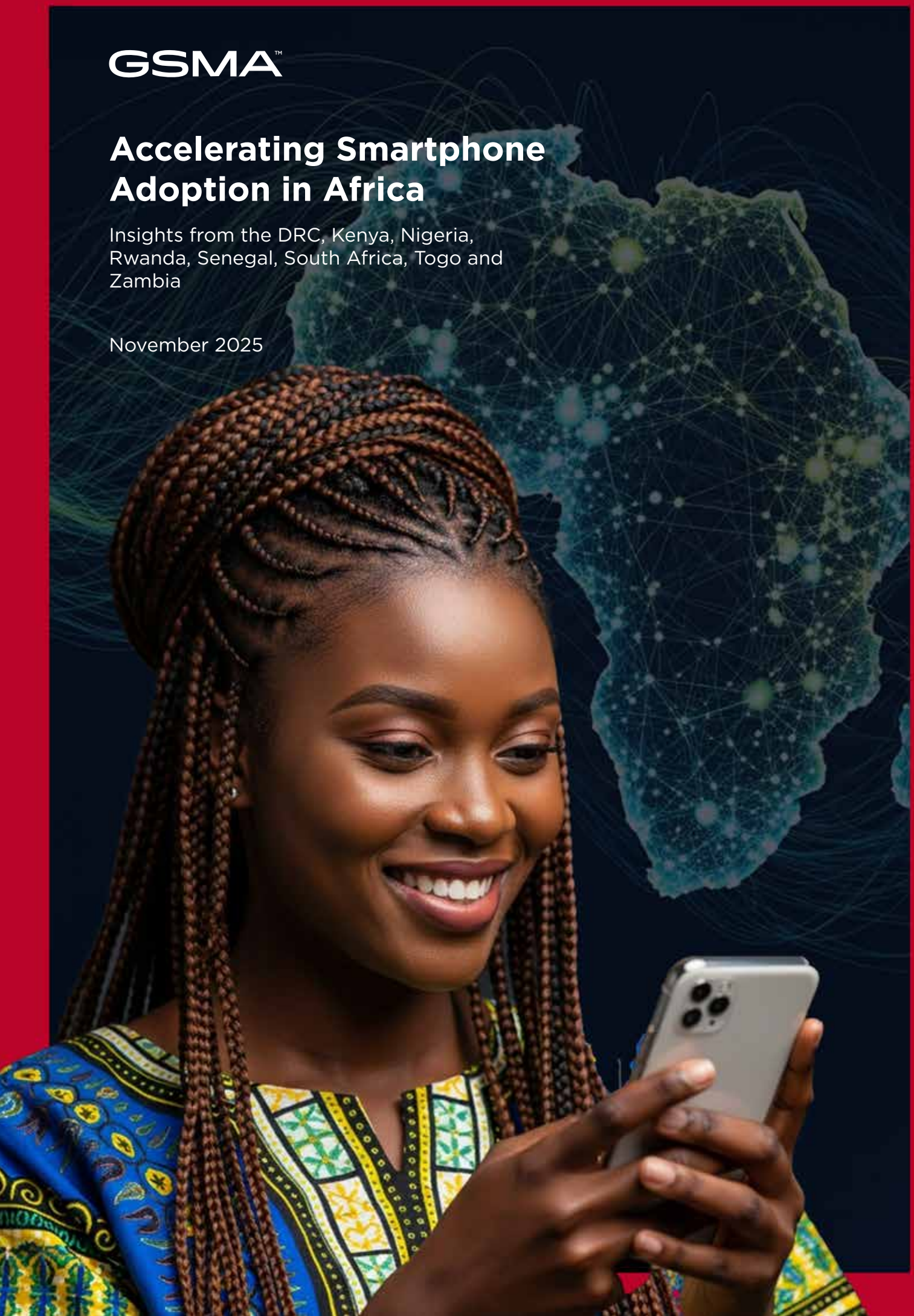
GSMA

Accelerating Smartphone Adoption in Africa

Insights from the DRC, Kenya, Nigeria, Rwanda, Senegal, South Africa, Togo and Zambia

November 2025



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Acknowledgement

We would like to acknowledge the contributions of the GSMA team: Angela Wamola, Caroline Mbugua, Linus Melly, Modou Mamoune, Jimmy-Christel Ngoma, Phillipe Goabga, Nomonde Gongxeka-Seopa, Kalvin Bahia and Harry Fernando Aquije Ballon, the Qhala team, policymakers and regulators across Africa, mobile operators, device OEMs, survey respondents, focus group participants and key informant interviewees to this research. Your input has been invaluable in identifying and shaping the insights and analysis presented in this report.

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Executive summary

Addressing the usage gap – those who live in areas with a mobile broadband network but are not using mobile internet – is a global challenge. However, the usage gap is particularly prominent in Africa, where 33% of the world's unconnected population resides. While the coverage gap in Africa has narrowed over the past decade – from 41% to 9% between 2015 and 2024 – the usage gap increased during this period by nearly 20 percentage points, reaching 64% in 2024. The slower uptake of mobile internet subscriptions in the region is due to a range of factors, notably the lack of ability or willingness to own and use a smartphone. As of 2024, smartphone owner penetration (as a percentage of the population) in Africa stood at just 24%, compared to the global average of 56%. Access to smartphones has a significant influence on digital behaviour. Those who own smartphones are markedly more likely to be aware of and adopt mobile internet, using it more frequently and for a wider range of activities.

Affordability is the main reason for the comparatively low level of smartphone adoption in Africa. For instance, in Sub-Saharan Africa, the median cost of an entry-level smartphone rose from approximately $38 in 2023 to $39 in 2024. This increase also raised the cost of smartphones as a proportion of monthly GDP per capita to 26%, compared to the average of 16% across low- and middle-income countries (LMICs). This figure is considerably higher for lower-income groups. Underserved populations, including women, people living in rural areas and low-income families, are disproportionately affected by the cost of smartphones. In addition, a similar device can be more expensive in rural than urban locations due to extra retail distribution and sales costs.

There is widespread agreement among stakeholders about the importance of increasing smartphone adoption in Africa by improving both affordability and accessibility, especially given the potential socioeconomic benefits of closing the usage gap. Despite the efforts of various stakeholders to drive smartphone adoption, progress remains slow due to persistent and complex barriers faced by the most vulnerable groups. In addition to previously recognised barriers, such as government taxes and fees, this study seeks to identify additional, less obvious barriers within specific consumer segments. The analysis draws on survey data from consumers in eight markets: the Democratic Republic of Congo (DRC), Kenya, Nigeria, Rwanda, Senegal, South Africa, Togo, and Zambia, as well as insights from other countries across the continent.

Table i shows the factors affecting consumers' ability and willingness to purchase smartphones and selected action points for key stakeholders.

Table i: Factors affecting smartphone adoption in Africa and action points for stakeholders
Source: GSMA Intelligence

Factor	Key takeaways	Selected action points
Domestic production	Domestic production presents the possibility of more affordable devices, but it remains unviable in most African countries.	Assess the long-term sustainability of local assembly before initiating domestic production programmes. Key considerations include economies of scale, global competitiveness, and supply-chain resilience.

Factor	Key takeaways	Selected action points
Devise customisation	Device customisation is essential to balance smartphone demand and supply, ensuring that handsets are tailored to the needs of local users and are available at prices they can afford.	Encourage user feedback and iterative localisation to improve features based on ongoing input. This process helps address changing user requirements, such as adjusting storage for high media consumption in urban youth demographics while avoiding allocation of resources to less relevant features.
Pre-owned smartphones	Pre-owned smartphones appeal to both cost- and brand-conscious segments of the market; however, the predominance of informal channels and lack of infrastructure currently limits their potential.	Formalise the pre-owned smartphone market, recirculating already imported devices. This can be achieved by introducing trade-in schemes, establishing dedicated refurbishment and repair centres, and providing both online and offline sales channels complete with after-sales support.
Distribution and supply chain	Inefficient last-mile distribution networks frequently lead to increased retail prices, further worsening the affordability challenge for the most vulnerable individuals.	Utilise existing agent networks for smartphone distribution and incorporate smartphones into existing rural and multi-product delivery systems. Governments have a vital role in facilitating smartphone distribution, particularly in addressing challenging customs procedures.
Disposable income	There remains a segment of the market whose disposable income is insufficient to afford a smartphone without external financial assistance.	Offer smartphone subsidies and bundled airtime for vulnerable individuals within this category and adopt community-based strategies, such as utilising women's savings groups or cooperative lending structures.
Awareness and literacy	Despite widespread awareness of mobile internet, limited digital literacy restricts engagement with more advanced services that could enhance the perceived value of smartphones.	Adopt a multipronged approach with solutions tailored to various consumer categories, based on their unique circumstances and social factors. Pair device purchases with practical digital skills training, covering essentials such as using the phone, installing apps, and staying safe online, to help lower the intimidation barrier for first-time users.

Factor	Key takeaways	Selected action points
Social and cultural norms	In addition to economic factors, social and cultural norms are a major factor influencing device sharing, which brings both potential benefits and challenges.	Understand the specific social norms present within any given context. Implement trust-based strategies, such as engaging female retail agents, local champions, or implementing community-driven campaigns that emphasise the social and economic advantages of smartphone ownership, especially for women and young people.
Individual behaviours and preferences	Individual behaviours and preferences differ considerably, diminishing the influence of any single factor on overall smartphone adoption.	Adopt flexible and customisable approaches to bridging the smartphone access gap. Targeting the market segments most ready to adopt smartphones will be essential. These include college-age students currently using feature phones but who could benefit from educational data plans, or high-volume mobile money users on feature phones who could take advantage of advanced financial products offer through smartphones, will be essential.
Fiscal policies	The impact of taxes and other fees on the retail price of smartphones means that fiscal policies represent effective and readily actionable strategy for enhancing smartphone affordability and, consequently, accelerating smartphone adoption across Africa.	Remove taxes on entry-level smartphones priced below $100. Such action could reduce the cost of entry-level devices by around 50% in many African countries, increasing the prospects of achieving the sub-$40 target for affordable 4G smartphones
Mobile network coverage	Bridging the remaining coverage gap is a necessary first step in connecting unserved populations to the internet.	Implement urgent reforms in the implementation of universal service fund (USF) frameworks throughout the region, to enhance their effectiveness and fulfil their core purpose of extending mobile broadband coverage to underserved areas.
Enabling infrastructure	Tackling the electricity challenge is essential for encouraging smartphone uptake, particularly in rural areas where infrequent charging opportunities can deter potential users.	Facilitate cross-sector collaboration between the energy and telecoms sectors to bridge the energy gap in Africa.

About this research

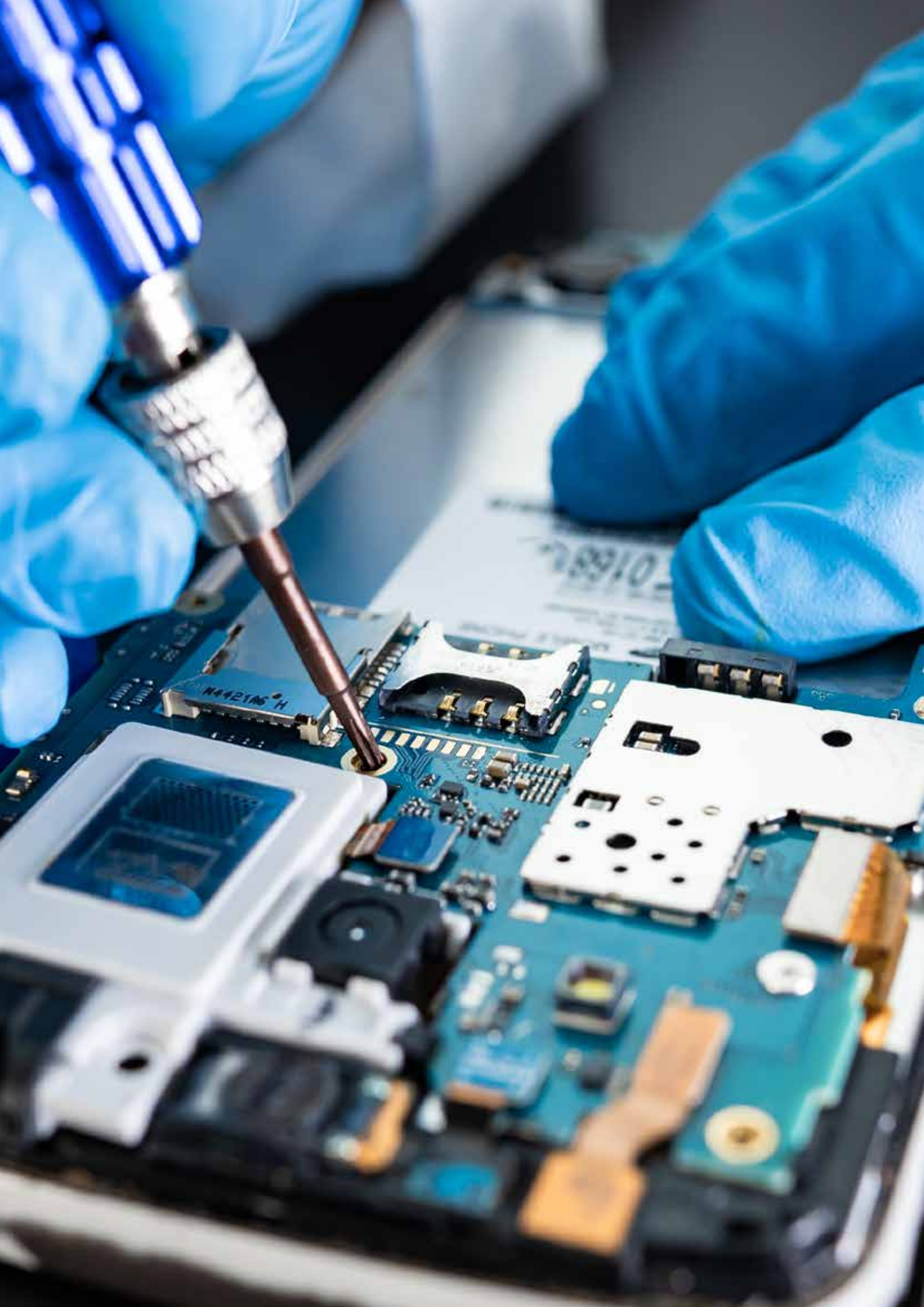
Methodology

This research employs a mixed-methods approach, integrating both qualitative and quantitative data. It encompasses responses from a survey and focus group discussions on smartphone adoption, conducted by Qhala, and interviews with stakeholders, including mobile operators, regulators and other participants within the device ecosystem, drawn from the eight focus markets. The study also incorporates insights from the existing literature, based on thorough secondary research on the topic.

Limitations of the study

It should be noted that the sample size utilised may not be wholly representative of each country. The data collected for each market comprises:

- approximately 1,000 user surveys
- 50 in-depth customer interviews
- stakeholder interviews or surveys with operators and a regulator or relevant ministry
- eight focus group discussions
- insights from key informants from other markets in Africa and beyond.



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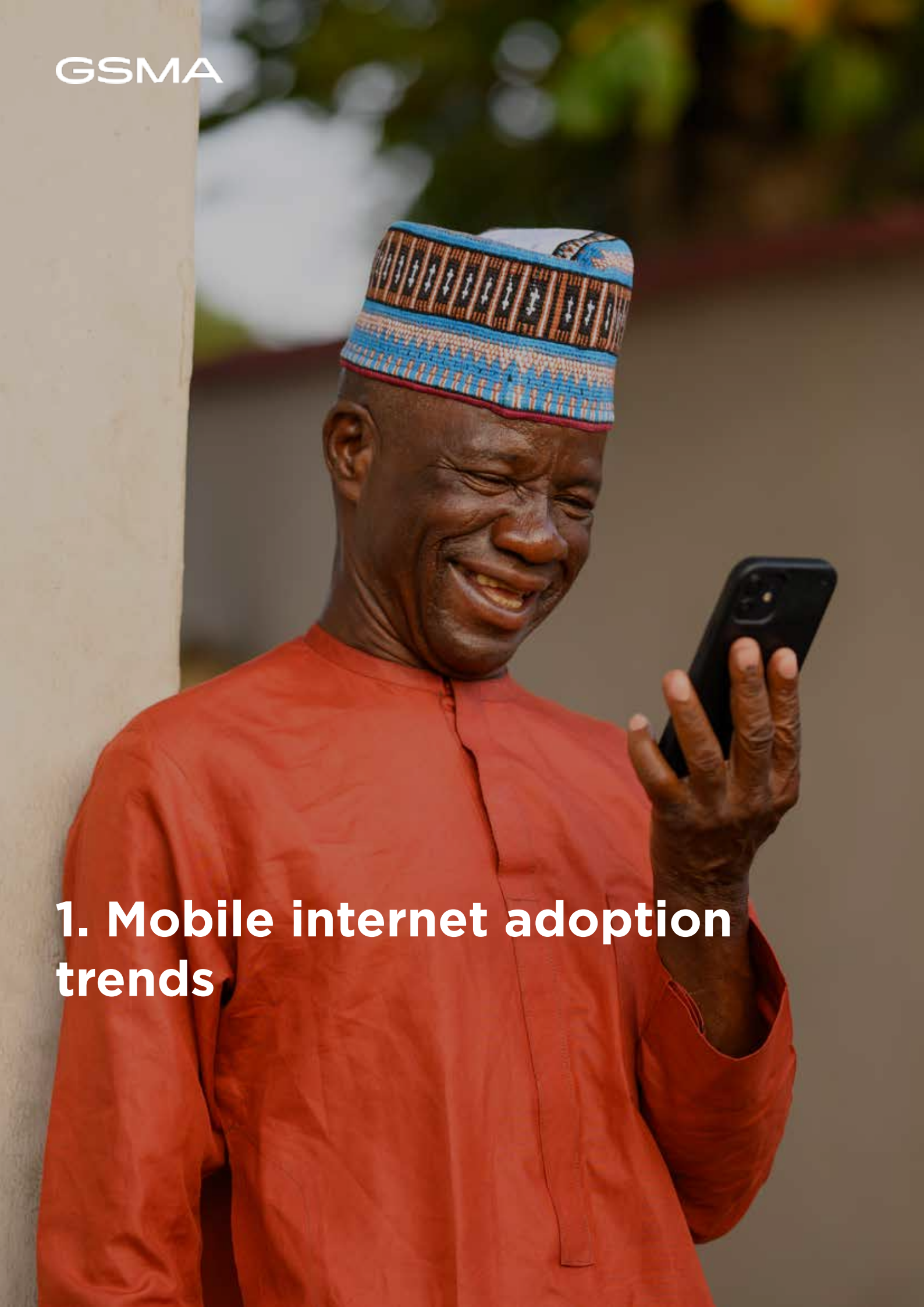


1. Mobile internet adoption trends

1.1 A crucial shift in the digital inclusion challenge

Nearly 60% of the world's population subscribed to the mobile internet in 2025, equating to around 4.8 billion people, up from 33% of the population, or 2.5 billion people, a decade earlier. This increase was largely driven by the expansion of mobile broadband[1] networks, the uptake of smartphones and the growing demand for internet-based services. For instance, 4G network coverage increased from just over half of the global population in 2015 to nearly 95% by 2025 and smartphone adoption[2] more than doubled to 82% over the same period. Meanwhile, 5G networks, introduced in 2019, are now accessible to more than 55% of the global population.

For individuals and businesses, access to mobile internet enables participation in the global digital economy, promoting social progress and fostering inclusive economic growth throughout society. Research indicates that increased adoption of mobile internet reduces poverty and boosts household consumption,[3] [4] thereby having a positive effect on the economy. Notably, a 10% rise in mobile broadband penetration can result in a 1.5% increase in GDP, with even greater effects observed in least developed countries (LDCs), where GDP growth can range from 2.5% to 2.8%.[5]

Although 96% of the global population now resides within areas served by mobile broadband networks, more than 3 billion people – representing just over 40% of the world's population – remain unconnected. Approximately 200 million people began using mobile internet on their own devices in 2024, a growth rate not seen since 2021. A further 9% of the world's population (710 million individuals) used mobile internet in 2024 on a device they do not own or have primary use of. While the coverage gap has continued to close, progress toward closing the usage gap is stalling, signalling a need to shift the focus is moving from expanding broadband infrastructure coverage to addressing inequalities in how people access and use mobile internet.

1.2 Understanding the usage gap in Africa

The slower uptake of mobile internet subscriptions among people living in areas already covered by a mobile broadband network underpins the usage gap.[6] This is due to a range of factors, including a lack of awareness about mobile internet. But even among those who are aware, some either cannot afford a smartphone, or lack the digital literacy and skills needed, or both, to fully engage with online services. Among existing mobile internet users, many wish to use the internet more but encounter barriers to further usage, such as concerns about safety and security and the quality of the connectivity experience. Additionally, a perceived lack of relevance also plays a role.

1 3G and above

2 Smartphone connections, expressed as a percentage of total connections

3 The poverty reduction effects of mobile broadband in Africa: Evidence from Nigeria, GSMA, 2020

4 Mobile Broadband Internet, Poverty and Labor Outcomes in Tanzania, World Bank, August 2021

5 Economic impact of broadband in LDCs, LLDCs and SIDS, ITU, 2019

6 The usage gap refers to those who live within the footprint of a mobile broadband network but are not using mobile internet services.

Barriers to mobile internet adoption and use

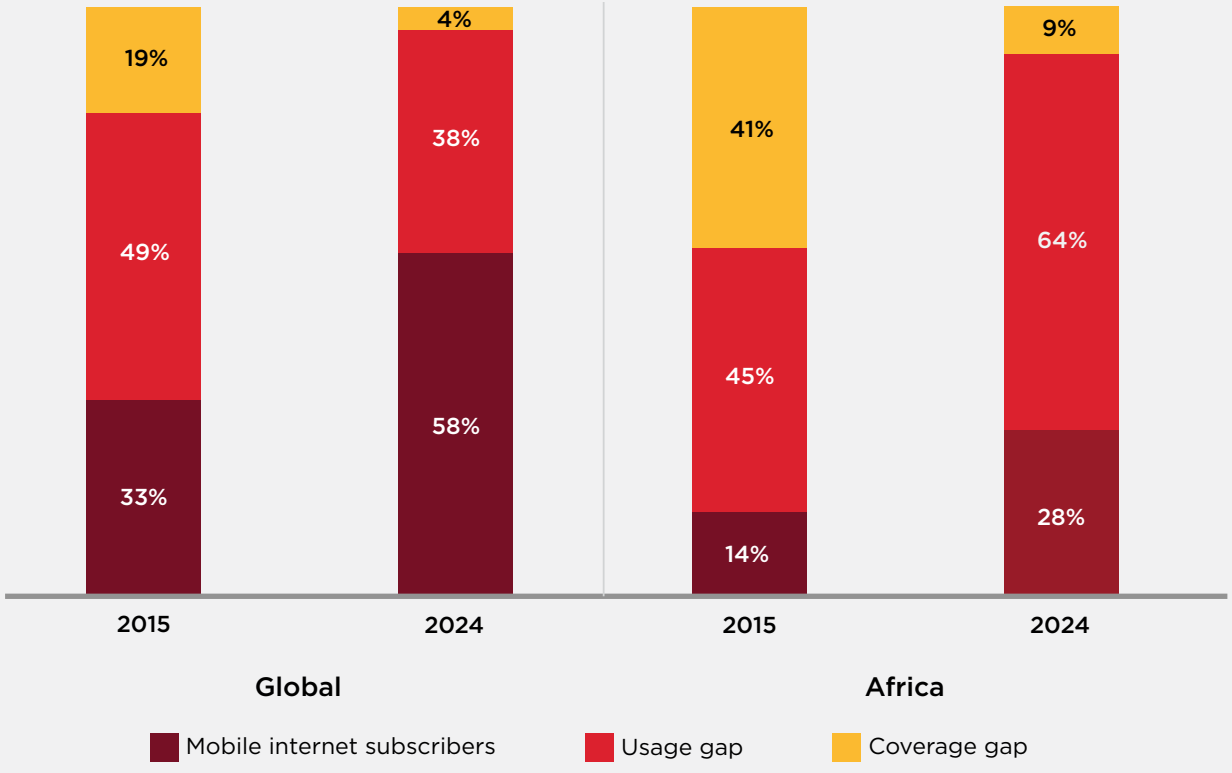
Affordability	Knowledge and skills	Safety and security	Relevance	Fundamental enablers
Inability to afford internet-enabled handsets and other costs beyond ownership such as data plans and service fees	Low awareness and understanding of the mobile internet, its advantages and applications, along with a lack of literacy, digital skills and/or confidence	Concerns around harassment, identify theft, harmful content and other risks associated with online activities	Lack of relevant content and services that meet users' preferences and needs, including those that are accessible, easy to use and in local languages	Lack of access to networks and enablers, such as electricity, formal ID, devices and customer service touch points (e.g. agents)

The usage gap is a global challenge. However, it is particularly prominent in Africa, where 33% of the world's unconnected population resides. Figure 1 illustrates that over the past decade, the coverage gap[7] has narrowed, from 19% to 4% globally and from 41% to 9% in Africa between 2015 and 2024. However, during this period, the global usage gap decreased from 49% to 38%, while in Africa it increased by nearly 20 percentage points (pp), reaching 64% in 2024.

Fig 1: Connectivity landscape globally and in Africa

Percentage of population

Source: GSMA Intelligence



7 The coverage gap refers to those who live in an area not covered by a mobile broadband network.

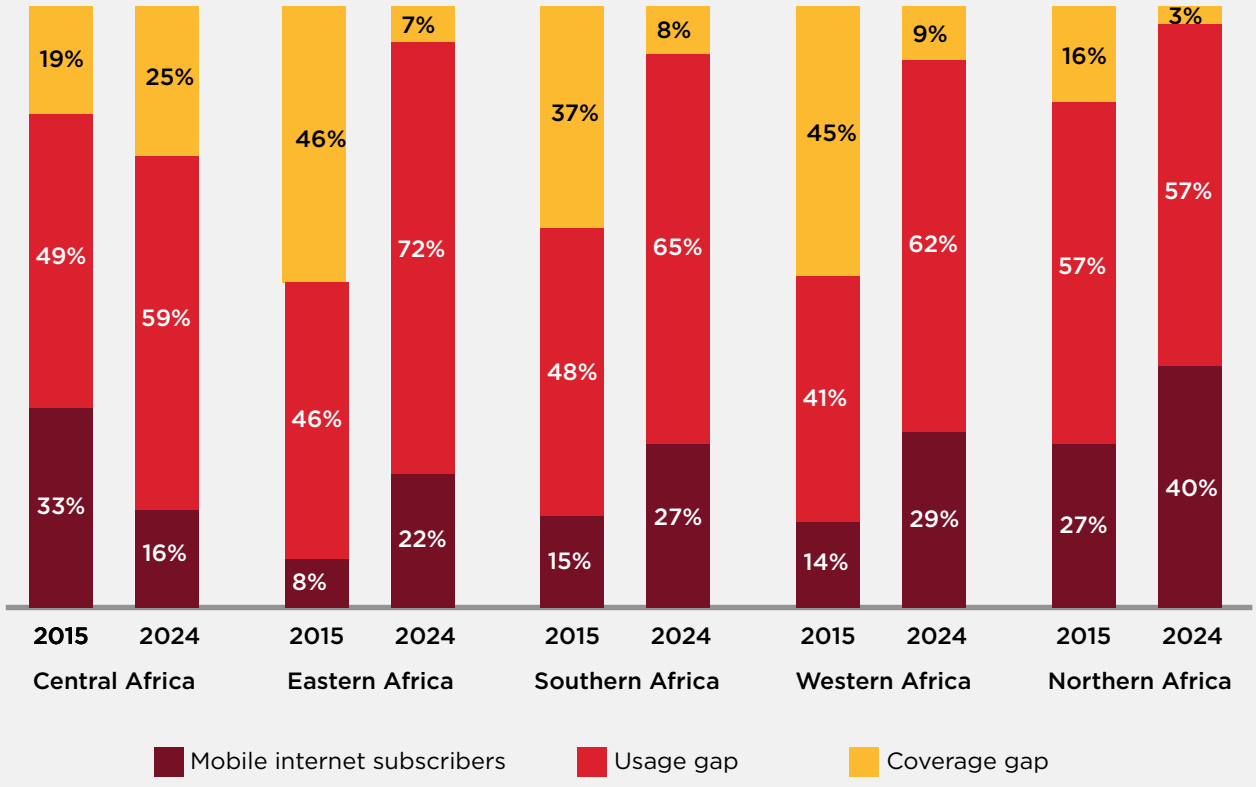
Underlying structural inequalities often contribute to these obstacles, leading to uneven patterns of adoption and usage. These inequalities include differences in income and education, as well as between urban and rural areas, and restrictive social norms around gender. For instance, the mobile internet gender gap[8] in Sub-Saharan Africa remains considerable at 29% in 2024, despite having steadily narrowed over recent years from a peak of 38% in 2018,[9] while rural populations in the region are 48% less likely to use mobile internet than urban populations.[10]

Figure 2 highlights the extent of the usage gap challenge in Africa and, consequently, the pressing need to tackle the main barriers to mobile internet adoption and usage. Between 2015 and 2024, the usage gap widened in every region of the continent except Northern Africa, where it remained stable. According to recent connectivity trends, it will take a further 30 years for the usage gap in mobile internet connectivity to close in Africa.[11]

Fig 2: The connectivity landscape in Africa by sub-region

Percentage of population

Source: GSMA Intelligence



The economic benefits of accelerating connectivity in Africa are clear. Closing the usage gap across the continent by 2030 could add around $700 billion in additional GDP during 2024–2030.[12] Furthermore, mobile connectivity enables access to life-saving services across various sectors, including health, education, financial services and public services, which are particularly significant for vulnerable individuals and communities, who may otherwise be unable to access these services by conventional means due to infrastructural, economic or cultural constraints. Such circumstances underscore the importance of addressing the usage gap, which remains the principal barrier to achieving universal connectivity in Africa.

