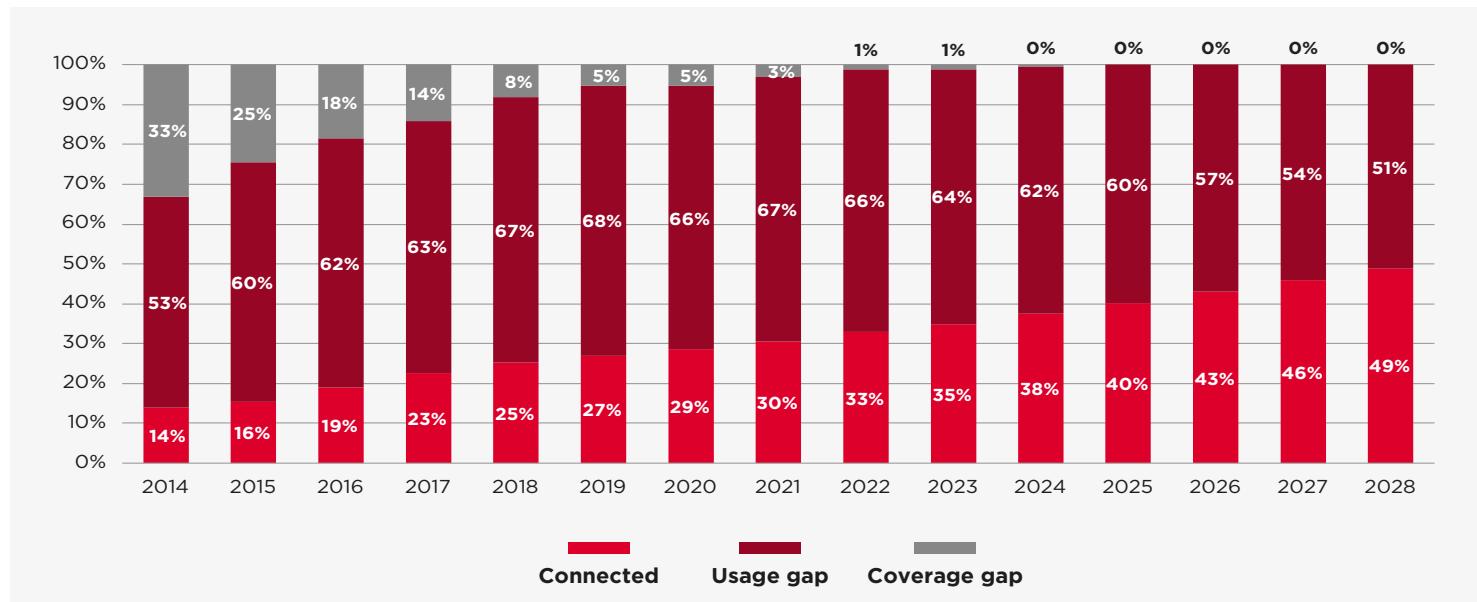
Table 18:
Impact of policy recommendations on internet uptake

Mobile internet subscribers (m)	2023	2024	2025	2026	2027	2028
BAU	19.45	20.55	21.72	22.93	24.21	25.55
Combined policies	19.45	21.31	23.29	25.40	27.65	30.02
Y-on-Y difference to BAU	0%	4%	7%	11%	14%	18%
Increase in growth vs BAU	0%	+4%	+8%	+13%	+18%	+23%

The policy recommendations, if implemented, will close the internet usage gap from the current level of over 64% of the population to 51% in 2028. This

would result in 49% of the population of Kenya being connected to the Internet equivalent to over 10 million additional people

Figure 35:
Evolution of mobile internet connectivity in Kenya, subject to policy reforms



Source: GSMA Intelligence and authors' calculations. See separate methodological document that accompanies this report.¹⁰⁰ "Connected" refers to unique mobile internet subscribers¹⁰¹ as a % of population; "Usage gap" refers to populations that live within the footprint of a mobile broadband network but who are not using mobile internet; "Coverage gap" refers to populations that do not live within the footprint of a mobile broadband network (3G or above).

¹⁰⁰ See separate methodological document for detailed assumptions.