8 The mobile internet gender gap refers to the disparities in mobile internet use between women and men.

9 The Mobile Gender Gap Report 2025, GSMA, May 2025

10 Trends in Mobile Internet Connectivity: The State of Mobile Internet Connectivity 2025, GSMA, 2025

11 Digitalisation and the Africa We Want: Introducing the GSMA Digital Africa Index, GSMA Intelligence, 2024

12 The State of Mobile Internet Connectivity Report 2024, GSMA, 2024

A comprehensive strategy is required to bridge the usage gap in Africa. This involves enhancing digital skills and literacy, making smartphones and data subscriptions more affordable, ensuring the safety and security of individuals and communities online, and providing relevant online content and applications to encourage adoption. However, GSMA research has consistently identified the affordability of smartphones as the most frequently cited barrier to mobile internet adoption. Even when individuals own a smartphone, it may not support 4G or 5G connectivity, thereby limiting the quality of their internet experience.[13]

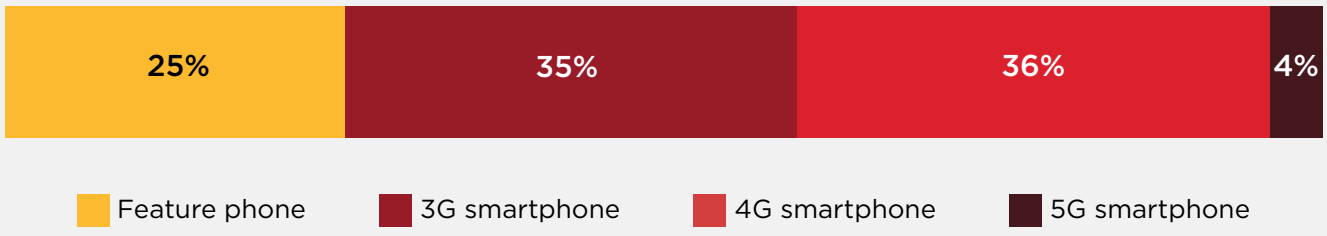
1.3. The impact of smartphone affordability on the usage gap

Globally, smartphone adoption reached 80% in 2024 and is projected to rise to 91% by the end of 2030. In markets with mature digital ecosystems, smartphones are almost ubiquitous. The growth in global smartphone adoption has been driven by both supply- and demand-side factors, notably the introduction of smartphone financing options and the increasing shift towards a digital lifestyle. While the average selling price (ASP) of smartphones has generally risen worldwide – particularly in advanced markets due to factors such as 5G adoption, AI features and premiumisation – the availability of devices at lower price points has been crucial in boosting adoption in emerging markets. For instance, Jio's introduction of entry-level internet-capable handsets in India provided a compelling option to upgrade to 4G for many 2G users, especially those in rural and low-income segments.[14]

In Africa, smartphone adoption (as a share of total connections) is 63% in 2025, while smartphone ownership penetration (as a share of the total population) was 24% in 2024, although these percentages vary between different markets across the continent. Access to smartphones has a significant influence on digital behaviour. Those who own smartphones are markedly more likely to be aware of and adopt mobile internet, to use it more frequently and to use it for a wider range of activities.[15] However, the quality of devices plays a crucial role in usage. For example, some individuals have low-end smartphones with limited functionality, short battery life or outdated operating systems, which can impede their ability to engage effectively with digital services. For example, only 44% of mobile internet subscribers in Sub-Saharan Africa access the internet on a 4G or 5G smartphone (see Figure 3).

Fig 3: Share of mobile internet subscribers in Africa by device type, 2024

Source: GSMA Intelligence



13 Improving handset affordability in low- and middle-income countries, GSMA, 2024

14 "Jio targets 2G legacy with low-cost 4G handset", Mobile World Live, July

15 The Mobile Gender Gap Report 2025, GSMA, May 2025

Affordability is the main reason for the comparatively low level of smartphone adoption in Africa. For instance, in Sub-Saharan Africa, the median cost of an entry-level smartphone rose from approximately $38 in 2023 to $39 in 2024. This increase also raised the cost of smartphones as a proportion of monthly GDP per capita to 26%, compared to an average of 16% across low- and middle-income countries (LMICs). This figure is considerably higher for lower-income groups. In contrast, mobile data is comparatively more affordable, at around 2% of monthly income per capita, which aligns with the ITU's affordability standard. In this context, the affordability of smartphones continues to be a significant concern for the most vulnerable consumers in Africa.

Device affordability by different income groups in Sub-Saharan Africa, 2024

26% of income
for the whole population

64%
of income
for the poorest 40% of the population

87%
of income
for the poorest 20% of the population

32%
of income
for women

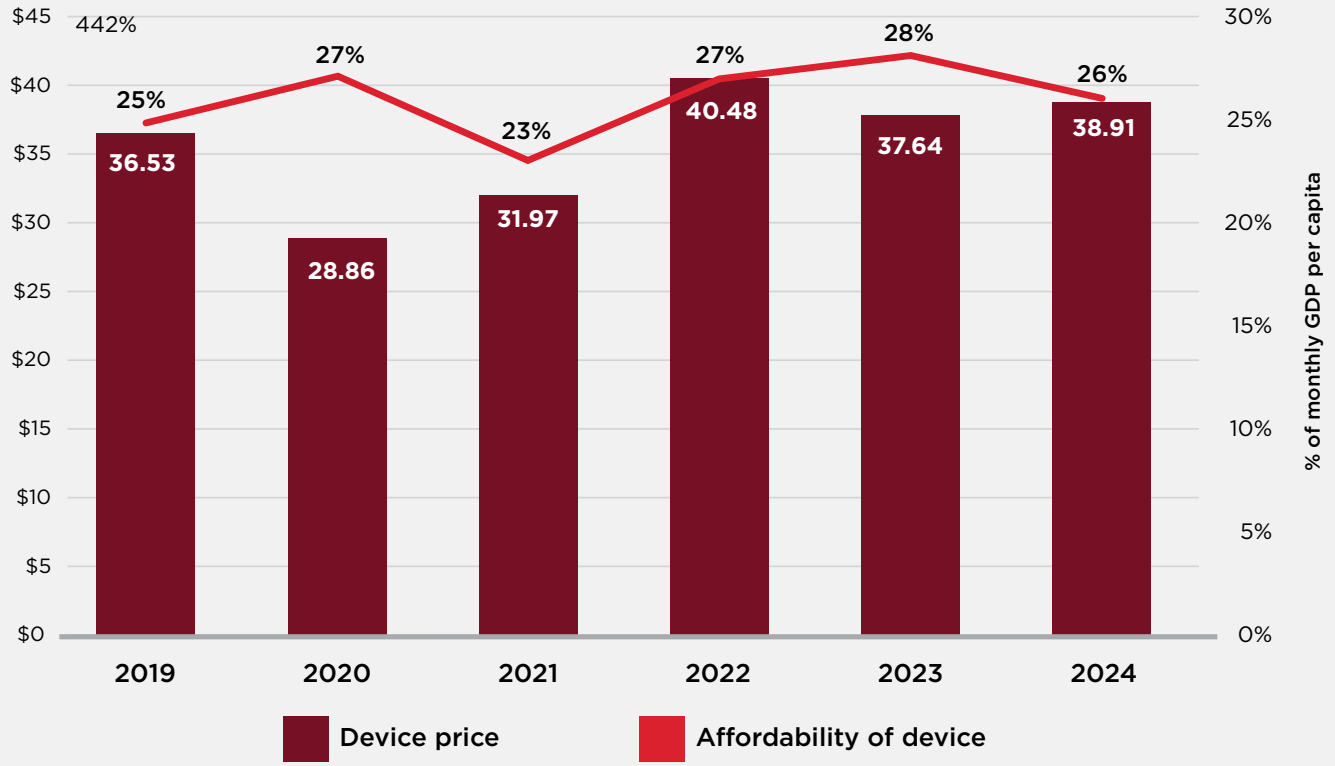
23%
of income
for men

Underserved populations, including women, people living in rural areas and low-income families, are disproportionately affected by the cost of smartphones. For example, women are less likely than men to own a smartphone, as they may face limited financial independence, lower incomes and reduced access to external sources of financing.[16] In addition, a similar device can be more expensive in rural than urban locations due to extra retail distribution and sales costs. Ongoing inflationary pressures and the devaluation of local currencies against the US dollar or other major currencies can also negatively impact handset affordability, both through increased (imported) component costs and trade restrictions.

16 Improving handset affordability in low- and middle-income countries, GSMA, 2024

Fig 4: Entry-level smartphone price and affordability in Sub-Saharan Africa

Source: GSMA Intelligence



4G and 5G smartphone adoption: a prerequisite for legacy network sunsets

With the ongoing expansion of 4G and 5G, the transition away from legacy networks (2G and 3G) is advancing in numerous markets worldwide. Between 2010 and June 2025, there were 183 network closures across 81 countries, with nearly three quarters of these occurring since the advent of 5G in 2020. According to announced plans, an additional 126 networks are expected to be decommissioned by 2030. In Africa, legacy network closures remain limited; to date, operators in only seven countries (Benin, Egypt, eSwatini, Rwanda, South Africa, Tunisia and Zambia) have announced plans to phase out 2G and/or 3G networks by 2030.

As of September 2025, 2G (13%) and 3G (34%) together accounted for nearly half of all mobile connections in Africa. This highlights the considerable challenge of migrating customers from 2G and 3G networks to 4G and 5G. Widespread availability of 4G and 5G is a crucial first step in this process; 4G and 5G networks now reach 82% and 12% of Africa's population, respectively. Even where 4G or 5G coverage is not yet universal, operators can take a phased approach to sunsetting legacy networks by gradually reducing the coverage and capacity of legacy networks in areas with strong 4G and 5G coverage and lower 2G and 3G usage.

Beyond the expansion of 4G and 5G coverage, the availability and affordability of 4G- and VoLTE-enabled devices is an important next step in migrating customers away from legacy networks. This is particularly significant in Africa, where many consumers still use a 3G smartphone or a feature phone.

Some operators are taking steps to address the affordability of 4G and 5G smartphones and to speed up the migration from legacy networks. For example, MTN South Africa announced in May

2025 that more than 1.2 million prepaid customers would be able to purchase a 4G handset for ZAR99 ($5.42) as part of the company's digital inclusion strategy. This followed the launch of an affordable 5G smartphone, priced at ZAR2,500 ($135) in November 2024 to support network migration. These initiatives aim to help users transition from legacy networks to 4G and 5G after the South African government set a deadline of December 2027 for the decommissioning of 2G and 3G networks to free up spectrum for 4G and 5G rollouts. Some governments are also taking measures to accelerate the migration from legacy networks. In Eswatini, the Eswatini Communications Commission has set a ban, beginning on 30 November 2025, on new imports and type approvals for 2G/3G-only devices, to support the nationwide sunsetting of legacy networks, which is planned to conclude by 2028.

Among other benefits, legacy network closures allow operators to:

- refarm spectrum for 4G and 5G upgrades
- optimise their networks, with potential opex savings from fewer network maintenance contracts
- support energy efficiency improvements amid rising energy costs, given that legacy networks are less energy efficient on a per-gigabyte basis
- facilitate efforts to streamline device portfolios and simplify tariff structures.

Achieving these benefits depends on customer migration to 4G and 5G networks, aided by the availability and affordability of 4G- and 5G-enabled smartphones. That said, it is important to note that legacy network sunsets should not be mandated; rather, the process should be dictated by market conditions, which vary from country to country.

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2. Evaluating the factors influencing smartphone adoption in Africa

Smartphone adoption in Africa is influenced by a range of factors, each of which can individually or collectively affect consumers' ability and willingness to purchase and use these devices. The more challenges an individual or community faces due to these factors, the greater the barrier to smartphone adoption and usage.

Table 1: Factors influencing smartphone adoption in Africa

Source: GSMA Intelligence

Factors		Selected action points
Device ecosystem factors: Supply-side elements within the smartphone supply and distribution chain that influence the costs and availability of smartphones	Domestic production	Local assembly of smartphones and its impact on affordability, especially in the context of reducing or eliminating distribution costs and import duties
	Device customisation	The adaptation of smartphones to meet local needs, such as battery life, durability, and multi-SIM capability while removing non-essential features to reduce cost
	Pre-owned smartphones	The availability and condition of second-hand and refurbished smartphones from informal sources (e.g. devices previously used by acquaintances or family members) or from formal sources (e.g. those processed through professional recycling programmes)
	Distribution and supply chain	The efficiency and reach of distribution networks and the impact of logistics on device availability and cost across the fist, middle and last miles of the supply chain
	Financing and bundling models	Availability of device financing options, such as pay-as-you-go (PAYG) schemes, and other bunding solutions that aim to ease the burden of the upfront cost of smartphones on vulnerable users
End-user factors: Demand-side elements that influence the willingness and ability of an individual or member of a community to buy and use a smartphone	Disposable income	Income levels and purchasing power to pay for devices and ability to access credit for non-cash purchases
	Awareness and literacy	Understanding of smartphone features, relevant applications and benefits of using the internet, as well as confidence in using digital interfaces
	Social and cultural factors	Social norms around gender, peer influence and value perception of smartphones that affect the ability and willingness of individuals in vulnerable groups, such as women, to own and use a smartphone
	Individual behaviours and preferences	Risk aversion and fear of loss/damage, online security concerns (e.g. fraud and scams, data theft and cyberbullying) and individual preference around brands or form factors (e.g. button phones)

Factors		Selected action points
Macro factors: Broad socioeconomic, regulatory, and infrastructure elements that directly impact smartphone affordability and use for individuals or communities.	Fiscal policies	Taxes and other fees, including value-added tax (VAT), excise duties, import tariffs and customs handling fees imposed on the purchase and/or the use smartphones
	Mobile network coverage	Availability of mobile broadband networks that can encourage users to purchase a smartphone
	Enabling infrastructure	Access to electricity and charging points and availability of locally relevant content and applications to support the consistent use of smartphones

2.1. Device ecosystem factors

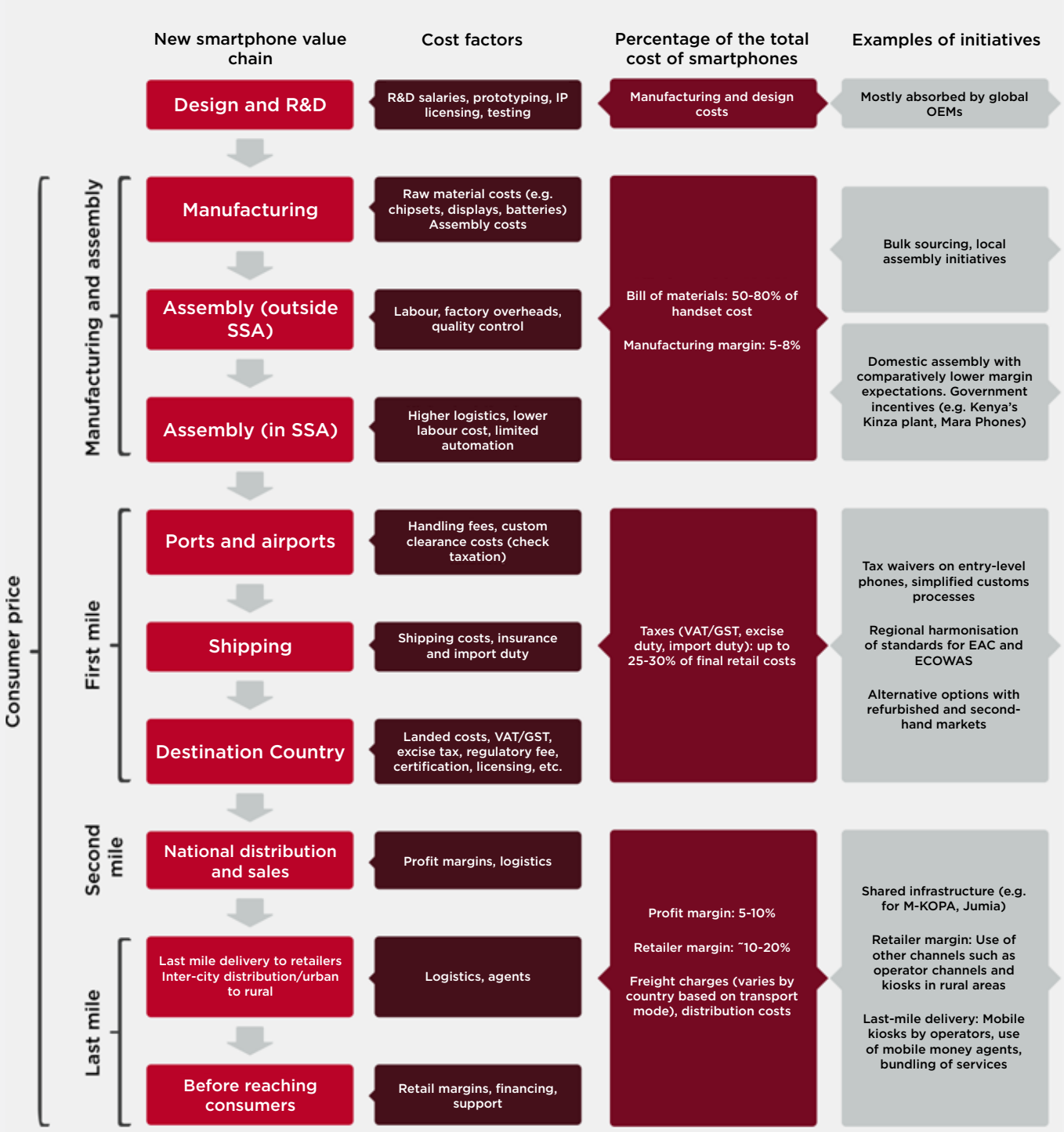
The lifecycle of a smartphone – from its initial design and production through to distribution and eventual entry into secondary markets – affects its retail price and overall affordability for consumers. The impact of these processes varies from region to region, driven by the strategies adopted by mobile operators, original equipment manufacturers (OEMs), distributors and other key stakeholders within the broader ecosystem.

An understanding of the smartphone lifecycle is essential for identifying how a range of direct and indirect cost components impact smartphone pricing, considering that lowering the sale price can enhance affordability for underserved consumers.[17] Figure 5 illustrates the smartphone production and distribution lifecycle, highlighting the main cost components that shape strategies aimed at addressing costs related to device ecosystem factors.

17 Making internet-enabled phones more affordable in low- and middle-income countries, GSMA, 2022

Fig 5: Typical smartphone supply chain, including cost factors and regional examples of initiatives to lower smartphone prices

Source: GSMA Intelligence



Domestic production

The African smartphone market is largely reliant on imports from China and other Asian countries, owing to a lack of large-scale domestic manufacturing infrastructure. Consequently, these devices incur shipping costs, are vulnerable to global supply-chain disruptions and face customs delays, import duties and fees (see section 2.1.4), all of which collectively contribute to higher retail prices for imported smartphones in Africa. For example, a handset with an ex-factory price of $50 in China typically retails for $90–110 in African markets – an increase of 80–120%, according to GSMA Intelligence estimates – due to import duties, logistics and distribution costs and retailer margins.

To reduce the effect of these cost factors on smartphone affordability, several governments and OEMs have in recent years increased efforts to promote domestic production, primarily through local assembly. This aim of this is to provide more affordable devices to the market while also creating local employment opportunities. Although some local assembly plants, such as Mobicel in South Africa and GTel in Zimbabwe, have been operational for over a decade, several facilities have opened more recently, often with government backing and/or in partnership with international vendors. In Angola, LiraLink Tecnologia collaborated with ZTE in June 2023 to establish a smartphone assembly plant focused on producing affordable 4G and 5G devices, while Afrione began operations at its device assembly plant in October 2020, situated in the Luanda-Bengo Special Economic Zone.

Despite notable progress, there remain several challenges for domestic production. Most manufacturing facilities in Africa assemble smartphones using completely knocked-down (CKD) or semi-knocked-down (SKD) kits, comprising pre-manufactured components such as motherboards, screens and batteries, rather than producing these elements locally. This is primarily due to limited industrial ecosystems. Dependence on global supply chains for components and factory equipment means that final products are subject to similar cost factors as imported smartphones, including shipping expenses, customs delays and, at times, import duties. Further inhibiting factors, such as high energy costs and a shortage of skilled labour, place additional cost pressures on domestic producers in Africa, resulting in locally assembled smartphones being less competitively priced compared to imported devices in some cases.

Furthermore, the strong brand recognition and superior specifications offered by internationally renowned brands also appeal to aspirational consumers, thereby restricting the market share accessible to domestic producers. These challenges have resulted in weaker performance for several local smartphone manufacturers. For example, Mara Phones, which commenced operations in South Africa in 2019 with an annual production capacity of 1.2 million smartphones, has halted activities at its production facilities due to low demand and financial difficulties.[18]

Device customisation

In 2024, the global ASP of smartphones was $356, with premium segment devices commanding significantly higher prices. The selection of hardware components and software optimisation directly affects ex-factory costs, which in turn influence retail pricing. For instance, the cost of chipsets – a key component in smartphones – can range from under $10 for budget models to over $100 for high-end alternatives. Similarly, factors such as screen size and resolution, battery capacity, camera quality, memory, storage and the operating system all contribute to the overall cost and pricing structure of devices.

18 "Death of South Africa's first smartphone factory", My Broadband, May 2025

Within this context, some OEMs and ecosystem stakeholders employ smartphone customisation as a strategy to reduce production costs for devices intended for price-sensitive consumers in emerging markets, notably Africa. In practice, this approach often involves balancing cost with the quality of features, such as camera capabilities or screen resolution, to meet specific price points. In addition to improving affordability, OEMs have also introduced customised devices aimed at addressing the unique requirements of local markets, such as prioritising dual-SIM functionality due to widespread multiple SIM usage or producing phones with extended battery life to accommodate the limited access to reliable electricity across the continent. Below are examples of customised smartphone solutions tailored to African markets:

- Cloud phones are low-cost handsets with a display and internet connectivity, enabling the use of advanced applications such as gaming, streaming and mobile payments, all hosted remotely in the cloud. This approach reduces the need for sophisticated hardware components for application storage and processing, leading to lower device costs. In November 2024, Vodacom revealed that it had sold nearly 100,000 cloud phones supplied by Mobicel in South Africa.[19] Meanwhile, Huawei, which initially launched its cloud phone service in China, is now expanding it to Africa to address the challenge of device affordability.

- Google's Android Go is a streamlined version of the Android operating system, intended for smartphones with 2 GB of RAM or less. The low licensing fees – usually under $2, compared to more than $20 for the full Android operating system – help to reduce costs for low-end and ultra-budget smartphones. In 2020, Orange and Google partnered together to launch the Sanza Touch, a 4G smartphone priced at around $30, specifically aimed at African markets.[20]

- Transsion Holdings, the parent company of Tecno, Infinix and Itel, customises its devices for African markets by providing keyboards and interfaces in indigenous languages such as Amharic, Igbo, Swahili and Yoruba. Additionally, it calibrates cameras to optimise exposure for darker skin tones. Transsion also pre-installs apps such as PalmPay, Airtel Money and M-Pesa for mobile payments, as well as Boomplay for music streaming, thereby tailoring its devices to meet the needs of specific market segments across the continent.

Smartphones equipped with basic features to keep costs low can facilitate the transition of first-time users from feature phones, thereby promoting digital inclusion among consumers who might not otherwise have access to smartphones. However, limitations such as smaller screens, limited storage capacity and slower processing speeds may render these devices less attractive to more experienced and aspirational users, restricting manufacturers' ability to achieve economies of scale and maintain consistent profitability. Furthermore, devices such as cloud phones rely on a stable internet connection to function effectively and raise concerns regarding data privacy and ownership.

Pre-owned smartphones

Alongside new smartphone sales, there is a growing market for used devices. This secondary market for smartphones can be grouped in three categories:

- **Second-hand phones:** These are previously used phones transferred directly to individuals by a friend or relative, or sold via intermediaries such as retailers or online marketplaces. They are typically less expensive than other types of pre-owned phones, with prices that

19 "S.Africa's Vodacom eyes taking cloud-based phone to other African markets", Reuters, November 2024

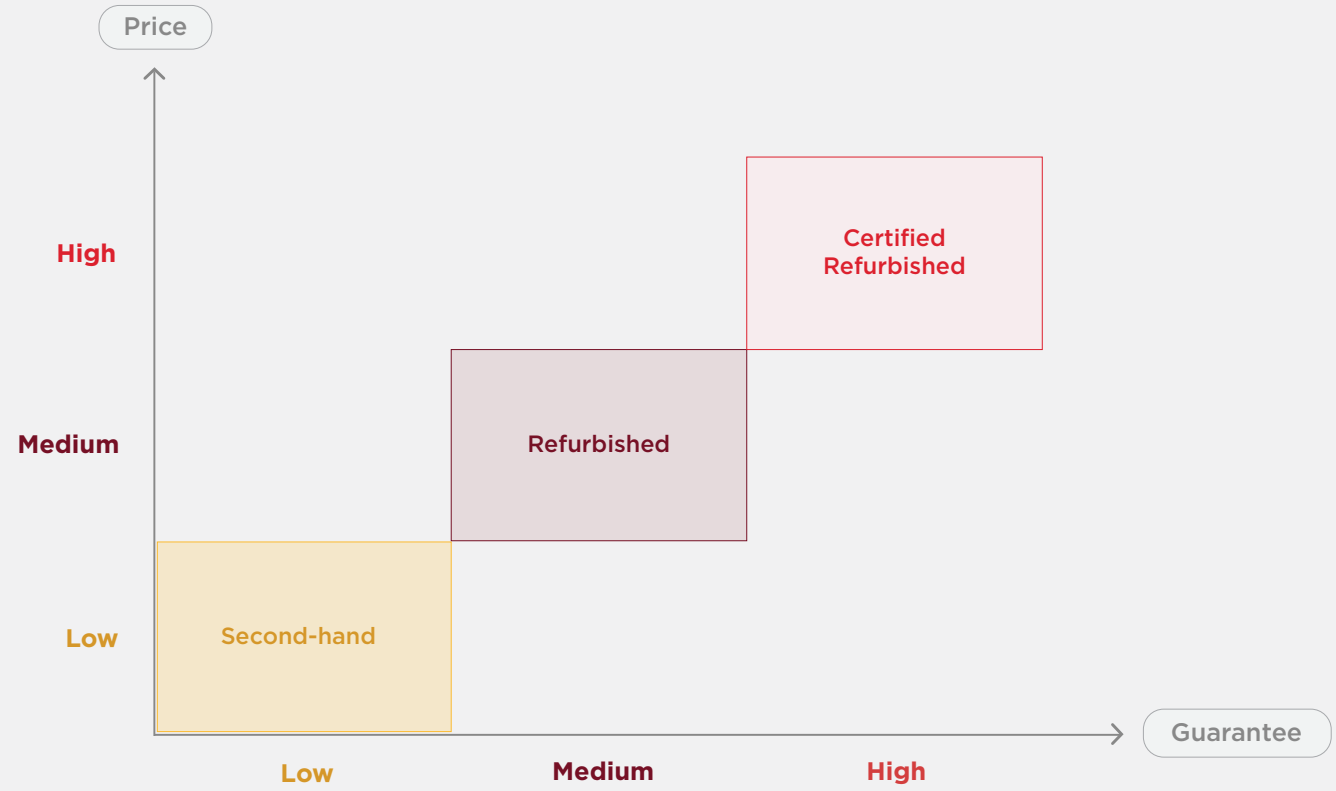
20 "Orange improves access to mobile internet in Africa supported by Google", Orange, September 2020

may be negotiated rather than being fixed. However, there is no guarantee of quality and data from the previous owner might not be fully erased.

- **Refurbished phones:** These devices have been thoroughly tested and appropriately repaired by specialist organisations to ensure optimal functionality. Refurbished phones are usually graded according to their condition, with lower grades corresponding to greater discounts. They are generally sold with a guarantee of up to six months.
- **Certified refurbished phones:** These are pre-owned devices, usually from well-known brands (e.g. Apple, Samsung) that have undergone rigorous testing and repairs by the handset manufacturer or an authorised licensee. Key components – such as the battery, outer shell, accessories and cables – are typically replaced to ensure high quality for the buyer. Certified refurbished phones are often sold with a one-year guarantee.

Fig 6: Price and guarantee levels of different types of pre-owned phones

Source: GSMA



In Africa, the formal market for pre-owned devices remains underdeveloped for several reasons. The extended device replacement cycle among local smartphone users, often prompted by economic factors, can reduce the operational lifespan of a handset when it is eventually passed on to a new owner. Additionally, pre-owned devices may carry a certain social stigma for some users. For pre-owned devices sourced internationally, prices are typically higher than those of entry-level models, rendering them unsuitable for price-sensitive, first-time smartphone users in the lowest income brackets.

The limited availability of formal channels for selling pre-owned phones (and limited infrastructure for refurbishment) may also deter risk-averse customers, who may be reluctant to use the predominant informal sales channels for second-hand smartphones. However, this situation is evolving in some markets. In Kenya, for instance, Badili Africa has established a

formal channel for pre-owned smartphones, offering certified pre-owned devices, warranties and trade-in programmes. In 2022, Badili received $2.1 million in pre-seed funding to expand across Africa, beginning with Tanzania and Uganda[21].

Despite these challenges, pre-owned devices could play a significant role in accelerating smartphone adoption across Africa, allowing consumers with low-to-moderate incomes to access higher-specification devices that might otherwise remain out of reach. This is particularly true for popular brands such as Apple and Samsung, which tend to retain strong resale values.

Furthermore, the increasing shift towards a circular economy means secondary markets for smartphones will be crucial in extending device lifespans and reducing electronic waste (e-waste). Some mobile operators are now participating in the refurbished phone market, aligning with their sustainability objectives by promoting trade-in and resale schemes for pre-owned handsets. In South Africa, Vodacom's Red Loves Green programme enables customers to recycle their old devices through various initiatives designed to reduce e-waste by facilitating the repair, recycling or refurbishment of devices, thereby promoting a more circular economy for mobile phones.

Distribution and supply chain

After production, both locally manufactured and imported smartphones are channelled through the distribution network to reach end users. The complexity of this network often affects not only the final retail prices but also the availability of devices, as additional costs are incurred at each stage of the process. For instance, delivering smartphones to rural areas across much of Africa is significantly more challenging than supplying urban centres. Even at the national level, the importation of smartphones or components for local assembly in landlocked countries, of which there are 16 in Africa, depends on intricate land freight from seaports in neighbouring countries or costly air freight. This can influence both the affordability and accessibility of devices within those countries. The activities and main stakeholders in this network are illustrated in Figure 7.

Fig 7: Typical smartphone distribution network

Source: GSMA Intelligence

21 "Kenya-based smartphone recommerce startup, Badili, secures $2.1 million pre-seed to expand its operations across Africa", Techpoint, December 2022

For key players within the smartphone distribution and supply-chain ecosystem, such as mobile operators and OEMs, streamlining the distribution network is essential to maintain affordable retail prices for consumers at the point of sale. Effective strategies may include centralised device procurement to take advantage of economies of scale and negotiate more favourable terms with global manufacturers; vertical integration of supply-chain activities to control costs by overseeing multiple stages of the process; and establishing direct partnerships with manufacturers for sourcing, as well as collaborating with retailers to share distribution expenses. For instance, mobile operators in various markets sell smartphones directly to customers through retail stores and online platforms, which can help to reduce distribution costs.

Financing and bundling schemes

Upfront costs, even for budget devices, pose a significant barrier to smartphone adoption among low-income users in Africa, with devices sometimes costing as much as 70% of the monthly income for the lowest-income groups. As a result, smartphone financing schemes have been introduced to improve affordability by spreading payments over time rather than requiring a substantial initial outlay. Over the years, various financing models have become available, generally allowing customers to pay for smartphones in smaller instalments, typically daily, weekly or monthly. Beyond reducing the burden of large upfront payments, these schemes have become increasingly important in helping unbanked and underbanked individuals to build credit histories. This enables access to more sophisticated lending products, supporting a wider range of personal and business financing needs.

In some cases, smartphone financing schemes include additional products to enhance value and encourage uptake. These include, for example, service packages (airtime, SMS and data) offered at reduced rates, solar chargers or financial services such as insurance. Bundling enables consolidated budgeting for devices and services, allowing customers to start using smartphones immediately without needing separate transactions. This approach can also address practical challenges. For example, pairing smartphones with solar chargers helps mitigate issues related to unreliable electricity, while bundled digital services may support the use of financial services, education or e-commerce.

Table 2: Examples of smartphone financing schemes

Source: GSMA Intelligence

Scheme	Features	Key players
Traditional lending	Loans in return for future principal and interest payments at regular intervals over a fixed period. Relies on demonstrated credit history.	Banks and other financial institutions
Buy now, pay later (BNPL)	Acquiring a smartphone upfront with the cost spread over fixed instalments paid over a fixed period. This approach may have lower interest charges, potentially due to anticipated additional revenue sources.	Mobile operators, BNPL startups and financial services providers

Scheme	Features	Key players
PAYG	Small, flexible payments are required, with device access dependent on continued payment. If payments stop, the device may be locked remotely until payments resume. Ownership is transferred only upon completion of all payments.	PAYG financial services, solar energy products providers and mobile operators
Subsidy programmes	Smartphones sold at a subsidised price through structured payment plans or discounts. Subsidies are often targeted at specific user segments, such as women, low-income households, students or people with disabilities.	Governments, mobile operators and other public and private institutions
Airtime-based financing	Allows users to pay for a smartphone through airtime purchases or deductions, eliminating the need for bank accounts or mobile money accounts. Targets users with limited access to formal financial systems.	Mobile operators
Leasing agreements	Users pay a monthly fee to use a smartphone without owning it outright. Ownership may be transferred after completing payments, or users can return or upgrade the device.	Mobile operators and device OEMs

Although smartphone financing and product bundling schemes offer potential solutions, there are also challenges that may limit their effectiveness in addressing smartphone affordability. Devices purchased through financing can still be subject to high import duties, which may pose a burden for low-income consumers, along with taxes on services such as data that affect usage. There are also supply and distribution constraints that can make it difficult to deliver bundled products to rural areas. Additionally, financing options require users to have reliable sources of income to avoid the risk of default. On a broader scale, macroeconomic factors such as high inflation and currency devaluation, which continue to affect many countries, reduce purchasing power and make financing less affordable by increasing repayment amounts. Some low-income consumers may also be unaware of financing or bundling opportunities or may hesitate to take on loan commitments due to concerns about repayment.

2.2. End-user factors

Reducing the cost of smartphones, alongside other activities within the device ecosystem, is vital for improving users' ability to pay for devices. However, this measure alone is rarely sufficient to enhance smartphone affordability for underserved individuals and communities. Even when users possess the financial means, their decision to purchase a smartphone depends on their perception of the device's value. Willingness to pay denotes the maximum amount a

customer is prepared to spend on a handset, reflecting personal preferences and the perceived benefit to their lives. It is shaped by a range of interconnected factors with economic, social, cultural or behavioural influences.

Disposable income

Although the cost of entry-level smartphones in Africa has decreased significantly in recent years due to the efforts of device ecosystem players and other stakeholders, they still account for a considerable proportion of the monthly income for individuals and households on low incomes, especially in rural areas and among informal urban workers. In addition to the initial outlay for the device, ongoing costs such as mobile data and electricity for charging place further strain on disposable income.[22] As a result, people are often less willing to purchase and use smartphones, with underserved users tending to prioritise essential expenses over smartphones and sometimes regarding them as a luxury, despite their potential to bring long-term economic benefits through digital and financial inclusion.

For individuals such as subsistence farmers or informal traders, disposable income is often unpredictable and typically linked to seasonal earnings. This variability creates challenges when saving for a smartphone or committing to ongoing costs, including financing arrangements or mobile data plans. Furthermore, women frequently have less control over household disposable income due to prevailing patriarchal norms, further restricting their ability to acquire smartphones. GSMA analysis shows a 25% gender gap in smartphone ownership in Sub-Saharan Africa, partly attributable to these constraints.[23] For users facing such obstacles, economic incentives, such as opportunities to generate additional income through the mobile internet, may help facilitate the adoption and regular use of smartphones.

Awareness and digital literacy

Many underserved users, particularly those in remote areas, may not be fully aware of how smartphones could enhance their lives, resulting in a low perceived value, especially when weighed against other pressing needs for limited resources. A lack of digital skills can pose an additional barrier to smartphone adoption and use, even when potential users recognise the advantages of digital and financial inclusion. Identifying where these obstacles exist is crucial for increasing smartphone uptake and usage. This allows targeted investment in training programmes and localised content to bridge gaps in awareness and skills, ultimately boosting confidence in smartphone use among underserved individuals and communities.

Social and cultural norms

Social and cultural norms shape perceptions of smartphones, particularly in relation to gender, age and community values, and exert a significant influence on adoption rates. For example, patriarchal norms in many African societies limit women's access to technology, while in collectivist cultures, community leaders may either promote or discourage uptake. If elders perceive smartphones as a distraction for young people, adoption may be slower. The influence of these norms can be substantial in communities where they are deeply embedded, potentially reducing the willingness to purchase and use smartphones, even when affordability is not the primary concern. In such environments, community-based campaigns that highlight the social and economic benefits of smartphones and internet access, such as supporting entrepreneurship among women and young people, can help to change attitudes and encourage greater adoption.

22 Income remaining after taxes and essential expenses, such as food, housing and healthcare

23 The Mobile Gender Gap Report 2025, GSMA, 2025

Individual behaviours and preferences

Personal attitudes, preferences and behaviours can significantly influence smartphone adoption, as underserved users weigh the perceived utility against factors such as cost, complexity and perceived risks (e.g. theft, online scams, data breaches or cyberbullying). For instance, if smartphones are primarily viewed as sources of entertainment, individuals with pressing economic priorities may feel less inclined to invest in one. Additionally, the lack of interfaces in local languages and absence of relevant content may further deter usage. To address these barriers, several initiatives have emerged: entry-level smartphones now increasingly support a wider range of local languages and come with pre-installed apps tailored to local services, while bundled smartphone insurance products provide reassurance by offering replacements in the event of theft or damage.

2.3. Macro factors

Macro factors play a significant and direct role in shaping smartphone adoption by affecting both affordability and usability, especially among low-income, rural and marginalised groups. If not addressed, these factors can reduce users' ability and willingness to purchase smartphones by undermining the efforts of device ecosystem stakeholders to lower costs and by exacerbating the barriers already faced by users.

Fiscal policies

Mobile subscribers in Africa are subject to general taxes such as VAT, as well as sector-specific taxes and charges. Collectively, these taxes have a direct impact on the prices paid by consumers and can be particularly regressive, as the tax burden disproportionately affects those on lower incomes. The sector-specific taxes applied in the region are categorised as activation, usage and handset taxes (see Table 3). High taxes reduce affordability, especially for underserved users with low disposable incomes, decreasing both the ability and willingness to purchase smartphones.

A GSMA study[24] reviewing the tax regimes in 35 African countries found that sector-specific taxes on smartphones are relatively uncommon across the continent; Madagascar stands out as one of the few markets to impose sector-specific levies on smartphones, at a rate of 6%. However, the study noted that smartphones are subject to VAT and high customs duties in 24 of the 35 countries.

Table 3: Categories of consumer taxes

Source: GSMA

Tax base	Tax type
Handsets and devices	Sales tax/VAT
	Sector-specific taxes
	Customs duty

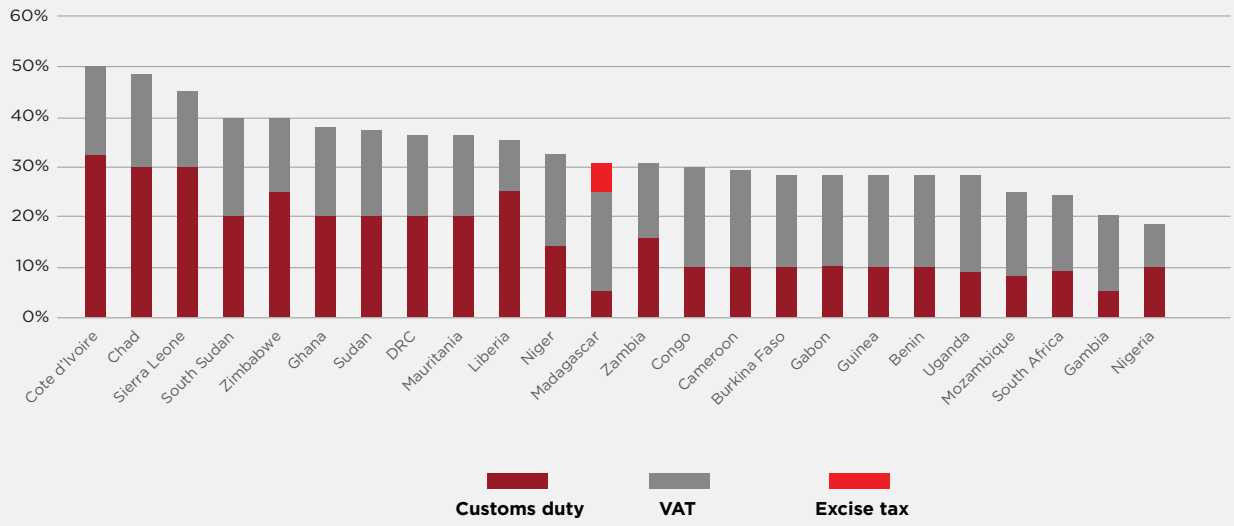
24 Mobile Tax Policy and Digital Development: A study of markets in Sub-Saharan-Africa, GSMA, 2023

Tax base		Tax type
Services	Activation	Sector-specific taxes
	Usage	Sales tax/VAT
		Sector-specific taxes

After combining VAT and customs duty on handsets for countries where data is available, consumers in these markets face an average combined tax rate of 33% on handsets. Côte d'Ivoire, with an import duty of 32% and VAT of 18% on handsets, has the highest combined handset tax rate on the continent at 50%. This is followed by Chad and Sierra Leone, with a combined handset tax rate of 48% and 45%, respectively (see Figure 8).

Fig 8: Combined handset tax rates in selected countries in Africa

Source: GSMA Tax Database



Data for 2021

Mobile network coverage

The functionality and perceived value of smartphones are closely linked to the accessibility and quality of mobile network infrastructure. This link is especially apparent in rural and underserved areas, where inadequate coverage – particularly of 4G and 5G networks – reduces consumers' incentive to purchase compatible devices. Investments by mobile operators have played a crucial role in advancing mobile broadband coverage to its current extent. Over the past decade, mobile operators in Africa have collectively invested nearly $120 billion in their network infrastructure, focusing mainly on mobile broadband technologies. During this period, 3G and 4G coverage increased from 59% and 7% to 91% and 78%, respectively, by the end of 2024. Meanwhile, almost 50 mobile operators have launched 5G networks, extending 5G coverage to 12% of the population.

Enabling infrastructure and services

In many parts of Africa, rural areas continue to face severe energy constraints. In Zambia, less than 12% of rural households have access to electricity, compared to over 75% in urban areas.[25]

25 "Zambia: Access to Electricity Changes Lives", World Bank, February 2024

This situation forces many people to rely on informal charging kiosks, solar lamps or generators, which adds additional cost and restricts usage. Governments and private-sector players are addressing this gap with various initiatives. For example, this includes Togo's CIZO programme, which subsidises solar home systems for off-grid households; Rwanda's Scaling Up Renewable Energy Programme; and the collaboration between the Nigerian Communications Commission (NCC) and the Rural Electrification Agency (REA) to combine rural power and digital connectivity projects, aiming to bridge energy and digital divides in underserved communities. Additionally, the availability of local content is essential to stimulate smartphone adoption and internet usage. Platforms such as Rwanda's Irembo and Zambia's ZamPortal demonstrate how online government services linked to daily needs make smartphones indispensable.

Spotlight

Global partnership to address the smartphone adoption challenge in Africa

In 2024, the GSMA announced a global partnership dedicated to expanding access to affordable smartphones for LMICs, with a strong focus on Africa. 25 organisations had joined the coalition as of September 2025. Members include mobile operators (Orange, Airtel, Vodafone/Vodacom, MTN, Axian and Ethio Telecom), device OEMs (Huawei, ZTE, Honor and Mobiwire), ecosystem players (Intelligra, Trustonic, Google, KaiOS, M-Kopa, Kistpay and TBTM), financing institutions (World Bank, International Finance Corporation (IFC), IDB Invest and BBVA), international organisations (Smart Africa, Edison Alliance and the ITU) and foundations (Airtel Africa Foundation). The coalition seeks to deliver sustainable solutions that make smartphones accessible to all and to enable inclusive participation in the digital economy. The coalition currently focuses on three areas:

- **Taxation:** As shown in Figure 8, taxes can increase handset costs by more than 30% in some markets in Africa. Removing these levies could substantially reduce prices and accelerate smartphone adoption. The coalition, in collaboration with the South African government, recently held a high-level workshop to advance dialogue on policies that could unlock wider access to affordable devices. The GSMA is advocating in various ways to remove taxation on entry-level smartphones.
- **Cost of devices:** The bill of materials of handsets accounts for 50–70% of costs on average,[26] making it a significant cost driver for smartphones that needs to be addressed to produce ultra-affordable devices at scale. GSMA analysis shows that a device costing $30 could make handsets affordable to up to 1.6 billion people across LMICs who currently do not use mobile internet but live in areas where there is coverage,[27] addressing a key barrier to reducing the usage gap. In this context, tackling cost structures is a priority for the coalition.
- **Device financing:** Device financing has enabled millions to acquire smartphones by spreading payments over time, rather than requiring large upfront costs. However, its full potential across Africa remains unrealised due to persistent barriers: high default risks, limited awareness and insufficient risk-sharing

26 GSMA Intelligence calculations

27 The State of Mobile Internet Connectivity 2025, GSMA, September 2025

mechanisms. To address this, the coalition promotes innovative de-risking models that can broaden access to financing while protecting industry stakeholders. The coalition also regularly publishes research and convenes industry discussions to equip stakeholders with actionable insights.

Call to action

The coalition expects that innovative financing, coupled with cost reductions and supportive policies, can dramatically accelerate smartphone access, particularly if devices reach the $30 or $20 price point. Collaboration with global institutions will help align the coalition's work with international connectivity targets and broader efforts to achieve universal access. Scalable, evidence-based models developed through pilots will build confidence for private-sector investment and long-term sustainability. To achieve impact at scale, the coalition calls on key stakeholders to play an active role:

- **Governments:** Remove taxes on entry-level smartphones (typically below $100).
- **Development finance institutions:** Design and deploy de-risking mechanisms and support national initiatives that make smartphones more affordable.
- **Donors and foundations:** Fund innovative public–private pilots that de-risk investment and build confidence for private-sector engagement.
- **Private sector:** Develop low-cost devices, scale up financing models and partner across sectors to deliver sustainable, inclusive solutions.

GSMA

3. Democratic Republic of Congo

DRC at a glance

39%
Smartphone adoption

107 million
live in the DRC

53%
live in rural areas

Percentage of total connections

20% 2G

49% 3G

31% 4G

4G Coverage

60%
percentage of the population

GDP

$647
GDP per capita

Smartphone

$30
median cost of entry-level smartphone

Cost of smartphone

52%
of monthly income per capita is cost of entry-level smartphone

Mobile data

7%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

3.1. The connectivity landscape in the DRC

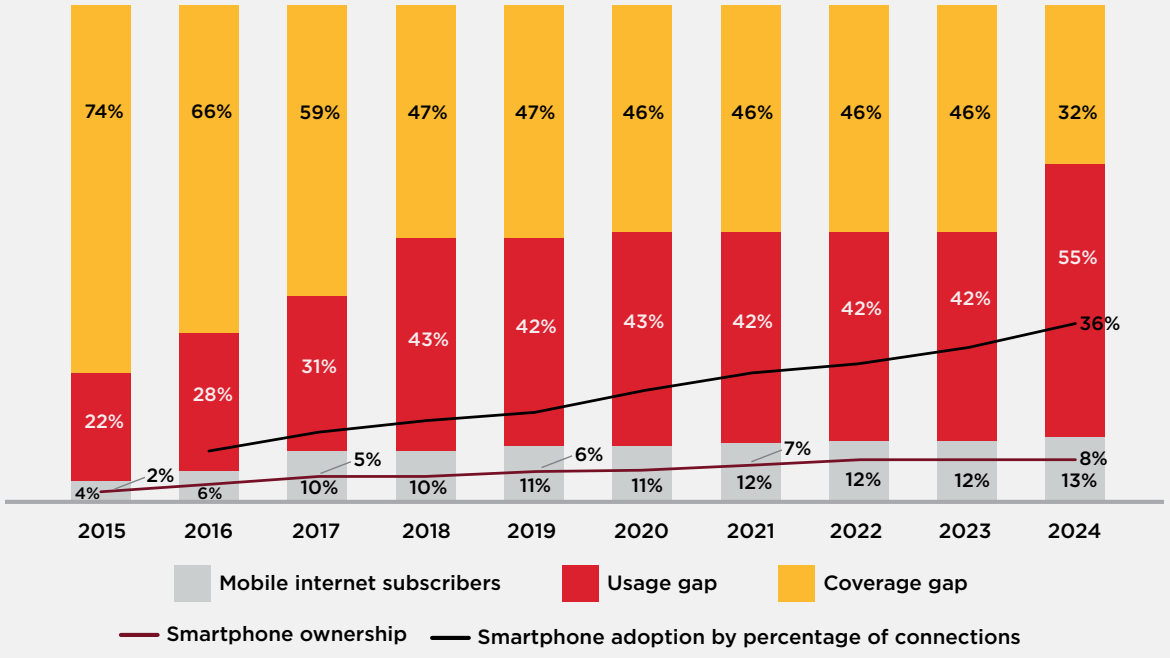
Approximately 68% of the population in the DRC now has access to mobile broadband networks, compared to just 26% in 2015, highlighting significant efforts to roll out 3G and 4G networks across the DRC. However, nearly a third of the population remains outside of network coverage. There are a range of challenges to deploying mobile infrastructure in underserved regions of the DRC, including difficult terrain and security concerns in conflict-affected areas.

In addition, the usage gap in the DRC has more than doubled over the past decade, as the adoption of mobile internet has not kept pace with the expansion of network coverage. More than half of the population, equivalent to almost 60 million people, now live in locations covered by mobile broadband networks but do not subscribe to mobile internet services (see Figure 9). The lack of accessibility of smartphones for individuals and microentrepreneurs to connect to the mobile internet is a major contributing factor to the usage gap. As of 2024, 8% of the population owned a smartphone.

Fig 9: DRC: connectivity landscape

Percentage of population

Source: GSMA Intelligence



The DRC government and other stakeholders have launched several initiatives to tackle the connectivity gap. In September 2025, the government launched its national digital transformation strategy, titled Digital Nation 2030, which builds upon the earlier Horizon 2025 plan. This strategy features a $1 billion public investment between 2026 and 2030, focused on areas such as digital infrastructure and e-government services.[28] In June 2024, the World Bank approved the DRC Digital Transformation Project, an initiative under the Inclusive Digitalisation in Eastern and Southern Africa programme, aimed at boosting digital access and internet usage throughout the DRC.[29] Key objectives of the project, which is currently in its initial phase and set to span eight years, include expanding broadband access to at least 30 million people, training more than 3,000 young people in advanced digital skills and enhancing digital infrastructure to support online services.

28 "DRC to Invest $1 Billion in Digital Transformation by 2030", Bankable, September 2025

29 "Inclusive Digitalization in Eastern and Southern Africa Program: DRC", World Bank, June 2024

3.2. Factors influencing smartphone adoption in the DRC

3.2.1 Device ecosystem factors

Domestic production

The DRC has made several attempts in recent years to establish domestic smartphone production. In 2021, Africell partnered with Industry Five to launch a pilot project to assemble mobile phones in the DRC. More recently, the Digital Development Agency announced a partnership in March 2024 with the startup Motema and KaiOS Technologies, developers of the KaiOS mobile operating system, to launch a local smartphone assembly facility with the capacity to produce over 1 million phones annually at a $20 price point.[30] However, these initiatives have yet to reach commercial scale, meaning that the country remains wholly reliant on devices imported directly from Asia or across the border from neighbouring countries.

The DRC is a significant supplier of cobalt, tantalum and lithium, which are materials used in smartphone manufacturing. This presents opportunities for increased vertical integration within the smartphone supply chain, potentially reducing costs and supporting industrial development. Furthermore, the country's large population and low smartphone adoption rate present the prospects of a sizeable domestic market for locally assembled devices. However, structural challenges, such as skills shortages and an unreliable energy supply, pose significant challenges to the development of a sustainable domestic smartphone production ecosystem.

Device customisation

Several device OEMs have adapted smartphones for users in the DRC, considering market characteristics and usage patterns such as multi-SIM requirements due to network fragmentation, unreliable electricity and lower income levels. For instance, Transsion, the manufacturer of brands such as Tecno, Infinix and Itel, has introduced a 'quad-SIM quad-standby' feature that allows a smartphone to hold four SIM cards simultaneously, with all four in active standby modes. Each SIM can independently receive calls, SMS and data signals at the same time, as opposed to basic dual-SIM phones where only one SIM can be fully active at a time. This configuration supports users in the DRC who frequently use multiple mobile networks due to variable coverage across peri-urban and rural regions. Other notable customisations typically address affordability, durability and battery efficiency requirements, as well as Lingala language support.

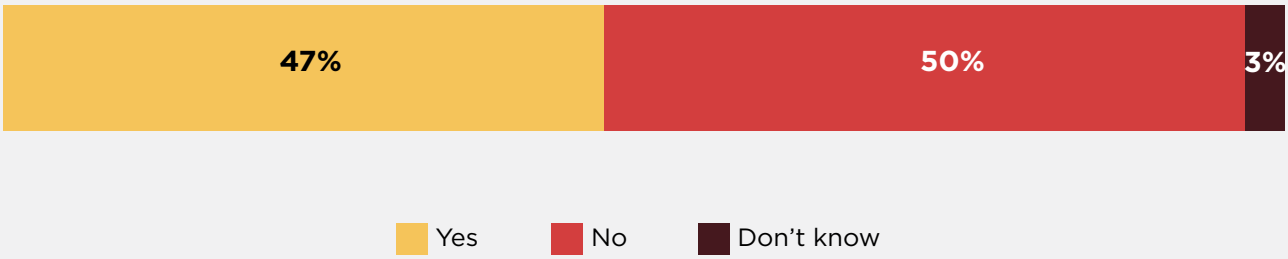
Pre-owned smartphones

Nearly half of survey respondents in the DRC would consider purchasing a pre-owned smartphone if it were more affordable. Interest in pre-owned devices is notably higher among current feature phone users, with 54% expressing willingness to upgrade, indicating significant potential for market growth within this segment. In contrast, existing smartphone users show less inclination to purchase pre-owned models. These findings underscore an opportunity to improve smartphone accessibility for both first-time buyers and those currently using feature phones. However, the lack of established distribution channels for pre-owned devices restricts their influence on overall smartphone adoption. Participants in a focus group for this study identified the need for quality assurance and after-sales support – typically absent from informal channels – as key considerations affecting their purchasing decisions.