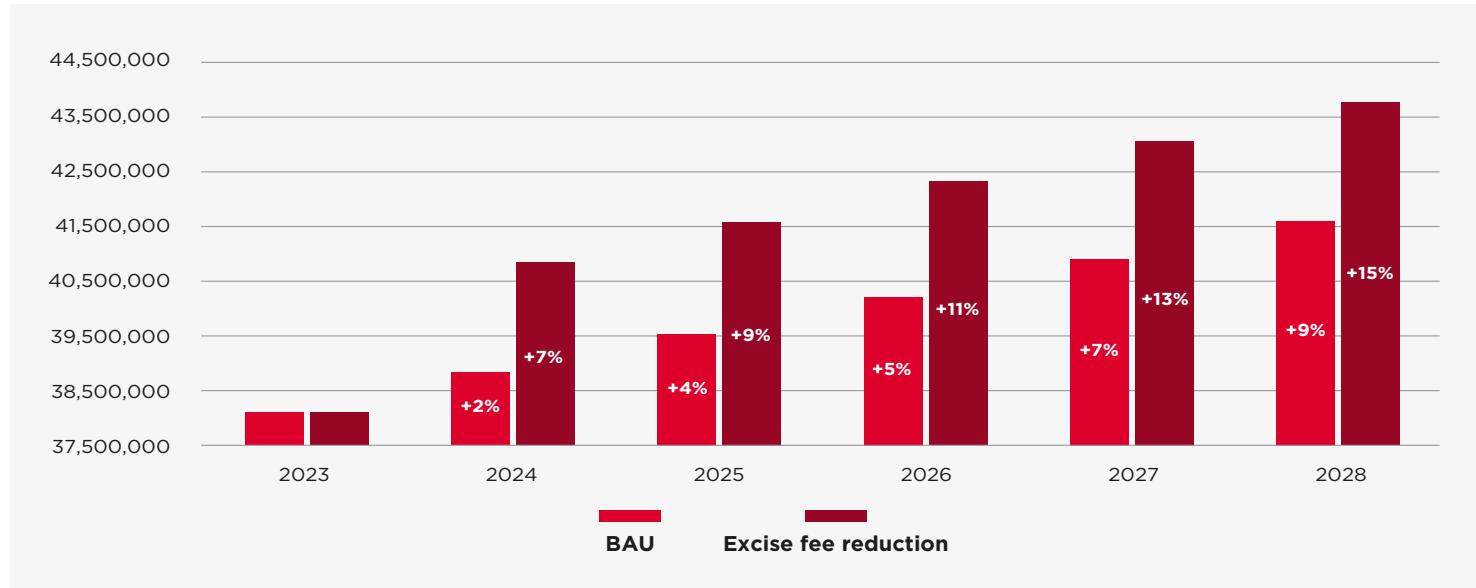
www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

¹⁰¹ In this report "mobile internet users" or "unique mobile internet users" refers to unique individuals using the mobile internet. It does not refer to the number of SIM cards or mobile internet accounts, which is usually greater than the number of individuals using the internet.

The policy recommendations (i.e. a reduction in excise duty on mobile money transaction fees) would also boost the level of mobile money adoption over the period by more than 60%, from 3.5 million new active accounts in the BAU scenario compared to 5.7m new active accounts with the reduction in

excise duty (Figure 36). Conversely, increasing the excise duty on mobile money fees would have the opposite effect, potentially significantly reducing the growth and usage of mobile money compared to the historical trend.

Figure 36:
Impact of policies scenario (number of mobile money active accounts)



Source: See separate methodological document that accompanies this report.¹⁰²

¹⁰² www.gsma.com/about-us/regions/sub-saharan-africa/gsma_resources/driving-digital-transformation-of-african-economies-evidence-and-methodology-document

5. Policy Recommendations



In order to realise the full potential of digital transformation in Kenya, policy reforms must balance short-term objectives with long-term investment and development. **To reap the wide-ranging benefits of digitalisation will require bold actions to support demand, reduce the cost of supply and promote a policy environment that supports investment** towards the collective goals of digital transformation and universal connectivity.

The economic and social value of digital and emerging technologies rely on mobile networks as the backbone of digitalisation of the economy and the mobile sector is best positioned to partner with the government towards a mission-oriented public policy that can catalyse innovation across multiple sectors in the economy.