30 "DNA powers KaiOS and Motema partnership for phones within everyone's reach", AND, March 2024

Fig 10: DRC: interest in pre-owned smartphones
If you can't afford a new phone, would you buy a second-hand phone? (Percentage of respondents)

Source: GSMA Intelligence



Distribution and supply chain

Costs throughout the distribution network, from ports to retail outlets, are affected by extended customs procedures and limited warehousing space.[31] Due to delays in customs clearance and import duties, some retailers rely on personal imports to bypass inefficiencies in bulk importation systems. After clearance at the ports, second-mile distribution to regional centres and retailers is further impacted by poor road infrastructure, fuel costs and the involvement of multiple intermediaries. An extended shipment period for new stock (up to five months, according to key informant interviewees) affects both price stability and inventory, while the involvement of multiple agents in the transportation process reduces traceability and increases the risk of theft. These factors contribute to sustained high retail prices for smartphones in the DRC. While the government has set a target to digitalise border services by 2030 to improve clearance times, there is an urgent need to address the distribution bottlenecks to improve smartphone affordability in the DRC.

Last-mile distribution of smartphones remains a persistent challenge across many parts of the DRC, particularly in rural areas. Most smartphones are distributed through urban retail channels, resulting in limited availability in peri-urban and rural regions with few or no formal retailers. The country's mobile operators have employed various initiatives to retail smartphones to potential users in rural areas, including utilising their extensive mobile money agent networks, running sales campaigns at weekly markets and commissioning travelling sales representatives to distribute devices and airtime. For instance, Airtel deploys mobile agents equipped with point-of-sale devices to facilitate transactions and SIM registrations at local events. Meanwhile, Vodacom collaborates with local retailers and micro-entrepreneurs to improve device accessibility in peri-urban and rural locations and is also piloting mobile repair units to enhance consumer confidence. Similarly, Orange utilises outreach strategies such as branded kiosks in market towns, offering both product sales and comprehensive after-sales support.

Financing and bundling models

Mobile operators and other ecosystem system players have introduced smartphone financing options in the DRC, such as the following:

31 Anecdotal evidence shared in key informant interview.

- Vodacom's Easy2Own service allows buyers to acquire a smartphone through a payment plan over a set contract period.
- Africell, in partnership with CreditHive, offers BNPL options for customers to purchase smartphones on flexible payment plans.
- KaiOS Technologies, together with Mobihive Lab, provides a 4G smartphone financing scheme for new users and those upgrading from 2G.
- Airtel and Samsung's pay-on-demand platform, involving Mastercard and Asante Financial Services, allows Airtel customers to purchase Samsung smartphones on flexible, monthly instalment plans through Airtel Money.

These initiatives are intended to lower upfront costs and allow payments to be made over specified periods. However, cash continues to be the primary method for purchasing smartphones. More than nine out of 10 survey respondents in the DRC reported that they would use cash as their preferred payment method for purchasing a smartphone. This situation may discourage low-income buyers for whom smartphone prices account for a substantial share of their monthly income. Continued reliance on cash is attributed to limited awareness of financing solutions and concerns about missed payments, which could result in repossession of the device and forfeiture of amounts already paid. Bundled offers are an approach currently used to support adoption, with operators providing packages that include devices and starter talk time or data plans.

Lay-by schemes offer an alternative for buyers who prefer to minimise risk. These arrangements allow smartphone purchasers to make payments in instalments, receiving the device only once the total amount has been paid. This approach reduces repossession risk and does not require upfront payment. There is also demand for small credit options due to irregular and unpredictable income, along with solutions that support micropayments. In addition to formal offerings by operators and businesses, some smartphone vendors in urban areas provide informal payment plans, allowing customers to make smaller, non-regular contributions until the full price is met. Although these informal methods can result in default risks for both sellers and buyers, they align with many customers' earning patterns and have attracted interest.

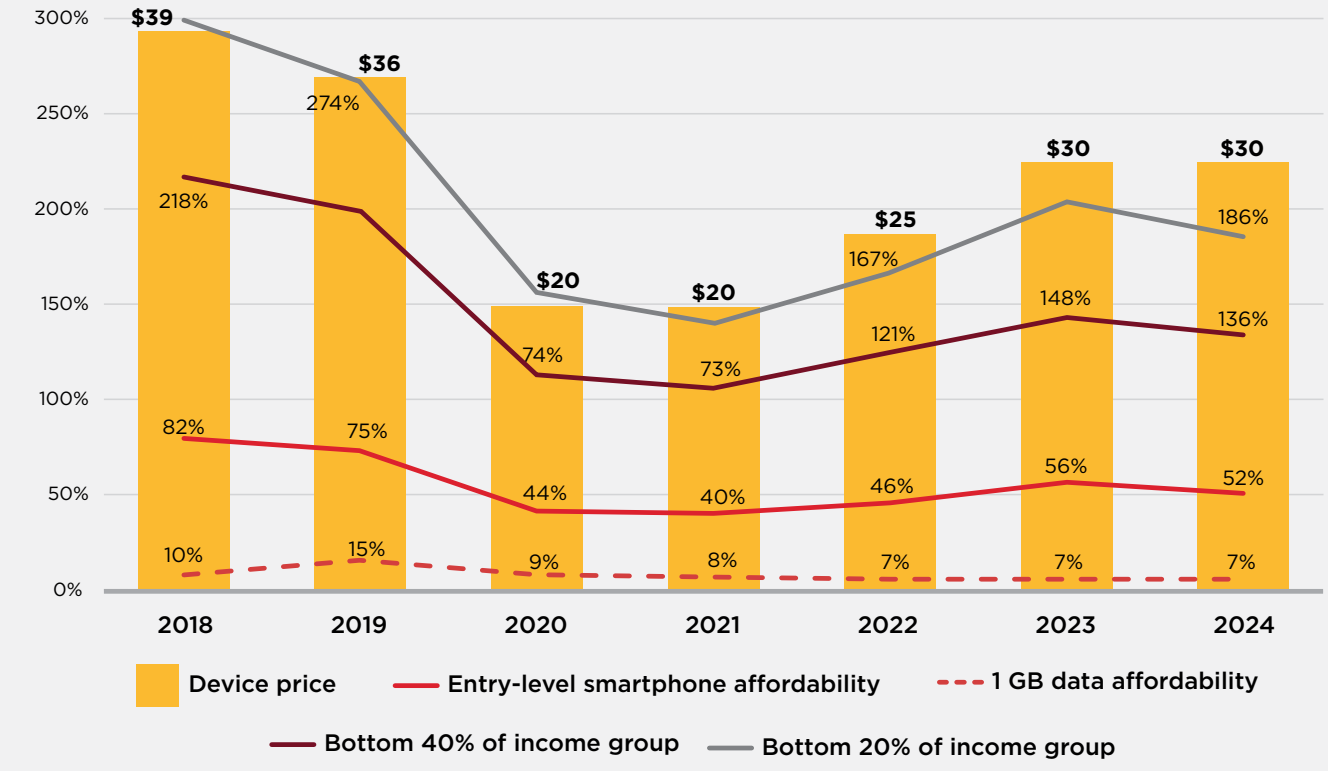
3.2.2 End-user factors

Disposable income

Nearly 40% of survey respondents in the DRC cited price as the most important factor when purchasing a smartphone, emphasising that it is a key constraint to adoption. As of 2024, the median price for an entry-level smartphone is approximately $30, which is more than half of the monthly per capita income in the DRC. For individuals in the lowest 20–40% income brackets, this cost exceeds their entire monthly earnings, making outright purchase virtually impossible without the availability of financing options. The affordability challenge is exacerbated by prevailing employment trends: around 50% of respondents without a smartphone work in the informal sector, 26% are unemployed and only 3% hold formal jobs. The widespread prevalence of low and irregular incomes means that even modestly priced smartphones remain unaffordable for large swathes of the population.

Fig 11: DRC: entry-level smartphone price and cost of 1 GB of data relative to income
Percentage of monthly per capita income

Source: GSMA Intelligence



The recurring cost of connectivity also affects smartphone adoption and usage. The median price for 1 GB of data represents 7% of monthly per capita income in the DRC. When adding the cost of a smartphone to average monthly data expenses, the total can be as much as 60% of monthly per capita income, particularly during the initial period before the phone's cost is offset. For the lowest 40% income group, 1 GB of data accounts for 18% of monthly income, and nearly 25% for those in the bottom 20% income group. This indicates that even when smartphones are available, consistent usage may remain out of reach. Data costs can also reduce the likelihood of users upgrading from feature phones and limit the frequency or diversity of use for current smartphone users.

Awareness and literacy

There is a correlation between smartphone ownership in the DRC and levels of educational attainment and urban residency. Among surveyed individuals, over 70% of smartphone owners have completed secondary education, while more than half possess university degrees. Conversely, those with only primary education comprise 7% of smartphone owners. This indicates that individuals with lower educational backgrounds are less represented among smartphone users and may face barriers such as limited purchasing power or access to resources. A lack of familiarity with smartphones and their functions is a notable factor for non-ownership among respondents. Of those without smartphones, 29% mention insufficient digital skills, perceived usefulness or network constraints as the main reasons for not having a device. These results point to differences in awareness regarding the applications of smartphones for accessing government services, financial tools and essential resources. When asked about support needed to obtain and use a smartphone, most respondents identified guidance on operating devices and installing applications.

Social and cultural factors

Smartphone ownership remains disproportionately low among women and informal sector workers in peri-urban and rural areas. Approximately 39% of survey participants reported not owning a smartphone, while 7% indicated they had no phone at all. Of individuals without any type of phone, over 60% are women (primarily those aged over 35), with half residing in peri-urban locations and more than 20% living in rural communities. Barriers such as limited retail availability, unreliable electricity and inadequate network coverage further hinder access to mobile devices in these areas. Additionally, close to 20% of non-users cited family or community opinions as factors influencing their purchasing decisions, underscoring the influence of social norms on technology adoption. In settings where smartphones are perceived as distractions or where prevailing patriarchal norms restrict women's access to technology, adoption rates tend to be lower.

Individual behaviours and preferences

Smartphone purchasing decisions are influenced by practical factors such as battery life and dual-SIM capabilities. Among all respondents, battery life and camera quality are ranked as the most important features. For non-users, nearly 60% place the greatest value on long battery life, followed by camera quality. The emphasis on battery life reflects the limited access to electricity, which makes extended battery performance a key consideration. In comparison, only 9% of individuals without smartphones consider processor speed important, highlighting the potential impact of technical complexity and lower digital literacy on the perceived value of smartphones for individuals in this segment. Additionally, over 70% of respondents without smartphones indicated that multi-SIM capability is the most important feature, as this allows them to manage data costs and maintain network coverage across providers.

3.2.3 Macro factors

Fiscal policies

Import duties, customs tariffs, excise taxes and VAT in the DRC can together account for up to 40% of a smartphone's final price. This markup places smartphones out of reach for many households, particularly those seeking low-cost, entry-level devices. In addition to restricting smartphone adoption among vulnerable citizens, high taxes also contribute to a burgeoning grey market for smartphones within the DRC. Mobile operators estimate that grey-market devices represent up to half of smartphones in use. This situation leads to considerable revenue losses for the government and exposes mobile networks and users to security and performance risks often associated with devices acquired through informal channels.

Table 4: DRC: taxes on smartphones and services

Source: GSMA Intelligence

Tax	Rate
VAT	16%
Customs duty	20%

Mobile network coverage

Approximately 32% of the population in the DRC resides in regions without any mobile broadband network, which may discourage smartphone adoption in those locations due to diminished perceived value in owning a smartphone. This is in addition to factors such as income and literacy levels. Expanding coverage to remote locations in the DRC can be complex due to geographical and security issues. Operators are increasingly collaborating to address the mobile internet coverage gap. Airtel and Vodacom plan to accelerate the rollout of fibre networks and tower infrastructure through a strategic infrastructure-sharing agreement, while Vodacom and Orange aim to jointly install 2G and 4G base stations over six years, targeting improved network and mobile financial services for up to 19 million underserved people across the country.

Enabling infrastructure

Smartphones generally consume more power than feature phones due to factors such as complex operating systems, powerful processors, larger high-resolution displays and power-intensive networks. Typically, a smartphone's battery lasts for 1–2 days with moderate use, whereas feature phones can last for 5–15 days on a single charge, as they require minimal power for calls, texts and other basic functions. This is particularly significant for consumers in rural areas who may be unable to charge their devices regularly or conveniently. As mentioned previously, most respondents identified long battery life as the most desirable feature in a device. Meanwhile, responses from participants in a focus group for this study indicated that the availability of digital services in urban areas is a key incentive for smartphone adoption in those regions. This implies that the lack of such services in rural areas further diminishes the perceived value of smartphone ownership among individuals in those areas and, by extension, constrains wider adoption.

GSMA

4. Kenya

Kenya at a glance

62%
Smartphone adoption

56 million
live in Kenya

70%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
19%	15%	63%	3%

Network coverage

98% **4G**
38% **5G**
percentage of the population

GDP

$2,206
GDP per capita

Smartphone

$39
median cost of entry-level smartphone

Cost of smartphone

20%
of monthly income per capita is cost of entry-level smartphone

Mobile data

<2%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

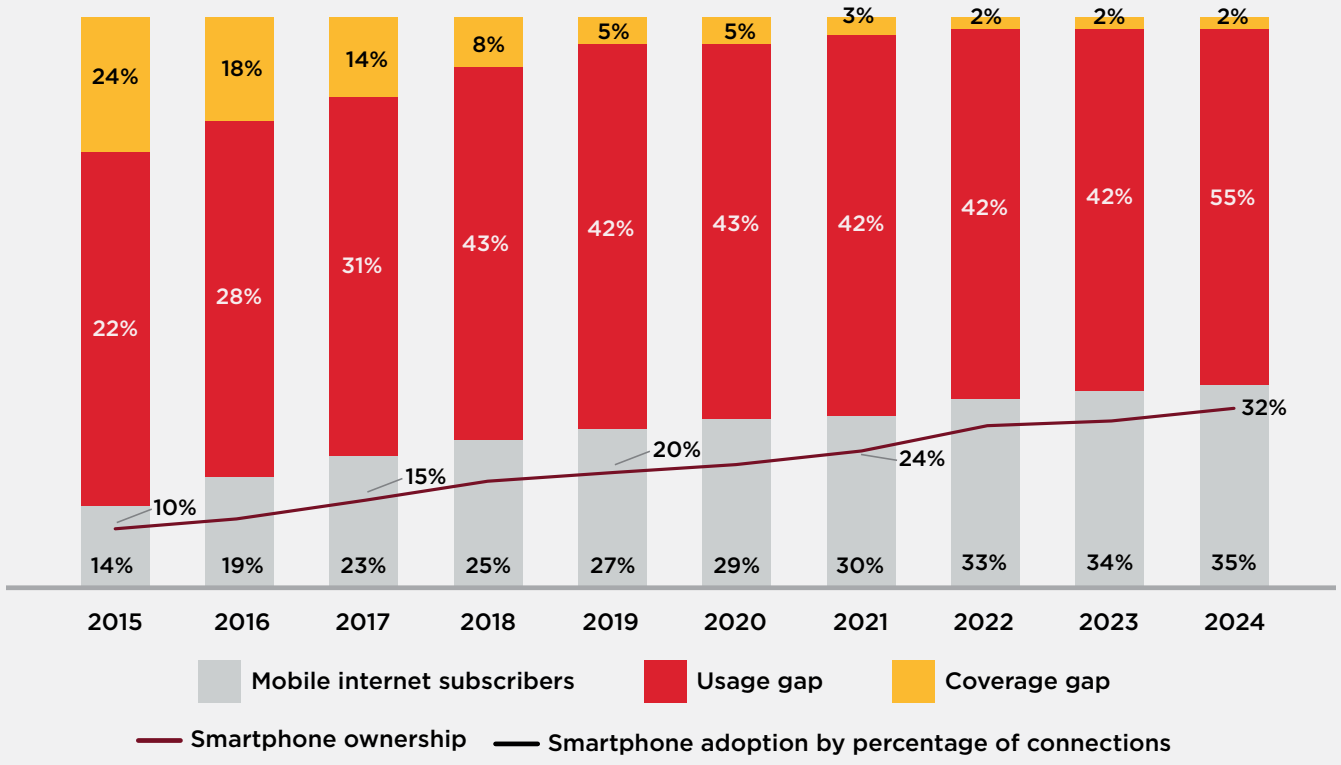
4.1 The connectivity landscape in Kenya

4G networks now cover 98% of Kenya's population, while 5G coverage is nearing 40%, driven by substantial investments in high-speed mobile infrastructure. Although efforts continue to broaden coverage into the remaining underserved areas, the primary connectivity challenge in Kenya is the usage gap, which stands at 62%. However, the usage gap has remained relatively constant over the past decade, suggesting that mobile internet adoption has kept pace with the expansion of coverage. Smartphone accessibility is a major contributor to the usage gap in Kenya; as of 2024, smartphone ownership in Kenya was 32% of the population.

Fig 12: Kenya: connectivity landscape

Percentage of population

Source: GSMA Intelligence



4.2 Factors influencing smartphone adoption in Kenya

4.2.1 Device ecosystem factors

Domestic production

The Kenyan government has promoted domestic smartphone production as a strategic alternative to imports, with the aim of making smartphones more affordable for its citizens, advancing the country's digital transformation and creating employment opportunities. The government also anticipates that local smartphone assembly will help to curb tax evasion on imported phones, which has been a considerable source of lost revenue. Although essential components such as chips, screens and batteries are still imported, the assembly plant invests in training local engineers and technicians in electronics and digital manufacturing, laying the groundwork for greater localisation. In the longer term, the ambition is to localise critical parts of the value chain, such as circuit board design and software development, positioning Kenya as a regional assembly hub.

There have been several notable achievements from this initiative in recent years. For instance, in October 2023, the government inaugurated a local smartphone assembly plant in partnership with Safaricom, Jamii Telecommunications and Shenzhen TeleOne Technology. The factory has a capacity to produce up to 3 million smartphones annually and create up to 500 direct jobs. M-Kopa, a financing and device distribution platform best known for its PAYG solar model, integrated smartphone assembly into its operations in 2023. By 2025, in partnership with Human Mobile Devices, it had assembled and sold over 1 million phones,[32] using kits and parts sourced from China. M-Kopa's experience in solar distribution provided the expertise, warehouse space and local talent required for rapid set-up. M-Kopa targets Kenya's open market with its assembly model, while East Africa Device Assembly Kenya (EADAK) supplies devices to operators such as Safaricom, which had sold 680,000 locally assembled 4G smartphones as of the first half of FY24–25.[33]

Despite these advancements, adoption of locally assembled smartphones remains modest, as consumers often perceive them as being of lower quality and less desirable than well-known global brands such as Infinix, Itel, Redmi and Vivo, which also compete in the low-cost smartphone segment.[34] Brand familiarity, performance expectations and strong marketing continue to drive demand for imports, indicating that assembly initiatives must be accompanied by brand-building and consumer-trust strategies to compete effectively in the market. As a result, the market still relies heavily on imports.

Device customisation

Given that affordability is a primary concern for non-smartphone owners and feature phone users, most customisation initiatives in the Kenyan market prioritise products designed for budget-conscious consumers, though this often necessitates compromises in performance and alignment with global standards. Common features incorporated into devices for the Kenyan market include robust designs for durability in demanding conditions, extended battery capacities (5,000–6,000 mAh) and dual-SIM functionality as standard. Additionally, EADAK phones are equipped with pre-installed applications such as the M-Pesa financial services platform and eCitizen, which facilitates easier access to government services. Some smartphone models, including the Samsung Galaxy S25 series, provide Swahili as a system language option, allowing users to navigate menus, icons and other system elements in Swahili. Meanwhile, the Tecno Spark series of devices utilises basic processors such as MediaTek's Helio chips, supporting key functions such as mobile money transfers and social media usage, rather than high-intensity activities such as gaming or multitasking.

Pre-owned smartphones

Nearly half of survey respondents in Kenya indicated a willingness to purchase a pre-owned smartphone from reputable dealers if new devices are unaffordable. Factors influencing the decision to buy a pre-owned smartphone include cost, advanced features, brand reputation, warranty availability and peer influence. Respondents without phones expressed greater openness to second-hand smartphones, while more than half of feature phone users remained cautious about pre-owned smartphone options due to concerns about reliability and usability. This indicates that individuals using a mobile phone for the first time, especially within younger age groups, demonstrate a higher propensity to adopt pre-owned smartphones compared to older feature phone users. However, most of the market operates informally, with devices often

32 "M-KOPA's million-phone milestone: redefining smartphones as financial lifelines in Africa", Technext, July 2025

33 "Safaricom pushes homegrown smartphones to keep mobile data momentum", TelcoTitans, November 2024

34 "Kenyans Have Ditched the Neon Smartphones Despite Local Assembly Efforts", Techweez, July 2025

refurbished or software flashed and typically sold without warranties, which may present risks for buyers.

In response, starting from January 2025, the government implemented new import regulations requiring mandatory registration for all imported and locally assembled devices, detailed customs declarations and a national whitelist of tax-compliant phones. These measures are designed to address smuggling, reduce counterfeit devices and increase consumer confidence in the refurbished device market. Major device distributors are taking steps to formalise the pre-owned smartphone market. For example, Kenyan company Badili refurbishes and resells used smartphones with the aim of increasing affordability, supporting digital access and reducing e-waste. Working through e-commerce platforms, local trade partners and mobile operators, Badili collects, repairs and sells discarded or damaged phones. This approach enables consumers to purchase higher-end devices at lower prices, compared to new units, while maintaining device functionality.

Spotlight

M-Kopa's pre-owned smartphones

M-Kopa has developed a programme called Second Life Smartphones, providing refurbished smartphones as either individual purchases or as part of financing and service bundles. The company acquires pre-owned smartphones through trade-ins and returns from its existing customer base, minimising dependence on imported used devices that incur high taxes. Refurbishment takes place at a facility in Kenya with a weekly capacity to process 1,500–2,000 units. Only devices initially sold by M-Kopa, mostly Nokia and Samsung models, are eligible for refurbishment and resale. Pricing starts at a 30% reduction from the current retail price, with additional discounts applied to older models; for example, a two-year-old phone is offered at half its original cost.

The most affordable second-life phone is currently available for approximately $60, payable over six months, about one third of its original price. These phones include a six- or 12-month warranty and allow for free exchanges if there are issues such as scratches or poor condition. M-Kopa promotes its offering with a flexible loan model that permits returns and deposit refunds without extra charges, along with bundled benefits such as health insurance or theft coverage. This strategy allows M-Kopa to reach different customer segments, including younger consumers and those seeking lower prices and shorter repayment periods. Although demand for affordable second-hand phones is increasing, supply remains limited to devices sourced from current customers.

Distribution and supply chain

In Kenya, there is a notable difference in the smartphone distribution network between regions, with the availability and affordability of devices lower in rural compared to urban. Most smartphones, following type approval by the Communications Authority of Kenya, are imported via the Port of Mombasa or Jomo Kenyatta Airport and sent to distribution centres in Nairobi or Athi River. These devices are then delivered to local markets, including Kisumu, Eldoret, Nakuru and Mombasa. Imported parts are directed to assembly units from the ports. Assembly facilities such as EADAK supply smartphones to carriers such as Safaricom and Jamii Telkom, which use established channels for distribution and offer aftercare services through various service points.

M-Kopa employs commission-only sales agents, who receive inventory at no cost and are compensated based on customer repayments; these agents work throughout Kenya and are mainly limited by their distance from stocking locations. With more than 200 stocking points nationwide,[35] M-Kopa distributes products in both urban and rural regions. In urban settings, smartphones are sold through formal retail chains, mobile operator outlets, supermarkets and e-commerce platforms such as Jumia and Masoko, providing warranties, product variety and customer support.

Conversely, in rural counties, smartphones are primarily distributed by small-scale vendors who obtain stock from urban centres. Vendors in rural locations often encounter irregular supply, restricted product selection and a lack of warranty and after-sales support. Individual supply management can result in inefficiencies, stock shortages and price variations due to differing experiences. Vendors state that inventory is typically stored in backrooms or homes, which can affect security and quality control for the devices. E-commerce platforms such as Jumia and Masoko have introduced rural delivery models using mobile agents, but adoption has been limited.[36] Furthermore, vendors in peri-urban and rural areas report a tendency by buyers to inspect phones in person before purchase, which may impact online sales adoption.

> *"Phones come once or twice a month. If you miss the stock, you wait. We can't afford to stock many units." – Vendor*

Bundling and financing models

Kenya has a well-developed device-financing ecosystem, including operator-led programmes, PAYG platforms and third-party BNPL providers. Safaricom's Lipa Mdogo Mdogo allows consumers to acquire 4G smartphones for KES20 ($0.15) per day, transferring ownership after the final payment. In 2025, it was reported that over 2 million devices had been distributed through this programme,[37] indicating demand for daily instalment options among low-income users. M-Kopa also finances close to 1 million smartphones annually via its PAYG platform, with devices bundled with services such as health cover, insurance and credit-building tools. Providers such as Watu Simu, Aspira and d.light further broaden the range of financing options available, although eligibility and awareness differ according to geography and income segment.

Kenya has also developed models of bundling through cross-sector partnerships. For example, the combination of solar products and smartphones addresses two affordability challenges: access to energy and access to devices. In July 2025, Sun King, an off-grid solar provider, partnered with Citi and Kenyan banks to complete a $156 million securitisation, enabling over 1.4 million households to obtain solar systems and smartphones using a PAYG model. Customers can make payments as low as KES25 ($0.19) per day via mobile money, which covers both lighting and device ownership in a single repayment stream.[38] Similarly, M-Kopa has bundled solar kits with smartphones, health insurance and credit services. By offering these combined services, companies lower upfront costs and provide reliable charging for smartphones. Bundling addresses both the ability to pay and the reason to own a smartphone, supporting digital inclusion in underserved areas while complying with competition policy requirements.

35 Key Informant Interview

36 Cash-In Cash-Out Cross-Country Analysis: Kenya, CGAP, 2020

37 "Safaricom Lipa Mdogo Mdogo Device Sales Hit 2 Million", TechTrends, May 2025

38 "$156M Sun King Securitization to Deliver Solar for Over a Million Kenyans", Citi, July 2025

Nearly half of non-smartphone users in the survey in Kenya have a favourable view of bundling, with data, airtime or device protection being frequent add-ons. However, focus group participants indicated that existing packages are costly and restrictive, suggesting providers could benefit from gaining insights into customer preferences and adjusting their offerings.

Although financing options have made smartphones more accessible, strict eligibility criteria, low levels of trust and a preference for cash transactions continue to limit broader uptake. As a result, cash is still the primary payment method for purchasing smartphones in Kenya, with most individuals using savings for upfront costs. Some focus group participants also highlighted that financing eligibility linked to mobile money usage history could exclude those who do not regularly use mobile services. However, this remains an important tool for assessing the creditworthiness of potential buyers in the absence of alternative means of checking credit history. Respondents also reported withdrawing from finance schemes when payment schedules clashed with their irregular income patterns, which in turn reinforced reliance on making outright cash purchases. Some respondents noted apprehension regarding repossession models where devices are locked after missed payments. Personal preferences related to debt financing also affect purchasing decisions.

> *"I don't like owing anyone; I wait until I have the full amount." – Focus group participant.*

> *"If I cannot pay daily, they block the phone. I prefer to save and buy it once, even if it takes longer." – Focus group participant*

4.2.2 End-user factors

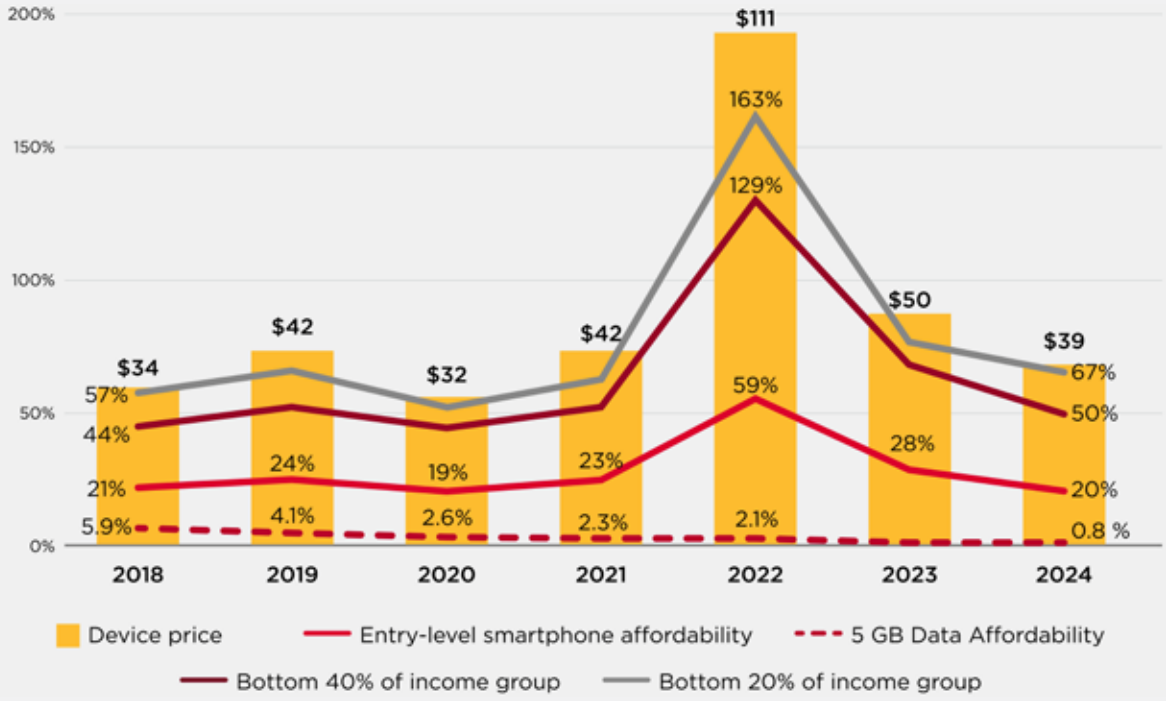
Disposable income

As of 2024, entry-level smartphones in Kenya have a median price of $39, representing 20% of the average monthly income and up to 70% for low-income groups. Survey results show that disposable income levels significantly influence smartphone adoption, particularly among lower-income groups: 85% of respondents without smartphones cited cost as the main barrier. Most individuals without any phone also indicated they would consider purchasing a smartphone if the price of their preferred device was close to $40 and financing plans had no upfront fees. Focus group respondents in rural areas also reported choosing 3G devices over 4G devices to save money. This decision may limit their online activities to basic calls, SMS and lightweight apps, and exclude them from advanced online features.

Fig 13: Kenya: entry-level smartphone price relative to income

Percentage of monthly per capita income

Source: GSMA Intelligence



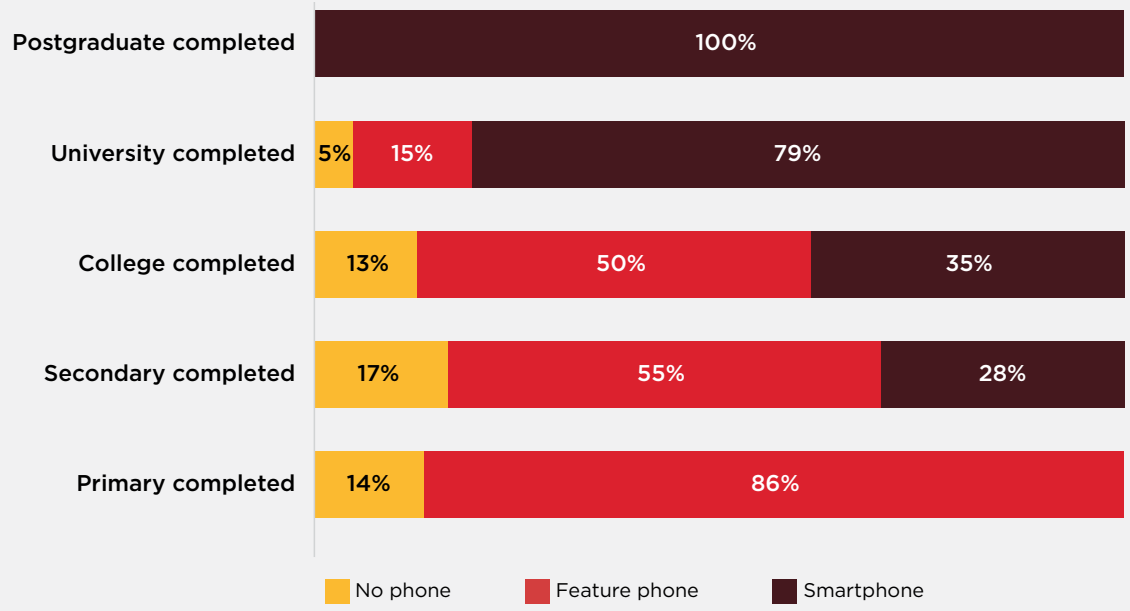
Awareness and literacy

The survey results reveal that literacy levels in Kenya significantly influence both perceptions of smartphone value and individuals' willingness to own these devices. All respondents possessing a postgraduate degree reported smartphone ownership, whereas none of the participants with only primary education owned a smartphone. Ownership rates among other groups were proportional to educational attainment, with higher levels of education associated with increased rates of ownership. These findings underscore a marked disparity in the perceived value of smartphones across different literacy levels.

Fig 14: Kenya: smartphone ownership by education attainment

Which type of device do you own? (Percentage of respondents)

Source: GSMA Intelligence



Social and cultural factors

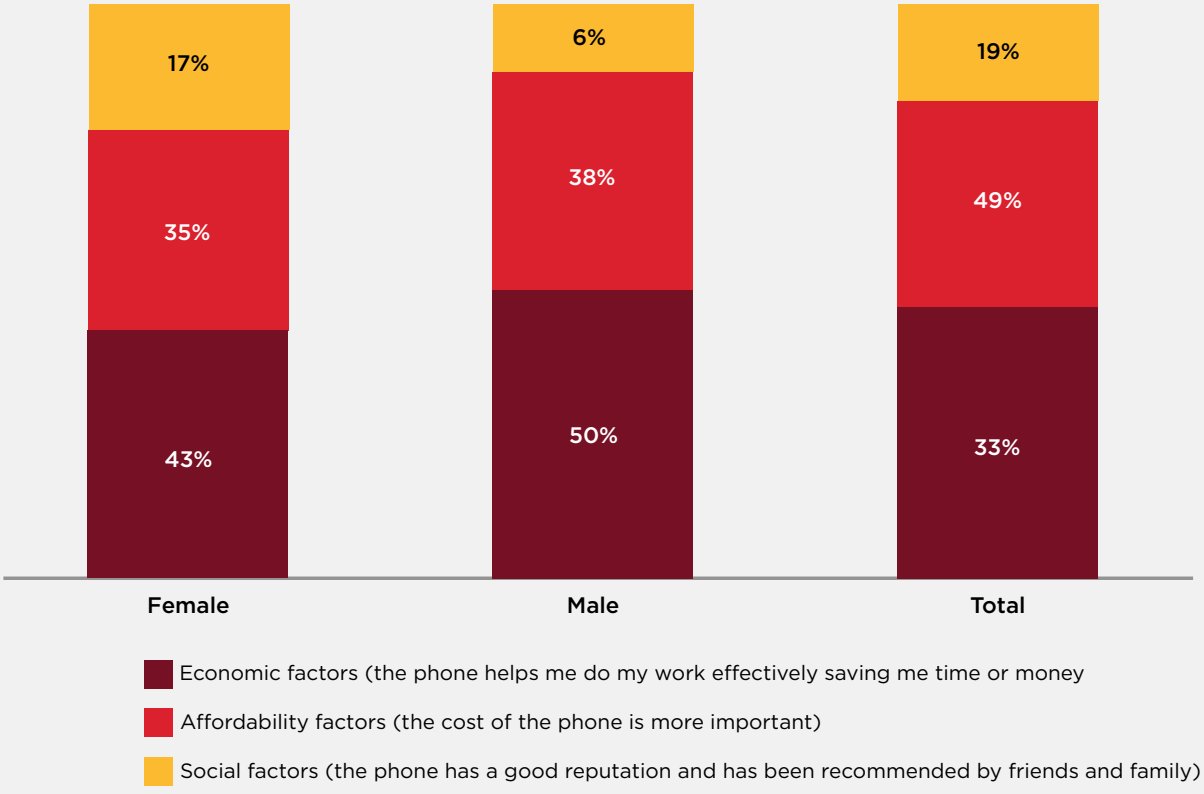
Smartphone ownership in Kenya is more prevalent among younger people and those in formal employment, whereas women, informal workers and residents of rural or peri-urban areas are less likely to own a smartphone. Women over the age of 35, individuals with lower levels of education, informal workers and the unemployed encounter additional barriers, often related to financial constraints and cultural restrictions. Female respondents frequently expressed a keen interest in owning a smartphone but identified cost, family-related restrictions and safety concerns as significant obstacles.

Among those without a smartphone, around a quarter access internet services using someone else's device. This group is predominantly made up of women, especially those living in rural or peri-urban areas, highlighting the role of social norms in limiting device ownership for women and other vulnerable groups. While device sharing can be an important initial step towards eventual ownership and enables interim access to online services, it also presents considerable drawbacks, such as reduced privacy, inconsistent availability and limited autonomy.

Fig 15: Factors influencing the decision to buy a smartphone

Percentage of respondents

Source: GSMA smartphone survey data



Individual behaviours and preferences

In Kenya, brand reputation and the variety of available options have a strong influence on smartphone purchases. Meanwhile, limited understanding or a reduced perception of value often lead to consumers being reluctant to buy a smartphone. Insights from focus group participants also revealed considerable risk aversion towards financing models that involve repossession, hidden charges, strict repayment schedules and a lack of protection against damages. For example, one participant noted that if a device is damaged and replaced, repayments must start all over again. Such experiences cause consumers in Kenya to carefully

consider credit-based schemes and to prefer cash purchases, even when instalment plans are available. Respondents also highlighted the need for clearer information on financing, eligibility and product features in both English and Swahili.

Brand reputation and warranties are also major factors: 46% of non-phone owners stated they would only consider smartphones from brands they know and if warranty was offered, underlining the importance of trust in consumer decision-making. Participants repeatedly emphasised the importance of having more smartphone options within finance schemes, noting that in most cases, only a maximum of two models are available within the preferred price range, which can discourage customers. Meanwhile, feature phones remain attractive, with around 40% of respondents, particularly entrepreneurs, preferring them for their durability and battery life. Even when smartphones are affordable, users continue to value the practicality of feature phones. For those purchasing smartphones, the main interests are support for business, content creation, education and access to advanced financial services.

4.2.3 Macro factors

Fiscal policies

Taxation increases the cost of smartphones in Kenya by 50% or more, depending on markups and logistics fees. Excise duty, VAT and customs duty collectively account for over half of the final retail price. Additional charges, such as the development levy and import declaration fee, may further elevate the total cost to more than 60% upon entry into Kenya. For instance, a smartphone purchased from an Asian factory for $20 incurs a landing cost of approximately $29 after customs clearance. This amount excludes distribution margins, retailer profits, transportation and other domestic supply-chain expenses. Although initiatives exist to promote local manufacturing and assembly, there is a need to reconsider certain taxes, particularly those affecting low-cost smartphones.

Table 5: Kenya: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
Customs duty	25%
Excise duty	10%
Import declaration fee	3.5% on CIF value
Railway development levy	2% on CIF value
VAT	16%
Merchant superintendent shipping levy	Various rates

To avoid the burden of import taxes and other fees on imported smartphones for end users, the government in Kenya has pursued a strategy of supporting domestic production. Incentives for local manufacturing, such as customs duty exemptions and VAT refunds, have the potential to reduce retail prices compared to imported smartphones, according to key informant interviewees. However, delays in VAT refunds are common, creating cash flow pressures that

restrict manufacturers' ability to expand. These delays, together with other policy constraints, may also deter foreign partners or investors, posing a risk to the long-term sustainability of local assembly. Despite some progress, imported components continue to attract taxes, and restrictive cross-border trade rules limit exports to regional markets. As a result, Kenya's assembly operations are largely confined to domestic demand, hindering the achievement of economies of scale.

Mobile network coverage

Widespread 4G coverage, reaching 98% of the population in Kenya, is a significant driver for smartphone adoption. 5G coverage is also expanding and is now accessible by nearly 40% of the population. However, coverage still needs to be extended to communities in the coverage gap, which represents 2% of Kenya's population (approximately 1.1 million people). To address this, operators are trialling infrastructure sharing and innovative rural deployment models. Safaricom and Airtel have invested in shared tower infrastructure to reduce deployment costs in hard-to-reach areas. There is also an urgent need to utilise the country's universal service fund (USF) to support the rollout of base stations in underserved regions.

Enabling infrastructure

Electricity access continues to be limited in rural areas. The Last Mile Connectivity Project has expanded grid access to thousands of households, but many still depend on the inconsistent supply or off-grid alternatives. Providers such as M-Kopa have introduced options that combine smartphone financing with solar home systems and motorbike charging stations for rural businesses, aiming to address charging challenges.

5. Nigeria

Nigeria at a glance

64%
Smartphone adoption

231 million
live in Nigeria

46%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
35%	8%	50%	7%

Network coverage

84% 4G
15% 5G
percentage of the population

GDP

$806
GDP per capita

Smartphone

$18
median cost of entry-level smartphone

Cost of smartphone

26%
of monthly income per capita is cost of entry-level smartphone

Mobile data

<2%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

5.1 The connectivity landscape in Nigeria

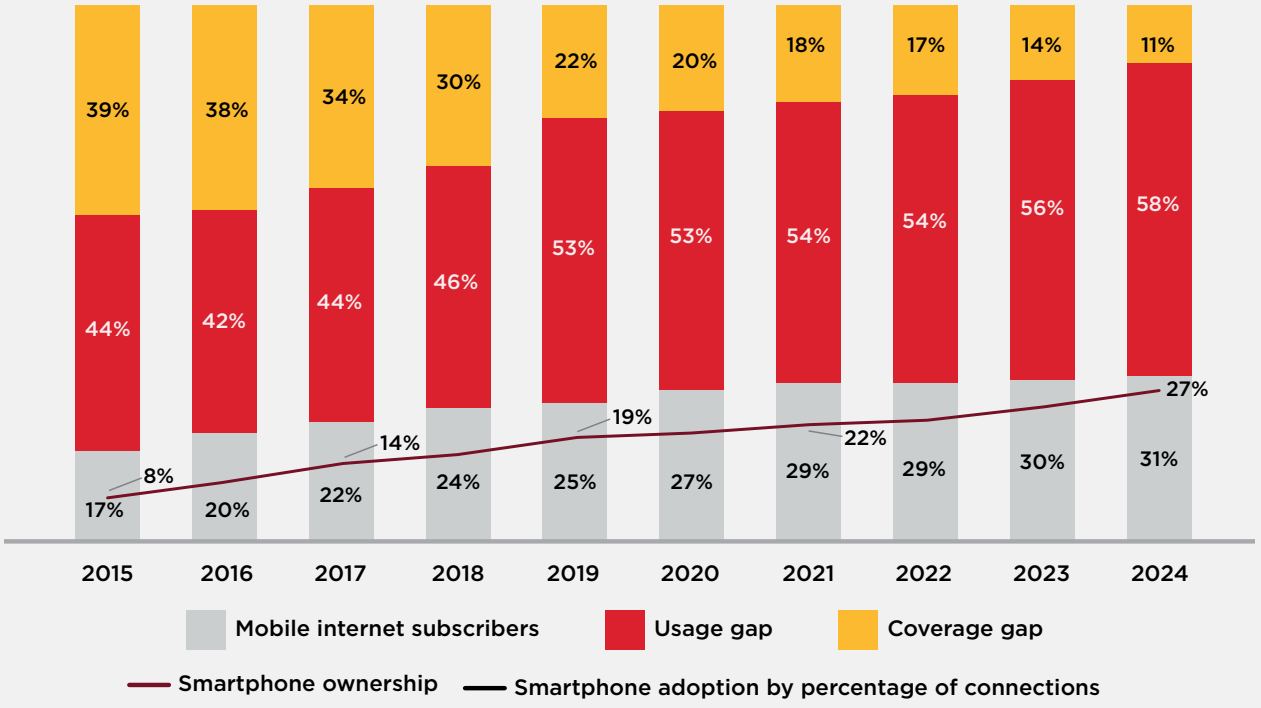
Mobile network coverage in Nigeria has expanded rapidly, rising from approximately 60% of the population a decade ago to nearly 90% today; however, more than two thirds of the population remain offline. While the coverage gap persists and concerted efforts are required to address this, the usage gap remains a more significant challenge at nearly 60% of the population. In fact, the usage gap widened by 15 pp between 2015 and 2024, indicating that mobile internet adoption in Nigeria has not keep pace with the expansion of mobile broadband networks.

The availability and affordability of smartphones are key factors contributing to Nigeria's usage gap. As of 2024, 27% of the population owned a smartphone. Although smartphone ownership increased steadily between 2015 and 2020, growth has since slowed to approximately 1 pp annually, highlighting ongoing structural barriers to adoption. For the government and other stakeholders, enhancing digital inclusion is a priority. The National Broadband Plan has set an ambitious target of achieving 70% broadband penetration by 2025, and the Broadband Alliance for Nigeria has been established to coordinate public–private collaboration to accelerate internet penetration. Achieving these targets relies heavily on the successful implementation of effective strategies to accelerate smartphone adoption in Nigeria.

Fig 16: Nigeria: connectivity landscape

Percentage of population

Source: GSMA Intelligence



5.2 Factors influencing smartphone adoption in Nigeria

5.2.1 Device ecosystem factors

Domestic production

Nigeria's smartphone market is heavily reliant on imports, owing to limited domestic production capacity and capability. Previous efforts to establish local smartphone assembly plants have largely struggled to achieve scale, despite a sizeable addressable domestic market. Companies such as Afrione, Imose, RLG, Bryte, Solo, Omatek and Zinox have assembled low- to mid-range Android devices for the domestic market using SKD kits. However, the manufacturing environment is challenging due to weak regulations, an unreliable and costly energy supply,

skills shortages and frequent supply-chain disruptions, particularly for imported equipment and other inputs. This has affected their competitiveness against foreign OEMs such as Transsion, Nokia and Oppo, whose smartphone models also compete within the budget segment. As of 2023, locally assembled devices accounted for less than 1% of the market, leaving imports as the primary source of supply.[39]

Device customisation

Given the scale and diversity of the Nigerian market, device OEMs have prioritised customising smartphones for key market segments to boost their competitiveness. For instance, Transsion, which imports leading brands such as Tecno and Itel, has established an R&D facility in Lagos, working closely with local professionals to create products featuring attributes that meet the demands of the Nigerian and wider African markets. Meanwhile, Samsung has set up over 300 repair hubs nationwide to provide after-sales support and trade-in programmes, addressing the relatively high device failure rates in the country, which are partly attributed to frequent power-supply challenges.

Table 6: Examples of smartphone customisation in Nigeria

Source: GSMA Intelligence

Smartphone model	Key customisation
Tecno Spark 20 Pro	Local language UI and data compression for data access in rural areas
Samsung A35	Galaxy AI local language and pidgin slang translation, including real-time voice-to-text support
Xiaomi Redmi Note 13	Skin-tone camera tuning and local language ringtones

Pre-owned smartphones

In Nigeria, 45% of survey respondents who do not yet own a smartphone would consider purchasing a pre-owned device. In another survey conducted by the GSMA in 2024, 18% of respondents had acquired their current phone in used condition – one of the highest rates globally – highlighting the potential of the pre-owned smartphone market in Nigeria. However, pre-owned smartphones are currently circulated mainly through informal markets, most notably Computer Village in Ikeja, Lagos, with similar hubs in Kano, Aba and Port Harcourt. These markets provide crucial access for low-income consumers, as pre-owned smartphones are often sold at a fraction of the price of new devices. However, quality and trust remain significant concerns, as noted by focus group participants who raised issues about counterfeiting and hidden defects resulting from cosmetic refurbishing or software flashing, which often cause these devices to stop working within a short period. To address counterfeiting, the NCC has proposed an IMEI registration system and quality certification framework, aimed at strengthening consumer protection and improving device traceability.

39 Made-in-Nigeria smartphones fumble as monthly importation hits N50 billion, The Guardian, July 2023

Financing and bundling models

Several smartphone financing options are available in Nigeria, most of them provided by fintech startups such as Easybuy, CDcare and Klump, which offer BNPL solutions. More established retailers, such as the e-commerce platform Jumia and leading smartphone distributor Slot, have also introduced smartphone financing schemes to boost adoption. In recent years, two of the country's mobile operators have launched smartphone financing schemes. In October 2022, MTN collaborated with Intelligra to introduce a BNPL plan that allows customers to subscribe to a data and airtime bundle and pay for the smartphone of their choice over six to 12 months, with little or no initial deposit, as well as access to a one-time free broken screen replacement and a one-time stolen phone replacement. In August 2024, Globacom unveiled a smartphone acquisition scheme called 'Buy Now, Pay Small Small', which allows individuals and businesses to pay for devices over up to six months, along with 18 GB of free data during that period.

Despite these financing options, cash remains the predominant form of payment for smartphones, meaning that most buyers must save up to pay for their devices upfront. Insights from survey respondents and focus group participants highlight several reasons for the continued reliance on cash payments, even though over 40% of respondents indicated an interest in using a smartphone financing scheme. These reasons mostly relate to a culture of debt aversion, distrust of repossession models, concerns about interest rates and the repayment period, and limited access to formal credit. For instance, smartphone bundling offers involving data, airtime or device protection often attract existing smartphone users to switch providers, rather than non-users to adopt smartphones. This is mainly because the short duration of the repayment period (usually under 12 months) and the overall cost of the package mean that they remain unaffordable for many low-income individuals.

> *"The payment plan is not flexible and the interest rate exceeds 20%. Also, they should offer monthly talk time and data bundles." – Focus group participant who does not yet own a smartphone*

Additionally, respondents from rural regions reported that many current options are not easily accessible because of eligibility requirements such as the need for a stable income and a bank account, along with limited access points outside of urban centres. Nevertheless, there is growing interest in smartphone bundling packages that include solar energy kits, particularly aimed at individuals living in off-grid areas. In 2022, Izili (formerly Baobab+), a PAYG solar distributor, launched a smartphone offer that allows individuals to pay for a smartphone in instalments while simultaneously gaining access to off-grid solar power. This highlights the potential for need-based bundling packages designed to suit the circumstances of unconnected populations.

5.2.2 End-user factors

Disposable income

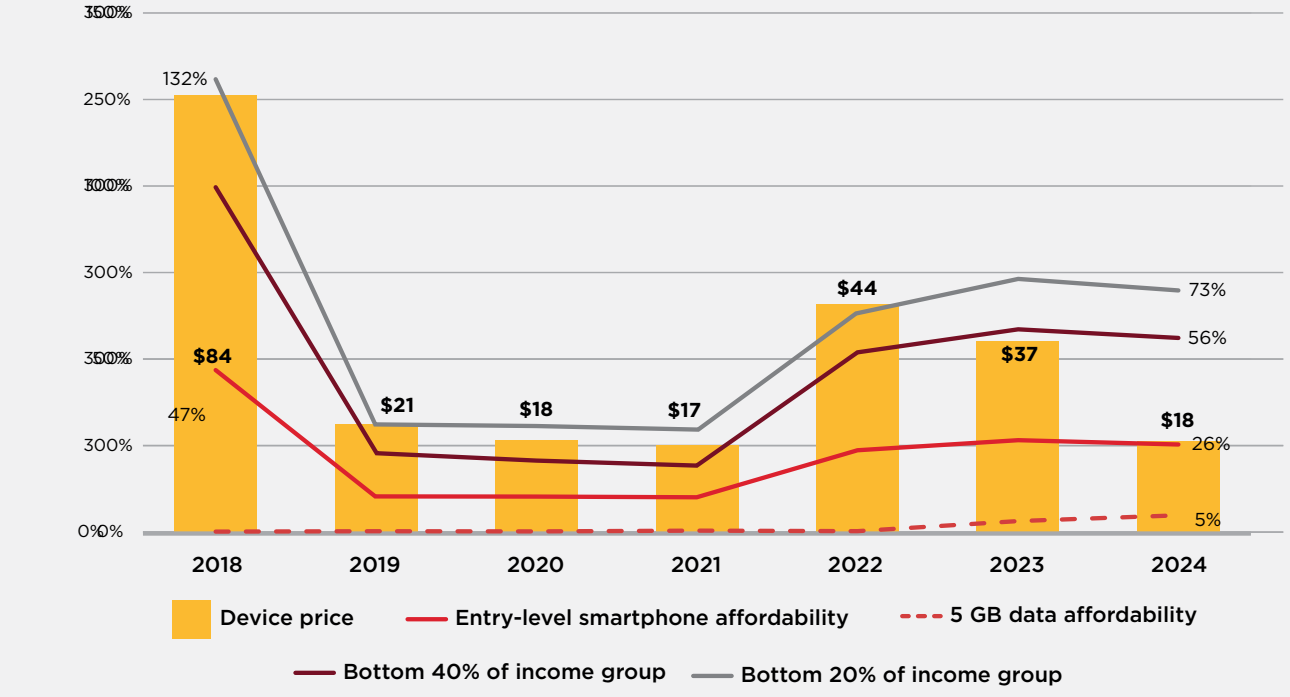
Between 2018 and 2024, the median cost of an entry-level smartphone in Nigeria went down from $84 to $18, reducing its proportion of the average monthly income to 26%. However, the benefit of this price reduction has been entirely offset in recent years by the devaluation of the local currency and the inflationary pressure on living costs. Between June 2023 and January 2024, the value of the naira fell from N450 to N1,600 against the US dollar, with the annual inflation rate reaching 35% and food inflation approaching 40%. Individuals in lower-income groups, who are themselves less likely to own a smartphone, have been hardest hit. For the

bottom 40% and bottom 20% income groups in Nigeria, an entry-level smartphone costs 56% and 73% of their monthly income, respectively, highlighting persistent affordability barriers for the most economically vulnerable.

Fig 17: Nigeria: entry-level smartphone price relative to income

Percentage of monthly per capita income

Source: GSMA Intelligence



Awareness and literacy

Awareness of mobile internet is high, yet digital literacy continues to pose a barrier, particularly in rural areas. While nearly 87% of adults in Nigeria are aware that they can access the internet via a smartphone, this figure conceals significant disparities between those living in rural and urban settings. According to the GSMA consumer survey, 22% of rural respondents remain unaware of mobile internet, compared to just 4% in urban areas. Moreover, of the 78% of rural adults who are aware of mobile internet, only 39% possess an internet-enabled phone, with affordability and literacy challenges contributing to this considerable gap.

Meanwhile, participants in the focus group for this research who own a smartphone reported strong confidence in performing tasks such as browsing, taking photos and accessing apps independently, though some indicated an interest in guides or tutorials to better understand pre-installed apps and features. Among non-users of smartphones or those using feature phones, confidence is lower; however, interest in learning remains high. Many expressed a willingness to adopt smartphones if issues of affordability and access to training were addressed.