This report identifies four policy recommendations for action to unlock the catalysing role of the mobile sector:

Policy recommendation	Expected Impact	Stakeholders involved
1. Reduce sector-specific taxes on the mobile sector	Reducing sector-specific taxes on the mobile sector is likely to have two broad effects. It will feed directly through to lower retail prices which will boost uptake and adoption of mobile broadband and mobile money, including more advanced credit and saving services. It will also make it more commercially viable to invest in rural areas which will increase network coverage.	Ministry of Finance, Ministry of ICT, Municipal authorities for Rights of Way
2. Support device affordability, including reducing or removing taxation of devices and SIM cards	Measures to improve device affordability will stimulate demand and increase the adoption of the mobile internet, for example removing the 50 KES SIM card tax. This results directly in higher subscriber numbers and increased usage of mobile data.	Communications Authority of Kenya (CA)
3. Reducing or removing the excise duty on mobile money	Reduction in excise duty on mobile money transaction fees would boost the level of mobile money adoption, facilitating further expanding of the digital payments system and adoption of digital payments across sectors of the economy.	Ministry of Finance, Ministry of ICT, CA, Central Bank of Kenya
4. Ensuring a sustainable and predictable investment environment	<p>Supporting financial sustainability through:</p> <ul style="list-style-type: none"> • Tax deductions against spectrum payments • Reduced costs of energy and fair spectrum prices would ensure the industry remains competitive and support investment • Clarity and predictability of the GSM licence renewal process will provide certainty to the industry about the future commercial and operating environment. <p>This will allow it to commit to investment into network and service expansion. The effect will be to accelerate the transition to 4G and 5G technologies which are much lower cost to operate than earlier generations of technology. This lower costs will, in turn, result in greater investment and/or lower prices to customers.</p>	CA, Ministry of ICT, Ministry of Energy

In addition, the following framework is used for demand-side and other policy recommendations to enhance digital transformation. These reforms would involve a wide range of Government agencies and

would require a whole-of-government approach and collaboration of ICT policy makers with counterparts across Ministries, such as Agriculture, Education, Health, Trade and Industry.

Pillar	Recommendations
Increasing adoption and access to digital technologies by consumers	<ul style="list-style-type: none"> Support digital skills programmes across target populations (rural, youth) including on AI. Reduce affordability barriers - work with industry, universal service agency, and international investment institutions on measures and incentives, such as subsidies and micro loans. Continued telecommunication infrastructure deployment and increased access points for digital government services – mobile network coverage and capacity, targeted fibre broadband, government administration and community hotspots, rural satellite, power supply, enabling regulatory framework and other measures to increase access.
Increasing adoption and access to digital technologies by firms	<ul style="list-style-type: none"> Support diversification of the economy through digitalisation and productive use of digital technologies by businesses across economic sectors, with targeted policies to improve digital skills and human capital, support MSMEs and start-ups and prioritise context-appropriate technologies and local needs. Allocate funding and institutional capacity to development and adoption of digital initiatives for traditional sectors such as agriculture, trade, supply chain, manufacturing, tourism, including precision agriculture and Industry 4.0 initiatives. Incentives to businesses to adopt digital technologies. In particular, support development of digital entrepreneurship schemes and adoption of digital technologies by SMEs. Establish programs to promote R&D and technological innovation in the private sector through grants or incentives. Improve specific regulations for digital industries, such as digital business registration, taxes, IP rights, ensure private equity/venture capital (PE/VC) regulations allow funds to be formed as limited partnerships.
Digital Government	<ul style="list-style-type: none"> Continued execution of the ICT Ministry's 2023 – 2027 Strategic Plan objective of improving access to digital Government services and products, and the rollout of the Maisha digital ID programme. Integrate user-centricity and public contributions to e-government initiatives. Allocate funding and institutional capacity to e-government initiatives. Strengthen digital solutions to promote expense rationalisation and reduce leakages. Improved platform performance (reduced platform downtime, increased speed times for transactions, data light versions for mobile devices) and customer experience with ease of use design principles for digital government platforms. Enhanced digital literacy and skills programmes and public awareness information for government institutions (building capacity) and citizens. Embed digital skills training and information in digital government platforms.

Pillar	Recommendations
Increase confidence and trust in digital safety, privacy and security	<ul style="list-style-type: none"> • Encourage safe and responsible use of digital services and devices. • Protect consumer's data privacy and security. • Prevent unauthorised access to networks and devices through increased security and integrity of physical and cloud infrastructure. • Protect consumers and prevent online harms. • Public awareness campaigns by government, data privacy supervisory authority and any other sector specific regulatory authorities. • Provide tools and information, training (including embedded training in digital government platforms). • Implement regulatory and operational measures to build inclusive trust in digital payments and the mobile ecosystem





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