Social and cultural factors

Insights from the focus group for this research indicate that smartphone sharing is widespread in Nigeria, especially among low-income households, rural dwellers and individuals aged 18–35. Within these groups, women are more likely than men to depend on other people's devices, underscoring the disparity in individual smartphone ownership between genders. This gap is primarily driven by economic factors and, in certain regions, a deeply rooted patriarchal culture that compels women to rely on male relatives for various activities, including access

to smartphones. Although sharing smartphones enables those without their own devices to access online services, albeit intermittently, and provides a valuable introduction to the internet that may encourage eventual individual ownership, it also introduces several challenges. These include concerns about privacy (e.g. unwanted access to messages or banking applications), battery drainage and the misuse of data.

Individual behaviours and preferences

Most focus group participants identified durability, alongside affordability, as the primary consideration for their decision to purchase a smartphone. This is especially true for individuals in lower-income groups, where extended device replacement cycles and frequent device sharing further accelerate wear and tear compared to single-user devices. For these users, the replacement cycle may extend to up to four years, whereas the global average is typically 2–3 years. Among users in rural areas or regions with unreliable electricity supply, long battery life is a key consideration. Meanwhile, younger consumers are more inclined towards well-known global brands, such as the iPhone and Samsung Galaxy series, reflecting aspirational attitudes and peer influence. These factors underpin the strong demand for pre-owned smartphones from established brands, as they tend to meet expectations for durability and brand recognition.

5.2.3 Macro factors

Fiscal policies

In Nigeria, imported smartphones are subject to customs duties and VAT, resulting in clearance costs rising by around 18%. For example, a smartphone with a $100 import value generally incurs a total landed cost of $117–120 and is subsequently sold at a retail price of $130–140 or higher, once distribution margins are included. Additionally, currency depreciation against the US dollar has intensified price volatility, further constraining access to smartphones for low-income households.[40]

Table 7: Nigeria: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
Customs duty	10%
VAT	7.5%

Mobile network coverage

Mobile broadband networks in Nigeria now cover nearly 90% of the population, with 4G available to more than 80% and 5G accessible in major cities. While this wide coverage is a significant driver of smartphone adoption, focus group participants have highlighted that uneven service quality between urban and rural areas discourages smartphone uptake in rural communities. In these areas, feature phones with robust antennas connected to 2G networks continue to provide the reliable voice quality needed for everyday use.

40 "Smartphone import slows as consumers' naira power shrinks", Business Day, August 2024

The government and mobile operators have taken steps to both enhance service quality in rural regions and extend coverage to unserved populations, which equates to more than 20 million people. In February 2025, the federal cabinet approved the Nigeria Universal Communication Access Project, which aims to connect over 21 million people across 4,834 communities that currently lack basic mobile communications access.[41] This initiative utilises a public–private partnership funding model to attract private-sector investment and speed up the deployment of essential infrastructure. The government also plans to lay 90,000 km of fibre-optic cable nationwide to support efforts to boost broadband penetration. In May 2025, Airtel Nigeria announced plans to double its capital expenditure for 2025 to accelerate the rollout of 5G services and expand mobile coverage in underserved rural areas.[42]

Enabling infrastructure

Survey respondents reported considerable difficulties in keeping their devices charged without reliable electricity, restricting their access to mobile internet services and digital tools. Many rural areas lack electricity altogether, while in urban regions where it is available, frequent outages remain a problem. The growing uptake of home solar and energy storage solutions in urban areas, as well as PAYG solar systems in rural locations, has the potential to alleviate the energy constraints affecting smartphone adoption. In numerous rural communities, individuals who have these solutions offer smartphone charging services for a fee, providing an additional income stream to help repay the cost of the solar equipment or subscription to the PAYG service. Beyond energy concerns, the relevance of local content also influences adoption. While most respondents reported using smartphones for calls, WhatsApp, social media and media consumption, engagement with advanced services, such as e-government, online learning and e-commerce, remains low, further reducing the incentives for smartphone adoption among underserved communities.

Spotlight

Energy and telecoms regulatory agencies collaborate in Nigeria

Nigeria's unserved and underserved regions have limited access to electricity and digital connectivity, posing challenges to economic activity and social participation. To address this, the REA and NCC formed a joint strategy and steering committee in June 2025 for a collaborative initiative aimed at improving rural energy and connectivity.

The partnership intends to use renewable energy sources such as solar power to supply mobile infrastructure in rural areas, thereby reducing diesel use in the mobile sector and supporting socioeconomic activities. By combining the REA's experience in sustainable energy delivery with the NCC's responsibilities and expertise in digital connectivity, the collaborative effort is designed to enhance both electricity and internet access in underserved communities, improving education, healthcare and economic outcomes.

This approach represents a model for integrated planning between energy and telecoms sectors and highlights the importance of holistic approaches to rural development issues.

41 "Nigeria's FEC approves AI and rural connectivity initiatives", Developing Telecoms, February 2025

42 Airtel to double capital spending for rural connectivity, 5G, Punch, May 2025

6. Rwanda

Rwanda at a glance

43%
Smartphone adoption

14.6 million
live in Rwanda

82%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
9%	45%	46%	<1%

Network coverage

99% **4G**
5% **5G**
percentage of the population

GDP

$999
GDP per capita

Smartphone

$12
median cost of entry-level smartphone

Cost of smartphone

14%
of monthly income per capita is cost of entry-level smartphone

Mobile data

<2%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

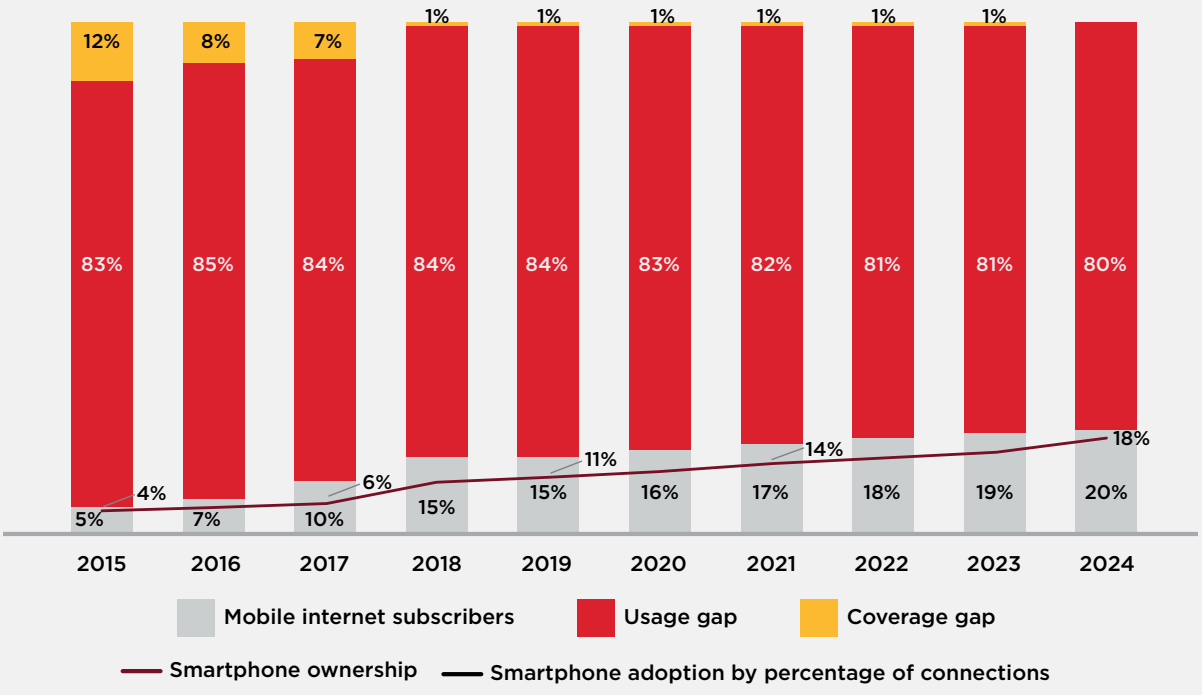
6.1 The connectivity landscape in Rwanda

Rwanda has achieved universal network coverage, a remarkable feat considering that 80% of its population lives in rural areas – one of the highest proportions in Africa. 4G networks now cover 99% of the population, and 5G, launched in 2025, currently serves users in Kigali. Rwanda's extensive 4G coverage is the result of a strategic public–private partnership between the government and South Korean telecoms operator KT in 2013, known as KT Rwanda Networks (KTRN), which led to the deployment of a nationwide 4G network and widespread fibre-optic infrastructure.

Notwithstanding this comprehensive mobile broadband coverage, 80% of the population do not yet subscribe to mobile internet services. The significant gap between mobile broadband coverage and actual internet adoption highlights substantial demand-side barriers to adoption and underscores the scale of the challenge in closing the country's usage gap, which is among the largest on the continent. Smartphone ownership – a key factor in the usage gap – rose from 4% in 2015 to 18% of the total population in 2024.

Fig 18: Rwanda: connectivity landscape

Percentage of population
Source: GSMA Intelligence



6.2 Factors influencing smartphone adoption in Rwanda

6.2.1 Device ecosystem factors

Domestic production

Rwanda has undertaken efforts to establish a domestic smartphone manufacturing industry, demonstrating both strategic ambition and practical adaptability. However, the economics of local production have proved challenging due to elevated production costs, which render locally assembled smartphones more expensive than imported alternatives, alongside a limited market size and high shipping costs for imported equipment and other inputs, compounded by Rwanda's status as a landlocked country. Disruptions in the supply chain for raw materials have also posed difficulties.

In 2019, Mara Group launched Mara Phones, a domestic smartphone assembly line, in the Kigali Special Economic Zone. The initiative was positioned as a flagship project under the Made in Rwanda industrial strategy and promoted as a symbol of the country's advancement along the digital technology value chain. By 2022, Mara was advertising five models, including the entry-level Mara S (priced at approximately $45). However, the plant soon suspended operations, citing weak local demand, high operating costs, limited economies of scale and the impact of the Covid-19 pandemic. Production has not resumed, leaving Rwanda entirely reliant on imports for its smartphone supply.[43]

Device customisation

During its period of operations, Mara phone included pre-installed applications for Rwandan e-services, such as Irembo for government payments and Kinyarwanda language support. Other device OEMs serving the market have incorporated customisations to address costs and usability requirements. Transsion phones, including Tecno, Infinix and Itel, offer local language options in Rwanda, with Kinyarwanda available in their operating systems. Additional features are aligned with broader needs in African markets, such as extended battery life, dual-SIM slots and dust-resistant components. Additionally, the Airtel Imagine 4G smartphone has been marketed with a focus on practicality and affordability rather than technical specifications.

Pre-owned smartphones

Many first-time smartphone owners acquire devices as gifts from family and friends or purchase them through informal peer-to-peer transactions or from small-scale dealers. While this approach lowers the initial cost, it also carries risks such as from the lack of warranties, undisclosed faults and limited access to reliable repair services. Formal retail outlets largely do not sell pre-owned devices. Consequently, customers seeking pre-owned smartphones are left to source them from informal refurbished phone markets.

> *"We don't sell refurbished or second-hand phones because we only offer devices with warranties." – Shop owner*

Meanwhile, MTN operates a trade-in programme to promote circularity, encourage upgrades from feature phones to smartphones and enhance digital inclusion among underserved communities. For example, as part of a pilot literacy programme, MTN South Africa distributed 894 pre-owned smartphones to 76 schools across seven districts in Rwanda, in partnership with Nabu, the Ministry of Education and local implementation partners, to foster early reading engagement.

Distribution and supply chain

Smartphone distribution in Rwanda is shaped by the fact that it is a landlocked country, which results in unavoidable land and air freight costs for imported goods, as well as domestic logistics costs through small towns and villages (though Rwanda's relatively good road infrastructure helps to ease the complexity of onward distribution). A typical supply chain for imported smartphones, usually sourced from Asia, involves first docking at regional ports in Mombasa or Dar es Salaam, followed by road transport to warehouses in Kigali and onward distribution to other parts of the country.

Most formal outlets, such as independent dealers, retail chains and e-commerce platforms,

43 Affordable Devices for All: Innovative Financing Solutions and Policy Options to Bridge Global Digital Divides, World Bank Group, 2023

are concentrated in Kigali, where consumers benefit from a wide selection of models and accessories, reliable after-sales services and competitive pricing driven by market competition. In contrast, rural areas often face restricted product availability, limited repair options and higher costs, as delivering phones to these areas is expensive due to lower sales volumes and higher transport costs per device. As a result, individuals residing in rural areas frequently travel to Kigali or other major towns to purchase smartphones or access after-sales support. 60% of survey respondents from rural areas cited this situation as a reason for their hesitancy in purchasing a smartphone.

Mobile operators play a significant role in the smartphone distribution network, offering devices through branded outlets and providing quality assurance and after-sales support. MTN Rwanda's 'shop-in-shop' initiative, part of MTN's strategy to expand its reach and sales network through strategic partnerships, refers to a dedicated retail space for MTN within a partner's store. This approach has enabled the operator to rapidly expand its network of customer touchpoints, allowing customers to purchase devices, obtain information and access MTN services without needing to visit an official MTN-only store.

Financing and bundling models

Rwanda's smartphone financing landscape remains relatively underdeveloped compared to markets such as Kenya. Consequently, cash continues to be the predominant method of smartphone payment across all demographics (including age, location, income and education) in Rwanda. Over 90% of smartphone owners who responded to our survey reported purchasing their handset with full upfront cash, while fewer than 20% had ever utilised a financing scheme such as BNPL, lay-by or instalments offered by dealers.

The main reasons for this trend, as highlighted by focus group participants, include a desire to avoid perceived financing risks such as hidden charges and repossession, strict credit score requirements, high down payments and expensive interest rates. Device-locking enforcement – where smartphones are disabled after missed payments – further undermined trust, according to focus group participants. As a result, some users prefer informal instalment arrangements with local retailers, who may allow trusted customers to pay in two or three instalments without additional charges. While these arrangements remain small scale, they demonstrate consumer demand for greater flexibility.

These concerns, as raised by survey participants, are reflected in the struggles of smartphone financing providers in Rwanda to scale up and establish a sustainable customer pipeline. In 2022, MTN Rwanda launched the Macye Macye programme, allowing instalment payments via the MoMo app in partnership with Bank of Kigali and Intelligra. In its first year, the programme distributed 120,000 smartphones.[44] However, MTN discontinued the initiative in 2025[45] following reported customer dissatisfaction.[46] In August 2025, MTN launched another smartphone financing scheme called Tunga Taci in collaboration with fintech company Yellow. This only requires customers to present a national ID and pay an initial deposit of RWF16,000 ($11) to obtain a new smartphone from brands such as Samsung, Tecno, Itel or Infinix, with the balance payable over 12 monthly instalments.[47] The Tunga Taci initiative aims to address key complaints raised about Macye Macye, such as high rejection rates for rural customers due to stringent eligibility criteria and high down payments.

44 "Digitising Rwanda – one smartphone at a time", MTN, 2024

45 Based on a key informant interview

46 "Possible solutions to issues in Macye Macye scheme", The New Times, September 2024

47 "MTN Rwanda, Yellow launch smartphone financing scheme 'Tunga Taci na MTN'", The New Times, August 2025

Airtel Rwanda, meanwhile, offers smartphone bundling schemes with data and airtime packages on low-cost devices, rather than traditional financing with repayments over time. Launched in October 2023, the programme features the Airtel Imagine 4G smartphone, a budget-friendly device that emphasises an upfront low-cost purchase over long-term instalments, with the bundled monthly subscription, providing a finance-like structure for continued access. Airtel also runs promotions tying smartphone purchases to data bonuses, often in partnership with brands such as Tecno Mobile.

Spotlight

Connect Rwanda

In December 2019, the government of Rwanda, together with operators MTN Rwanda and Airtel Rwanda, technology companies and international partners such as the United Nations Development Programme (UNDP), launched the Connect Rwanda challenge, a public–private partnership aimed at bridging the digital divide by increasing smartphone ownership and access to digital services, especially in rural and underserved communities.

This initiative formed part of Rwanda's Vision 2020 and its broader digital transformation agenda. The principal objective was to ensure that every Rwandan household possessed at least one smartphone, enabling access to digital services, including e-government platforms, education, healthcare and financial services. As part of the initiative, donated or subsidised 4G smartphones were provided to low-income households, with organisations, businesses and individuals encouraged to donate smartphones or funds through the Connect Rwanda website or via partners such as MTN and Airtel, which also offered free or discounted data plans with the donated devices. By 2022, over 20,000 smartphones had been distributed, according to government and UNDP reports, though this fell short of the 150,000 target due to funding and logistical challenges.

The momentum of the original initiative led to the launch of Connect Rwanda 2.0 in October 2023, which shifted the focus to scalable, operator-led models such as MTN's Macye Macye and subsequently Tunga Taci, along with Airtel's Imagine 4G programmes. These new initiatives placed a greater emphasis on affordable financing and bundled plans rather than donations, although the foundational elements of public–private collaboration and a focus on rural areas remained central to the 2.0 phase.

Airtel's Imagine 4G smartphone is priced at RWF20,000 ($16) and comes with bundled data and voice plans. MTN's offerings include affordable smartphones such as the Ikosora+, a 4G-enabled device equipped with essential features and pre-loaded with relevant applications for various user groups, as well as Tunga Taci instalment plans, which require a deposit of RWF16,000 ($11) and 12 monthly payments via mobile money. MTN reported distributing over 100,000 devices within just three months under Connect Rwanda 2.0, while Airtel aims to distribute up to 1 million devices through the initiative.

6.2.2 End-user factors

Disposable income

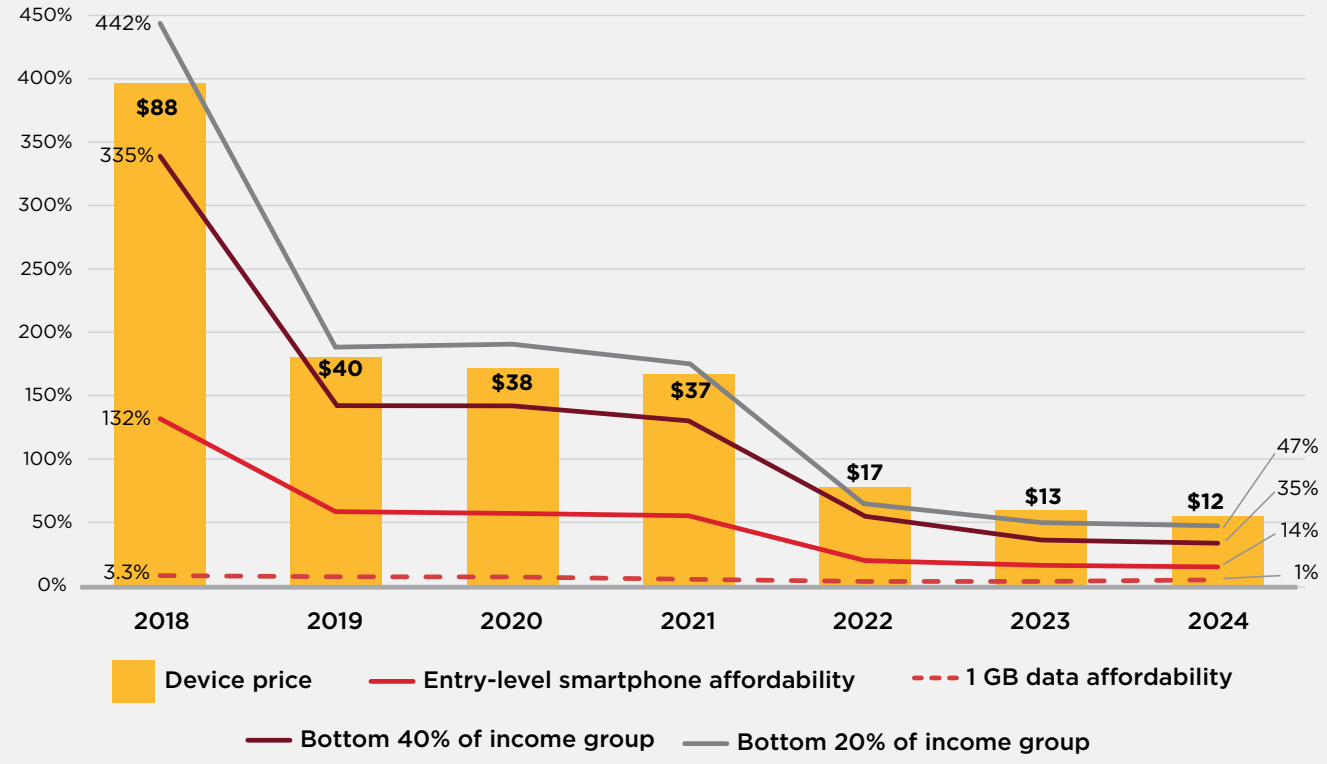
Although the cost of entry-level smartphones in Rwanda fell to $12 in 2024, these devices remain out of reach for many low-income households. For the lowest 40% income bracket, purchasing a smartphone accounts for roughly 35% of their average monthly income; for the bottom 20%, it approaches nearly 50% of their average monthly income. Consequently, smartphones are not regarded as essential by many. Some focus group participants reported opting for feature phones due to concerns about affordability. Given that 80% of the population lives in rural areas, employment type and income patterns are significant factors, with subsistence farmers and informal traders often experiencing unpredictable earnings that depend on seasonal harvests or market fluctuations. This unpredictability makes it difficult to save for a phone or keep up with instalment and data payments.

Meanwhile, evidence from our indicates that while a $12 entry-level smartphone is technically available, over 60% of rural respondents stated a willingness to pay up to $46 or more for a device, suggesting that ultra-cheap models are either perceived as poor quality or are not widely accessible. Preferred brands include Tecno, Infinix and MTN-branded handsets, which are associated with durability and reliable after-sales support.

Fig 19: Rwanda: entry-level smartphone price relative to income

Percentage of monthly per capita income

Source: GSMA Intelligence



Awareness and literacy

Insights from our focus group indicate that many feature phone users perceive smartphones primarily as tools for Facebook and WhatsApp, rather than as gateways to education, health or commerce. There is also a notable lack of digital literacy among non-smartphone users, particularly in rural areas. For example, one respondent stated that they didn't know how to use apps and would just waste money on data, reflecting the widespread fear of paying for

mobile data without knowing how to use it productively. Others expressed a desire for a simple application that could guide them step by step through installing and using more complex services. These gaps reduce the perceived value of smartphones, especially among resource-constrained rural residents, who already struggle to justify the cost of a device.

To address this, Rwanda has invested in digital services agents (DSAs) – trained individuals or kiosks located in public or semi-public spaces such as villages, cells and sector offices. With more than 3,000 DSAs deployed nationwide, they support citizens in accessing government services on platforms such as IremboGov, but they also increasingly help with basic digital literacy, including installing apps, setting up mobile money or troubleshooting smartphones. By providing a trusted, human interface, DSAs help overcome confidence barriers that might otherwise prevent rural residents from purchasing and using smartphones. Operators such as MTN and Airtel have begun bundling apps and services with smartphones, such as mobile money, agricultural information and health advice, though there is still a gap in usability support and training.

Social and cultural factors

According to the GSMA Mobile Gender Gap 2025 report, 49% of women in Rwanda are unaware of mobile internet, compared to 33% of men. Among women who know about the internet but do not use it, the main barriers are smartphone affordability, literacy and digital skills, and concerns about safety and security. This gap in mobile internet usage is particularly pronounced between urban and rural areas, with only 14% of rural women using mobile internet, compared with 29% of rural men.

Over 40% of survey respondents reported sharing their phones with family or friends almost daily, especially for everyday activities such as making calls, accessing the internet and taking photos or videos. Sharing is especially common in rural households, where the cost of smartphones restricts ownership to one device per family. However, phone sharing introduces practical and social risks – phone damage, data misuse and privacy invasion were common concerns reported in the survey. To address these risks, users reported various safety measures, such as monitoring use, locking apps and removing SIM cards, and expressed interest in smartphones with multi-user profiles, allowing households to manage shared use more securely. These strategies show that while sharing can help some individuals and households adapt to the affordability challenges, it comes at the cost of reduced privacy, device longevity and user confidence.

Individual behaviours and preferences

Alongside affordability, adoption is influenced by individual risk perceptions. Some respondents expressed concerns about device theft or breakage, particularly in rural areas where repair services are limited; nearly 30% of survey respondents in Rwanda identified phone damage as a significant issue when sharing devices. While this highlights the potential for insurance solutions to help mitigate such risks, uptake remains low. Households in low-income settings often avoid insurance products due to liquidity constraints that prioritise immediate cash needs and a lack of trust in payout mechanisms.[48] Nearly 80% of survey respondents reported not currently having insurance, and almost the same proportion are either not willing or are unsure about obtaining it in the future, with only 23% indicating they would consider it.

48 Poor economics: A radical rethinking of the way to fight global poverty, Banerjee, A. V. and Duflo, E., 2011

6.2.3 Macro factors

Fiscal policy

Rwanda's import-dependent smartphone market is highly sensitive to changes in excise duties and other fiscal policies affecting imported devices. From 2010 to 2025, smartphones were exempt from VAT, a policy widely credited with enhancing affordability and increasing digital penetration. However, from 1 July 2025, the government reintroduced VAT on smartphones, citing the need for increased revenue.[49] This change has directly impacted the affordability of smartphones, including entry-level models, and risks undoing the progress made under the Connect Rwanda initiative. The effective cost increase of 18%, combined with the existing 5% customs duty and 12.5% excise duty, brings the total tax burden to 35% of a smartphone's final retail price. Early evidence indicates that this move is already having a negative effect, with operator data showing a slowdown in the growth of new smartphone connections during the three months following the VAT reintroduction, compared to the period before its return.

Table 8: Rwanda: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
Customs duty	5%
VAT	18%
Excise duty on mobile services	12.5%

Mobile network coverage

Rwanda has expanded its mobile broadband networks to achieve universal coverage, with 4G networks now available to 99% of the population. This has eliminated the coverage barrier that limited adoption a decade ago. In June 2025, MTN launched commercial 5G services in Kigali (Gasabo, Nyarugenge and Kicukiro) and Kamonyi. At present, the service is primarily targeted at enterprise and fixed-wireless applications, providing higher-speed connectivity for small and medium-sized enterprises, campuses and public services. While 5G will not immediately transform the mass-market smartphone landscape, it does raise the ceiling for performance and may boost demand for mid-range smartphones. For most individuals, however, 4G remains the main driver of smartphone adoption. Sustaining growth will require a combination of device ecosystem and fiscal policy enablers to improve the affordability of devices for the most vulnerable population segments.

Enabling infrastructure

The expansion of electricity and the availability of locally relevant services have been transformative forces for smartphone adoption in Rwanda. In 2009, only 6% of Rwandans had access to electricity. By 2024, this figure had risen to 75% as a result of strong government leadership, partnerships with the private sector and development financing.[50] Each additional percentage point of electrification increases the total addressable market for smartphones,

49 Note on Policy Tax Reforms, Ministry of Finance and Economic Planning, February 2025

50 "Ingredients for Accelerating Universal Electricity Access: Lessons from Rwanda's Inspirational Approach", World Bank, April 2024

especially when combined with access to mobile money and digital services. By December 2024, there were 7.17 million active mobile payment subscribers in Rwanda. Transaction values surged through 2025, demonstrating that households increasingly regard smartphones as essential for financial participation.[51] At the same time, Irembo offers hundreds of services, such as civil registration, health insurance renewal and payment of traffic fines. During 2023–2024, more than 5 million service requests were processed through Irembo, further reinforcing the perceived value of smartphones in everyday life.[52]

These developments create a compelling value proposition for smartphone ownership. The current challenge is no longer coverage or service availability; rather, it is the development of effective strategies for smartphone adoption, alongside targeted efforts to ensure local relevance and content for smartphone usage.

51 Monetary policy and financial stability statement, National Bank of Rwanda, March 2025

52 "Irembo Records Over 5 Million Digital Service Requests in 2023-2024", Rwanda Dispatch, March 2025

7. Senegal

Senegal at a glance

62%
Smartphone adoption

18.45 million
live in Senegal

50%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
8%	41%	49%	2%

Network coverage

99% 4G
14% 5G
percentage of the population

GDP

$1,744
GDP per capita

Smartphone

$2
median cost of entry-level smartphone

Cost of smartphone

16%
of monthly income per capita is cost of entry-level smartphone

Mobile data

2%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

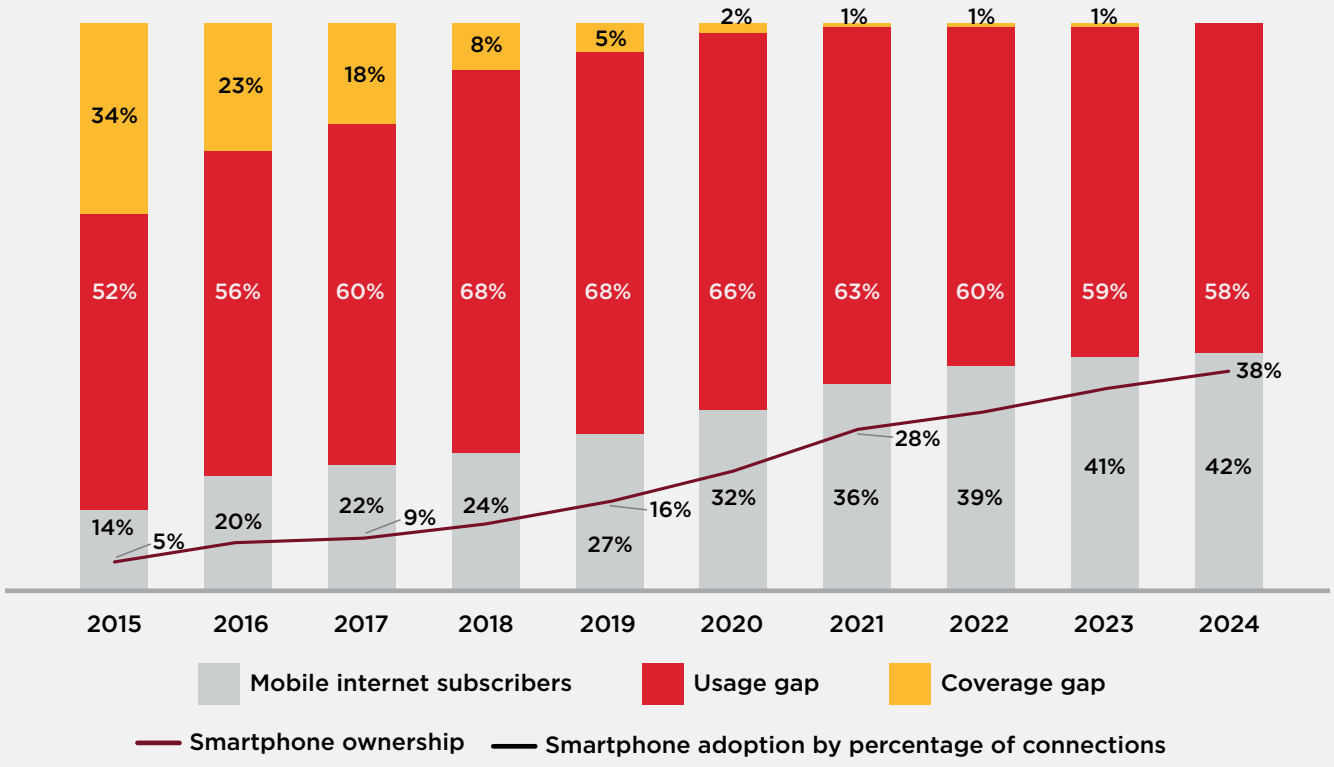
7.1 The connectivity landscape in Senegal

Senegal has achieved universal mobile broadband coverage through substantial investment by mobile operators in mobile broadband networks, including 4G, which now covers 99% of the population, and, more recently, 5G, which is now available in major cities. In 2024, with the rollout of 5G, Senegal implemented new rules for network infrastructure sharing and established guidelines for alternative operators accessing passive infrastructure. These measures aim to enhance rural connectivity and lower infrastructure costs.

Mobile internet adoption has tripled in the last decade, reaching 42% in 2024. This has been helped by a smartphone ownership rate of 40%. The usage gap, at 58%, remains significant, though it has been trending down gradually since 2020. In a bid to address the usage gap, various stakeholders in Senegal have launched several programmes in recent years to expand smartphone ownership. Many of these initiatives are underpinned by public–private collaboration. For instance, in February 2025, the New Deal Technologique, a 10-year digital strategy aiming for universal high-quality internet at affordable cost, was launched.

Fig 20: Senegal: connectivity landscape

Percentage of population
Source: GSMA Intelligence



7.2 Factors influencing smartphone adoption in Senegal

7.2.1 Device ecosystem factors

Domestic production

There is no local smartphone production in Senegal, meaning that the local market for phones is primarily served by imports and susceptible to associated fiscal policies, logistics and other factors related to smartphone importation. Senegal imports most of its smartphones from countries in Asia and Europe, with China, France and India being significant sources.

Device customisation

There are several examples of smartphone customisation specifically designed for users in Senegal. These adaptations often address local challenges such as linguistic diversity (including Wolof, French and regional dialects) and limited literacy. Transsion is a major smartphone OEM in Senegal, mainly through its brands Tecno, Infinix and Itel. These brands are recognised for offering affordable devices with features such as long battery life, dual-SIM support, durability, and camera functions optimised for darker skin tones. The phones are designed to meet specific needs of users in African markets.

Pre-owned smartphones

Most pre-owned smartphones in Senegal enter the market through informal channels, such as local shops and peer-to-peer exchanges, which adversely affects how potential users perceive their value. Only 8% of non-smartphone owners in our survey said they would consider purchasing a pre-owned smartphone, in contrast to 60% who would prefer an entry-level device and 25% who would consider a financing solution. Focus group participants cited several reasons for their cautious attitude towards pre-owned smartphones, including the lack of access to trustworthy sellers, absence of quality guarantees, and concerns about the safety of refurbished devices.

> *"I can only buy a pre-owned smartphone from trusted shops. I have friends who have been scammed." – Focus group participant*

> *"I don't have much confidence in these kinds of phones because you never know if it was stolen or if the owner, after using it as he pleased, no longer wanted it." – Focus group participant*

Recent initiatives by mobile operators to formalise the pre-owned smartphone market could help address many of these issues. Orange, in partnership with the French social enterprise Les Ateliers du Bocage, collects used mobile phones in Senegal and across its footprint in the Middle East and Africa. Devices in working condition are refurbished and resold at reduced prices, while those beyond repair are dismantled for certified recycling. By offering reliable and affordable refurbished phones, the programme not only improves access for low-income users but also helps reduce e-waste.

Distribution and supply chain

Smartphone distribution in Senegal begins at the Port of Dakar, with virtually all imported devices entering the country there before passing through major distributors and operator retail networks. Sales are concentrated in urban centres, where mobile operators play a central role in last-mile distribution to end users, providing warranties and after-sales support.

However, distribution to remote rural communities is more challenging due to the limited availability of formal retail outlets, resulting in potential smartphone buyers in these locations often relying on informal sellers and market day visitors. This situation leads to several issues, including inconsistent pricing, limited product variety and damaged devices caused by poor handling during transit. Focus group participants from rural areas reported frequent incidents of faulty phones and emphasised that rural consumers are often faced with a choice between expensive formal options, which usually require travelling to towns or cities at additional

expense to purchase a smartphone, or riskier informal alternatives. According to focus group participants, this is a major deterrent to smartphone ownership among residents in these areas.

Financing and bundling schemes

In our survey, 25% of non-smartphone users in Senegal indicated that they would consider purchasing a smartphone through financing. Respondents demonstrated a willingness to engage with flexible payment schemes, ranging from modest monthly contributions to larger, multi-month plans. This points to a clear demand for financing schemes, though most arrangements remain informal. Insights from focus group discussions revealed that most non-upfront payments for smartphone purchases are made via local sellers offering trust-based instalment plans. However, there are concerns regarding the terms of finance, with focus group participants highlighting that the cost of finance should not exceed 20% of the device price.

> *"I paid XOF65,000 in two parts through a seller who does informal credit. No paperwork, just trust." – Focus group participant*

Formal financing schemes, such as bank loans, BNPL and operator-led credit programmes, are available. For example, Orange Senegal has partnered with Izili (formerly Baobab+) to offer the Samsung Galaxy A25, bundled with 4G data, on credit to prepaid customers. This arrangement requires a down payment of XOF55,000 ($74), followed by three to six monthly instalments. However, formal financing solutions are not widely adopted, often due to limited access, documentation requirements or a lack of trust. Vulnerable groups, such as students, women and informal workers, face additional barriers to accessing formal financing, largely due to income instability and mistrust.

> *"I once heard about financing schemes in a bank, but I never tried it because I think that to get a loan there you need an account." – Focus group participant*

Cross-sector bundling offers, particularly off-grid and PAYG models that link energy access with smartphones, have emerged as a complementary strategy to increase smartphone adoption. For example, a private initiative called 'Moon' in the Kolda region provides solar home kits that include a MoonPhone, a specially designed smartphone. Customers can acquire both the solar kit and the phone through mobile money PAYG payments. This system enables rural households to access clean electricity and a connected device by gradually repaying the cost over time. The Moon kit is supported by French funding from the SolInAE programme and targets low-income, off-grid communities.

7.2.2 End-user factors

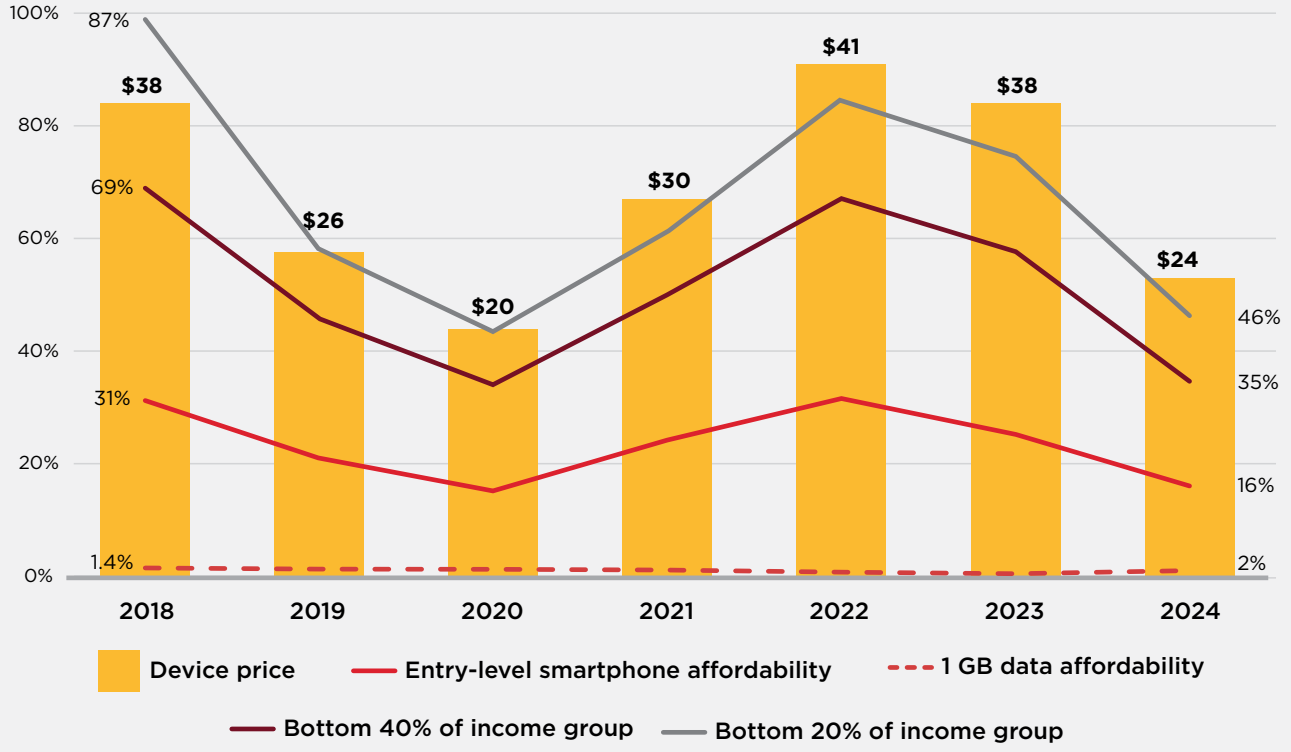
Disposable income

Three quarters of non-smartphone owners in Senegal from our survey cite cost as the primary barrier to adoption, whereas only 16% mention cultural or religious restrictions and 7% cite digital illiteracy. Although entry-level smartphones dropped to $24 in 2024, this still amounts to 16% of the average monthly income in the country and nearly 50% for those in the lowest 20% income bracket. Insights from focus group participants highlight how priorities often shift towards immediate necessities, even when savings have been set aside for devices.

Fig 21: Senegal: entry-level smartphone price relative to income

Percentage of monthly per capita income

Source: GSMA Intelligence



For example, one participant from Dakar had XOF45,000 ($80) earmarked for a smartphone, but pressing needs compelled them to use those funds elsewhere. For such individuals, necessities such as food, accommodation and school fees frequently take precedence over smartphone purchases. The tendency to pay for smartphones upfront, due to limited access to formal financing options, further amplifies the impact of disposable income on smartphone adoption.

> *"Sometimes you save enough to buy a new smartphone, but unexpected issues arise." – Focus group participant*

Awareness and literacy

36% of survey respondents in Senegal cited a lack of technical skills and 28% a lack of support mechanisms as barriers to effective smartphone use. First-time users typically learn smartphone functions informally through family, peers or community members, while younger users tend to rely on online tutorials and YouTube videos. Many older adults often limit their usage to voice calls and SMS, highlighting a generational digital divide. Mobile operators and non-governmental organisations (NGOs) are beginning to address these gaps. Sonatel's IFC-linked bond, issued in 2024, has allocated funding for digital outreach alongside rural network expansion, while NGOs such as ElleSolaire are deploying solar-powered kiosks that offer charging facilities, Wi-Fi and hands-on training for women and the youth segment. These initiatives demonstrate that pairing devices with practical training and affordable usage models is essential for building digital confidence among new users.

Social and cultural factors

Insights from focus group participants suggest that smartphones in Senegal possess significant social relevance, being regarded as essential tools for communication, business, education and

community engagement. One participant emphasised the value of watching videos online for their textiles business, while another highlighted the use of online platforms to supplement vocational training. Furthermore, 64% of respondents identified broadcasting community events and 29% mentioned disseminating information related to agriculture, education or health as key uses for smartphones within households and communities. According to focus group participants, gender norms influence application preferences rather than ownership patterns, except where economic factors are concerned; men are more inclined to engage with sports-betting platforms, whereas women more frequently use social networks.

Over 30% of respondents reported sharing devices, a practice that broadens access but also presents challenges. Shared use can result in device damage, potential data misuse, privacy concerns and quicker battery depletion. Nearly half of respondents who share smartphones expressed concerns about social media scams, closely followed by worries regarding unauthorised access to sensitive information, hacking and account takeovers, as well as fraud involving financial accounts. Respondents reported employing strategies to mitigate these issues, such as using app locks, switching SIM cards before lending devices and supervising usage.

Individual behaviours and preferences

Survey respondents in Senegal identified battery life, durability, storage capacity, camera quality and dual-SIM capability as the smartphone features they value most, reflecting both their literacy levels and everyday requirements. These preferences demonstrate a keen awareness of cost management (through SIM switching), resilience in environments with limited electricity and the significance of social communication.

7.2.3 Macro factors

Fiscal policies

Senegal adheres to the common external tariff set by the West African Economic and Monetary Union (WAEMU) and the Economic Community of West African States (ECOWAS), which classifies goods into bands depending on their economic function. Smartphones are generally placed in the 20% customs duty band, as they are regarded as consumer electronics that are either locally produced or have locally available equivalents. This rate is applicable to imports originating from outside the WAEMU/ECOWAS region. Furthermore, an 18% VAT is imposed on the cost, insurance and freight value of the shipment, in addition to other fees such as a 1% statistical import charge, a 0.8% community solidarity levy and a 0.5% ECOWAS levy. Consequently, the total effective rate for smartphones can be as high as 40–45%. This substantially affects the affordability of smartphones, particularly for those in the lowest income brackets.

Table 9: Senegal: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
Customs duty	20%
VAT	18%
Other fees	Up to 5%

Mobile network coverage

Senegal's mobile broadband coverage has expanded rapidly, with the coverage gap shrinking to almost zero by 2024. 4G networks now cover nearly the entire country and 5G is beginning to gain traction. The transition from legacy networks to 4G has been a central feature of the mobile internet landscape in recent years. Operators have promoted 4G devices with starter data packs to encourage users to move from 2G and 3G to 4G services. Regulatory reforms continue to support mobile network coverage. In 2024, the telecoms regulator approved national roaming, allowing users in rural areas to connect to any available network. This reduces the risk of dead zones and enhances smartphone usefulness in low-density areas, potentially improving network reliability and reducing reliance on dual SIMs to manage multiple providers.

Enabling infrastructure

In rural Senegal, where approximately half of households lack reliable electricity and 30% of communities are entirely off the grid, smartphone adoption is hampered by difficulties with charging. Users frequently depend on shared charging stations, such as solar-powered kiosks or local shops, which typically cost between XOF100 ($0.2) and XOF500 ($0.9) per charge. These financial and logistical obstacles limit daily usage and encourage the preference for basic feature phones over power-hungry smartphones. Senegal's commitment to renewable energy – an aim of 20% of electricity from solar sources by 2025, according to government plans – has driven the development of off-grid solutions. Solar home systems and community microgrids, provided by startups such as Oolu, enable smartphone charging in rural areas and have increased adoption by around 10% in villages without electricity access.

GSMA

8. South Africa

South Africa at a glance

73%
Smartphone adoption

61 million
live in South Africa

31%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
1%	7%	77%	15%

Network coverage

99% 4G
59% 5G
percentage of the population

GDP

$6,253
GDP per capita

Smartphone

$13
median cost of entry-level smartphone

Cost of smartphone

3%
of monthly income per capita is cost of entry-level smartphone

Mobile data

<2%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

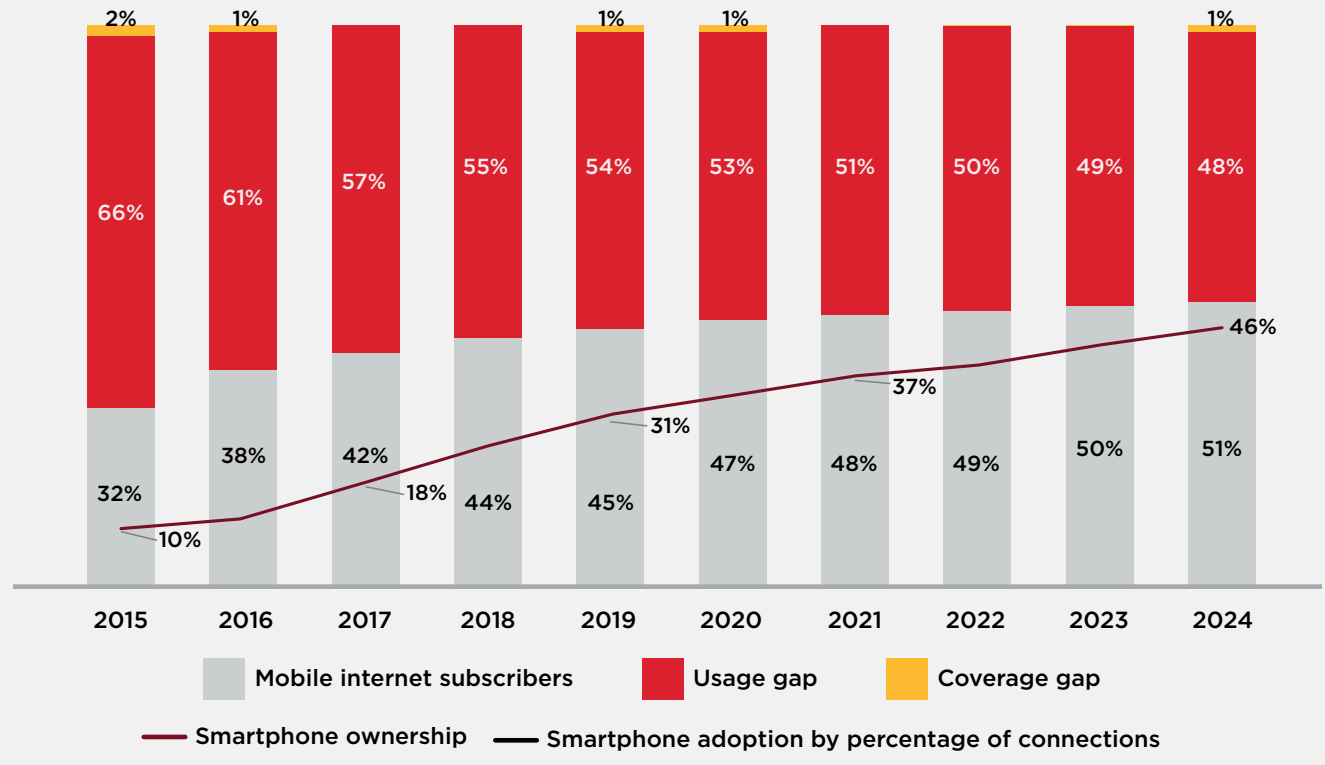
8.1 The connectivity landscape in South Africa

The proportion of mobile internet subscribers in South Africa has increased by around 20 pp in the past decade, now representing 51% of the population. Given that mobile broadband network coverage became almost universal by 2015, this growth has meant that the usage gap has narrowed, from 66% to 48% over the same period. South Africa boasts one of the most advanced mobile broadband infrastructures on the continent, both in terms of coverage and quality, thanks to sustained investment from mobile operators over the years. Therefore, connecting the remaining unconnected populations is increasingly a matter of overcoming demand-side barriers to mobile internet adoption, rather than supply-side constraints.

Smartphone affordability is a crucial element in further promoting mobile internet uptake in South Africa and, consequently, in extending the benefits of the digital economy to a greater number of individuals and businesses nationwide. By 2024, smartphone ownership had reached 46% of the population. This represents a fourfold increase in less than 10 years, though there is still much potential to further close the usage gap.

Fig 22: South Africa: connectivity landscape

Percentage of population
Source: GSMA Intelligence



8.2 Factors influencing smartphone adoption in South Africa

8.2.1 Device ecosystem factors

Domestic production

Mobicel has operated an assembly facility in South Africa since 2007. This local brand specifically targets the budget market, offering smartphones for as little as ZAR599 ($34). In addition, its recent cloud-based phone initiative provides an even more affordable way

to access core smartphone apps. such as YouTube and Facebook. via the cloud for around ZAR249 ($14), supporting the migration of users to 4G networks. However, domestic production in South Africa has encountered challenges; for example, Mara Phones, established in 2019, ceased operations a few years later. As a result, imports continue to play a major role in meeting South Africa's demand for smartphones across all price points. Local assembly efforts have yet to make a significant impact on market dynamics, with consumers still consistently favouring international brands.

Device customisation

Device customisation is widespread in South Africa, driven by competition among OEMs seeking to increase their market share. Notable features include support for local languages, extended battery life and the use of Android Go OS on budget smartphones. For instance, Samsung and Xiaomi devices available in South Africa feature user interfaces that support multiple languages, including offline voice-to-text functionality in Zulu for applications such as WhatsApp Business. Mobicel provides devices with high-resolution cameras, offering 48 and 50 MP options, to cater for the demand for quality photography across various price points. Additionally, devices featuring Android's built-in Data Saver mode compress videos and restrict background data usage, helping to address concerns regarding data costs.

Pre-owned smartphones

Over 25% of survey respondents in South Africa would consider buying a pre-owned smartphone due to the high upfront costs of new devices, particularly premium models that are often out of reach for many users. The top reasons for acquiring a pre-owned smartphone according to focus group participants include proof of ownership, screen and battery quality, warranties of up to two years and brand reputation. These preferences show that demand for pre-owned smartphones is driven not only by affordability, but also by considerations of quality and user aspirations.

Insights from our survey also reveal that more than 40% of users replace their phones every 1–2 years, with just 6% keeping them for five years or more. This rapid replacement cycle ensures a steady supply of used smartphones entering the market. The pre-owned smartphone market is further bolstered by the activities of established players throughout the supply chain, including collection, trade-ins, repairs and resale. For example, Vodacom and WeFix offer trade-in programmes and device sales, Device Repair Centre focuses on repairs and replacements for out-of-warranty devices and specialist online retailers such as Gorilla Phones SA and Revibe South Africa sell refurbished smartphones online.

Despite the presence of these formal channels, a significant proportion of pre-owned smartphones are still acquired through informal means, such as peer-to-peer sales, flea markets and small shops, where warranties or quality assurance are often lacking. Capturing these volumes through formal refurbishment programmes run by established companies could create a large and sustainable pipeline of affordable, certified devices to serve a substantial segment of the South African smartphone market. In 2022, Vodacom launched its Good As New programme, sourcing devices from third parties and customer returns, then reselling them with a 12-month warranty. By 2023, more than 60,000 refurbished smartphones had been sold through the initiative, demonstrating both consumer demand and the positive impact of certification on building trust.[53]

53 www.gsma.com/solutions-and-impact/connectivity-for-good/external-affairs/gsma_study/vodacom-good-as-new-devices-program-raising-awareness-in-africa/

Government policy is also supportive. South Africa's Digital Economy Masterplan emphasises the development of recycling and refurbishment hubs, aligning affordability objectives with sustainability by addressing e-waste. For example, South Africa applies extended producer responsibility principles, requiring manufacturers and importers to take responsibility for managing their products at the end of their life cycle. While refurbished smartphones already play a vital role in improving affordability, their expansion will depend on building trust, through certification, warranties and transparent standards for quality and data erasure.

Distribution and supply chain

At the initial stage, all imported smartphones enter South Africa through major ports such as the ports of Durban, Cape Town and Ngqura. Although South Africa boasts more advanced port infrastructure than many other countries on the continent, persistent issues (e.g. delays in customs clearance, elevated coordination and transport costs) and regulatory hurdles (e.g. type approval requirements for each new handset model) continue to impede efficient distribution.[54] Additionally, fluctuations in foreign currency further increase costs before the devices even reach the domestic distribution network.

After arriving at the ports, devices are transported via centralised warehouses and distributor networks. For urban consumers, this system generally operates efficiently and smartphones are readily accessible through operator outlets, national retail chains and online channels. However, distribution to rural and peri-urban areas remains fragmented, leading to inefficiencies and increased costs for buyers in these regions. Theft during transport and high insurance premiums further exacerbate distribution expenses. Consequently, residents often need to travel considerable distances to towns or depend on informal resellers, who frequently sell devices at inflated prices.

The extensive agent networks managed by mobile operators could play a pivotal role in resolving last-mile distribution challenges. For example, Vodacom has trialled agent-led distribution, utilising airtime resellers and mobile money agents as handset retailers in rural areas, while MTN has expanded its agent network, which could serve as community-level hubs for the sale of affordable devices alongside mobile money services.

Finance and bundling models

South Africa's smartphone financing and bundling landscape is arguably the most advanced on the continent, with a diverse array of options from various providers, including mobile operators, retailers, traditional banks and fintech companies. These services are supported by several factors, such as a sophisticated credit checking system, a high level of financial inclusion (85% of the adult population as of 2024) and a significant proportion of contract subscriptions (approximately 20%) that are well suited to financing and bundling solutions. A combination of competition among numerous providers and the differing needs of consumers has resulted in the adoption of a variety of models, as outlined in Table 10.

54 Anecdotal insights from key informant interviewees

Table 10: South Africa: smartphone financing and bundling models
Source: GSMA Intelligence

Model	Examples of providers
BNPL	Major smartphone retailers, such as Cellucity, collaborate with BNPL providers to offer instalment payment options across a wide range of products, including interest-free plans and deals requiring no deposit.
Bundling	All major mobile network operators - Vodacom, MTN, Telkom and Cell C - provide standard contract bundles that include a smartphone together with a monthly allotment of data, voice minutes and SMS. These plans typically require a commitment period of 24 months or more and feature recently released devices.
PAYG	Vodacom's Easy2Own solution is based on a PAYG model that allows customers to purchase a smartphone by buying 'Unlock Bundles' with airtime, eliminating the need for a credit check or bank account.
Rent-to-own	Rent-to-own plans allow customers to pay for a device in instalments, often without the need for credit checks, and eventually own the handset outright. In July 2025, MTN MoMo introduced a rent-to-own smartphone service, allowing customers to acquire a 4G or 5G smartphone from as little as ZAR10 ($.50) per day, with no credit checks or paperwork required. Other rent-to-own providers include PayJoy and FoneYam.
Revolving credit	Revolving credit is predominantly provided by online credit platforms such as Mobicred, which collaborates with a wide range of online retailers. Rather than a conventional loan with a set repayment period, a revolving credit facility offers a reusable line of credit that customers can access as required, up to a specified limit.

Despite these options, only 25% of South African respondents in our survey expressed interest in using smartphone financing to purchase devices, indicating that the majority still prefer to pay for devices upfront. The groups least likely to use financing solutions, according to our survey insights, are older people and domestic workers. Many of these individuals often have their smartphone financing applications rejected because they lack payslips or credit histories to demonstrate their ability to pay the required instalments. Others decline to use financing solutions because the interest charges mean paying more than the original price, as one focus group participant noted.

Another pattern that emerged from the responses was the suggestion that customers would be more inclined to consider instalments if financing schemes resembled prepaid arrangements, offering micro, predictable payments rather than traditional debt, and if safeguards such as insurance were included. Insurance shifts the risk away from the consumer, making instalments a safer option for low-income buyers who cannot afford to lose their device. This aligns with research findings that fostering community trust is crucial for the adoption of financing models.

"Monthly instalments are effective only when insurance is included." – Key informant interviewee

"Insurance should be included with instalment plans." – Focus group participant

Spotlight

MTN's Smartphone for All subsidy programme

A smartphone subsidy is a financial incentive, provided by either the government or a mobile operator, that reduces the purchase price of a smartphone for consumers. In South Africa, smartphone subsidy programmes typically involve device financing, instalment plans or discounted pricing bundled with contracts or prepaid services. These schemes help to offset high upfront costs (e.g. those resulting from a weakening rand and import taxes) while also encouraging users to remain committed to the network. All the major operators – Vodacom, MTN, Telkom and Cell C – offer such programmes, though their focus varies; some target high-end devices through contract deals, while others prioritise affordable 4G upgrades for prepaid customers.

MTN's Smartphone for All initiative, launched in May 2025, exemplifies a smartphone subsidy programme aimed at assisting prepaid customers in upgrading from legacy 2G and 3G devices to affordable 4G-enabled smartphones. The initiative operates on two fronts: a heavily subsidised ZAR99 ($5.4) 4G smartphone offer for selected prepaid customers, and a rent-to-own scheme via the MoMo app for the unbanked population. Eligibility for the subsidised deal is determined by usage profiles, spending patterns and tenure with the network, with qualified customers notified by SMS. The rent-to-own option allows customers to pay as little as ZAR10 ($0.50) per day through flexible plans spanning three, six, nine or 12 months, with no credit checks required. Affordability assessments are driven by AI, eliminating the need for payslips, credit checks or paperwork. Upon completion of all payments, ownership of the device transfers to the customer.

MTN has pledged to supply 1.2 million low-cost 4G devices to prepaid customers in three phases: a pilot with 5,000 users in Gauteng; a scale-up to 130,000 nationwide; and over 1.1 million customers by the programme's completion at the end of 2026.[55] This phased approach enables MTN to optimise distribution, such as adapting based on feedback from early adopters, while supporting its wider strategy to decommission its legacy 2G and 3G networks by 2027, allowing a shift towards more advanced and efficient technologies.

8.2.2 End-user factors

Disposable income

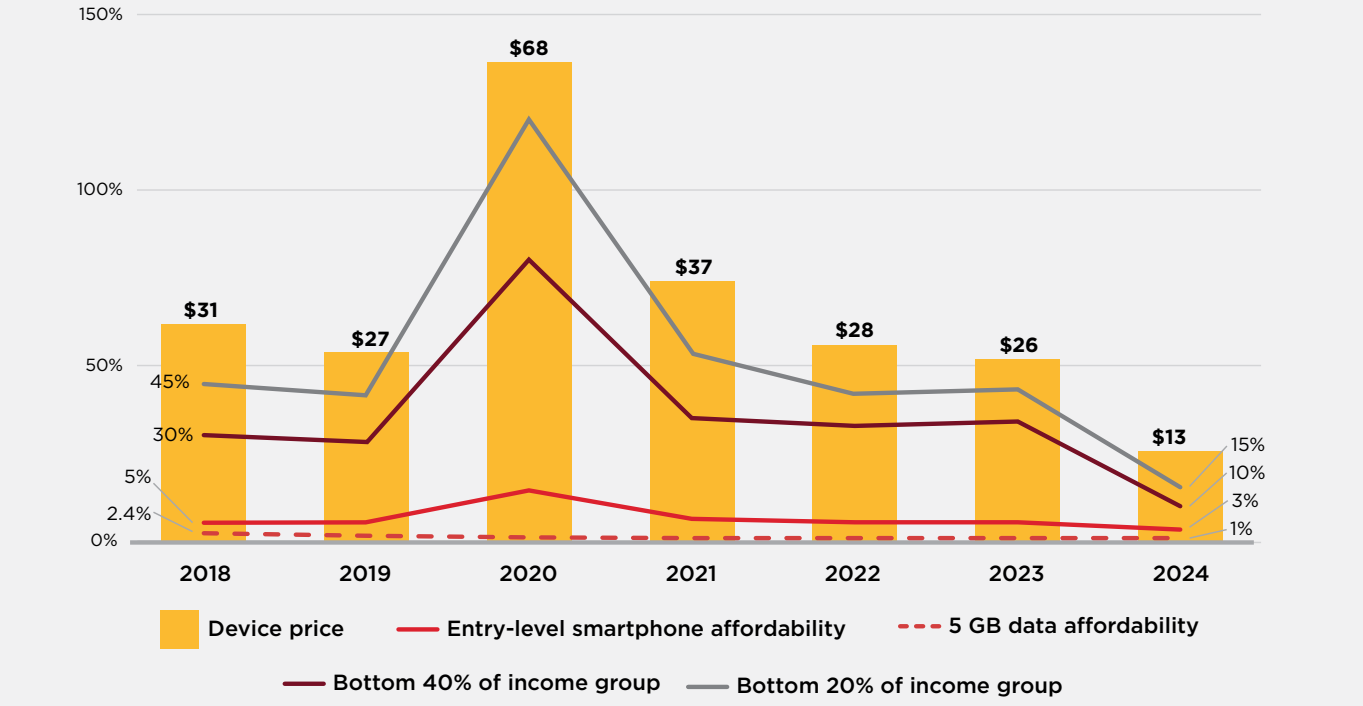
Although the cost of entry-level smartphones in South Africa dropped to $13 in 2024, this still represents approximately 15% of monthly income for the poorest 20% of the population,

55 "MTN to offer 1.2M cheap 4G devices", Mobile World Live, May 2025

a significant burden for lower-income households (compared to just 3% of average monthly income for the total population). This indicates that while smartphone affordability has become less of an issue for most consumers, the lowest-income groups remain highly susceptible to exclusion.

Fig 23: South Africa: smartphone price relative to income
Percentage of monthly per capita income

Source: GSMA Intelligence



Insights from our focus group revealed a striking paradox: while 64% of respondents stated they would only pay less than ZAR1,865 ($105) for a smartphone, the majority within this group would only consider mid- to high-end devices from brands such as Apple and Samsung. This suggests that brand aspiration strongly influences ownership decisions. As a result, even though their income might allow them to purchase an entry-level device, many choose to postpone buying a smartphone to save for their preferred brand.

> *"Smartphones are expensive, and we cannot afford them. But if I save, I want a Samsung – these cheap phones do not last." – Focus group participant*

Awareness and literacy

According to our survey, 80% of respondents in South Africa reported that basic tasks such as using a device and accessing the internet are straightforward. However, more complex activities, such as managing data usage, installing applications and making payments, were frequently identified as challenging, with many requiring support. Much of this support occurs informally within families and social circles. Recognising the extent of the digital literacy gap, South Africa's Department of Communications and Digital Technologies introduced the Digital Economy Masterplan and a Digital Literacy Massification Drive. By 2024, more than 20,000 people in rural provinces had received training in basic digital skills.[56]

56 "Minster Mondli Gungubele: Launch of National Digital Skills Forum", South African Government, March 2024

"We teach each other how to use the smartphones." – Focus group participant

Social and cultural factors

Nearly 30% of respondents reported sharing their smartphones with family or community members, most commonly to broaden access. Some refer to this practice as collective support; 35% consider sharing to be 'community help', while 26% believe it fosters trust among friends and family. Smartphones are utilised for a variety of community activities. Over 60% of respondents say they use them to report crime and 50% to share health information, while some also use them to distribute educational materials. Consequently, smartphones serve not only as personal devices but also as tools within the community infrastructure.

Shared smartphones often serve as collective learning tools for households, but they can also foster hesitation. The fear of breaking someone else's device also discourages experimentation. To manage these challenges, users adopt makeshift solutions: 35% lock apps, 25% supervise others' usage and 19% swap SIM cards to reduce exposure. Others delete files or their browsing history after use or set passwords on specific apps. Although these measures offer a certain level of protection, they are often regarded as inadequate and can increase complexity. This highlights the importance of individual ownership to maximise the benefits of connectivity.

"I don't try things because it's not my phone." – Focus group participant

Individual behaviours and preferences

Nearly half of survey respondents from South Africa cited increased storage and improved performance as the most sought-after smartphone features. Meanwhile, for those residing in rural areas, where device sharing is commonplace, durability, longer battery life and multi-SIM functionality are of particular importance. This suggests that consumers are not solely seeking affordability in smartphones; they also value robustness, ample storage and high performance.

8.2.3 Macro factors

Fiscal policies

Taxes and duties significantly increase the cost of imported devices, which constitute most of the market. Imported smartphones are subject to 15% VAT and a usage tax ranging from 7% to 15%. An ad valorem tax exemption for low-end smartphones has already been implemented, reducing the cost of some entry-level models by up to ZAR211 ($12). The luxury excise duty on smartphones worth less than ZAR2,500 was abolished in April 2025.

Table 11: South Africa: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
Excise duty on mobile services	7–15%
VAT	15%

Spotlight

The impact of luxury tax exemption on handsets priced below ZAR2,500 in South Africa

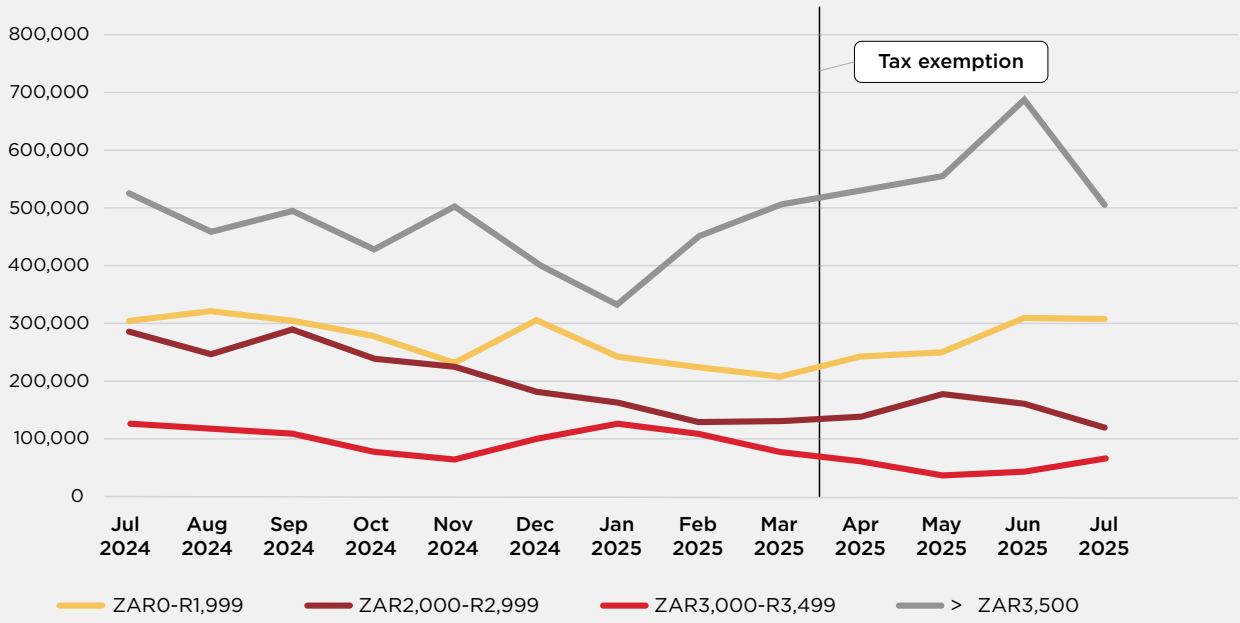
Following the government's exemption of handsets priced below ZAR2,500 ($143) from the luxury handset tax, the South African mobile market has experienced notable shifts in consumer behaviour. Sales data from July 2024 to July 2025 reveal growth in the affordable smartphone segment, signalling that the tax relief has boosted accessibility and driven adoption among cost-conscious consumers. Looking at handset sales from July 2024 to July 2025, the following trends stand out as promising.

A surge in sales

As shown in Figure 24, sales of handsets under ZAR2,000 ($115) trended downward from July 2024 to April 2025, until the luxury tax exemption impacting this category was introduced. Following the exemption, sales have consistently increased. For example, handset sales in this price band were 49% higher in July 2025 compared to March 2025, the month preceding the tax relief, based on sales data from retailers and mobile operators.

Fig 24: Number of smartphone sales by price band

Source: Counterpoint data and GSMA analysis

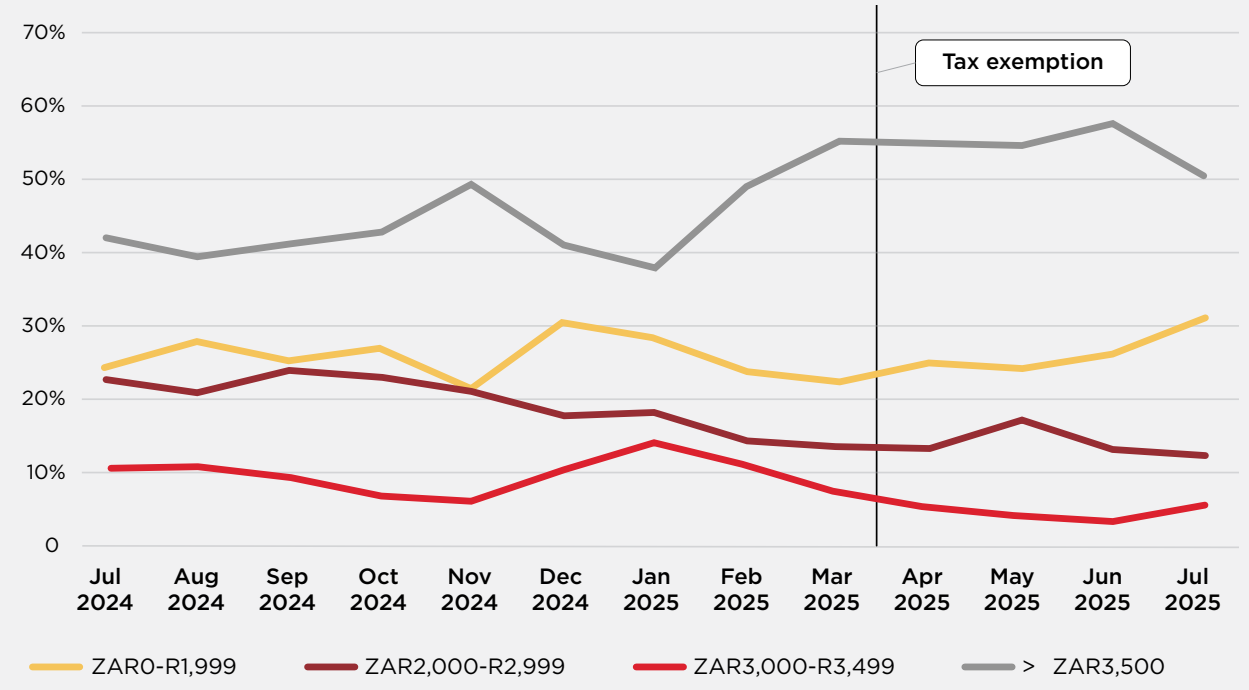


Rising market share

After the tax exemption, smartphones priced below ZAR2,000 saw their market share increase by 8 pp, from 23% in March to 31% in July 2025, reversing the downward trajectory seen before the exemption. This increase suggests there was a strong consumer response to the price adjustment, while other price segments remained largely stable.

Fig 25: Market share of smartphone sales by price band

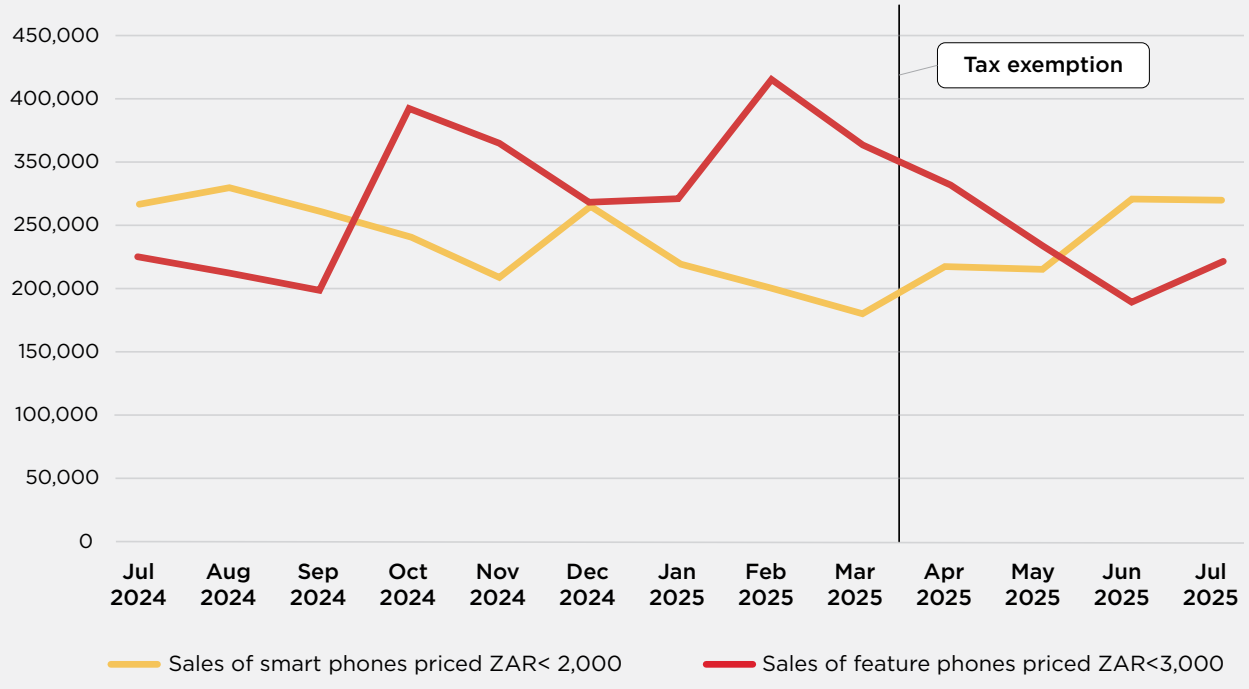
Source: Counterpoint data and GSMA analysis



Decline in the sales of feature phones

Following the tax exemption, sales of feature phone priced below ZARR2,000 fell by 30% between March and July 2025, coinciding with the rise in affordable smartphone sales in the same price band. This trend suggests that the tax-driven price reduction encouraged consumers to shift from basic feature phones to more capable smartphones, accelerating the overall market transition toward smart devices.

Fig 26: Number of sales of smartphones and feature phones priced under ZAR2,000



A positive shift, with further potential progress

The South African government's decision to remove the luxury goods tax on smartphones priced below ZAR2,500 is commendable. This policy change has made smartphones more accessible to a broader population segment, thus supporting greater digital inclusion. The initial analysis demonstrates a significant positive shift in the adoption of entry-level smartphones in South Africa. This trend strongly indicates the growing aspiration among South African citizens to participate in the digital world and access online services.

However, there is potential for further progress. The government should consider additional tax reductions, which would help to lower the cost of smart devices even more and enable further expansion of digital access across the country. Collaboration with service providers is essential to ensuring the success of these policy measures. Such partnerships can help deliver a comprehensive approach – one that not only provides affordable devices but also introduces innovative product offerings. Furthermore, this collaboration can support efforts to tackle other critical challenges, such as improving digital literacy, thereby empowering more citizens to make the most of digital opportunities.

Mobile network coverage

Network coverage is extensive in South Africa, with 4G being the most used technology. However, operators note that rural areas continue to rely on legacy 2G and 3G networks, which are more compatible with feature phones which many individuals in those areas continue to rely on. This reliance persists due to factors such as affordability and digital literacy barriers. Focus group participants highlight network performance issues, which has been compounded by load-shedding in rural regions, as a significant barrier.

> *"We have difficulties accessing the internet when there is load-shedding." – Focus group participant*

Mobile operators are actively working to improve the reliability of high-speed internet services in rural locations. In October 2025, Vodacom announced plans to invest over ZAR660 million ($38 million) in network infrastructure in Southern Gauteng to accelerate the deployment of 4G and 5G, thereby enhancing network capacity to meet rising data demand and improving network resilience. The company has upgraded more than 1,700 sites with enhanced battery back-up systems to mitigate the impact of power interruptions in Southern Gauteng. Further investments have been made in power back-up systems for core network facilities. Vodacom also intends to invest over ZAR500 million ($28 million) in network infrastructure in Limpopo, rolling out more than 250 5G sites and establishing new sites for currently unconnected communities in the far northern rural areas of the province.

Enabling infrastructure

Even when networks and devices are available, daily use is frequently disrupted by electricity shortages and limited charging options. Survey data shows that nearly 15% of respondents in South Africa identified irregular electricity supply as a significant challenge. Participants described the impact of load-shedding, explaining that power cuts often disrupt their

smartphone charging routines. Additionally, respondents reported that these interruptions delay their ability to access the internet until electricity is restored. Alternatives such as solar chargers and power banks are viewed as essential, yet many low-income households cannot afford them

> *"We don't have money to buy solar equipment." – Focus group participant*

Respondents also indicated that English-centric interfaces make it difficult to navigate applications or digital services. This leads to inconsistent digital engagement, particularly among first-time users and older individuals. Interviewed stakeholders highlighted opportunities to address this gap through multilingual device and service design, including localised user interfaces, translated documentation and customer support available in all 11 official languages of South Africa.

> *"I am not perfect with English, so there are some words I don't understand." – Focus group participant*

9. Togo

Togo at a glance

54%
Smartphone adoption

9.37 million
live in Togo

56%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
36%	18%	41%	5%

Network coverage

98% 4G
11% 5G
percentage of the population

GDP

$1,043
GDP per capita

Smartphone

$40
median cost of entry-level smartphone

Cost of smartphone

46%
of monthly income per capita is cost of entry-level smartphone

Mobile data

5%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

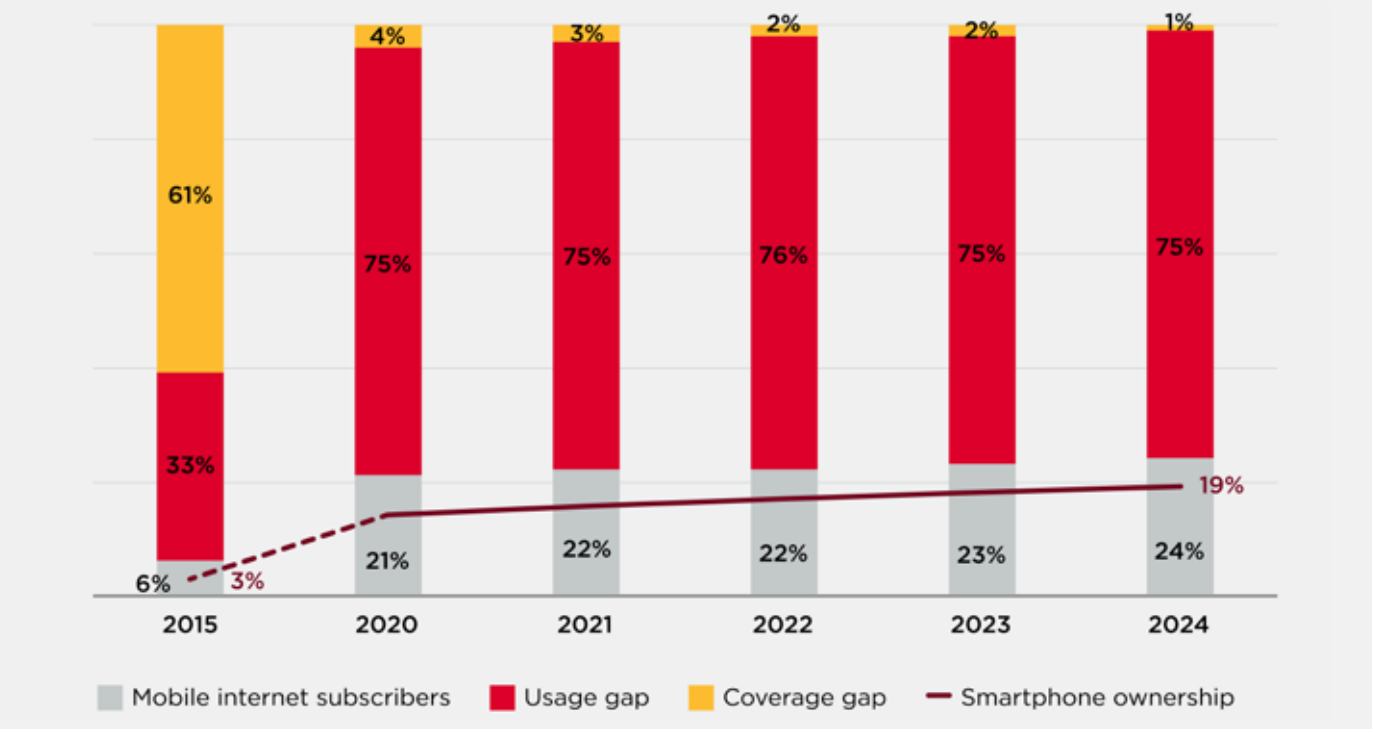
9.1 The connectivity landscape in Togo

Togo has made remarkable progress in extending mobile broadband coverage over the last decade, narrowing the coverage gap from 61% in 2015 to just 1% by 2024. During this period, mobile internet adoption quadrupled to 24%; however, the usage gap also grew significantly, from 33% to 75%, indicating that the pace of mobile internet adoption has not kept up with the rapid expansion of mobile broadband networks in the country. This situation highlights the continued reliance on feature phones connected to legacy 2G and 3G networks, despite extensive 4G coverage and increasing 5G coverage. As of 2025, 2G and 3G connections accounted for more than 50% of total connections in Togo.

Among mobile internet users, GSMA Intelligence data shows that half rely on smartphones, while the other half depend on smart feature phones. This demonstrates strong demand for connectivity but also emphasises how affordability continues to shape device choice. Expanding access to smartphones is crucial for accelerating 4G adoption and, by extension, reducing the usage gap. As of 2024, 19% of the total population in Togo owned a smartphone. Smartphone penetration has grown slowly, increasing by just 5 pp since 2019. The government and other stakeholders are taking steps to address these challenges. In 2021, the government partnered with Bboxx to launch the Togo Smartphone initiative, enabling citizens to purchase smartphones on a PAYG basis.

Fig 27: Togo: connectivity landscape

Percentage of population
Source: GSMA Intelligence



9.2 Factors influencing smartphone adoption in Togo

9.2.1 Device ecosystem factors

Domestic production

All smartphones sold in Togo are imported, making them vulnerable to international shipping costs as well as import taxes and fees. Back in 2014, Luft, a local company, announced plans

to assemble laptops, tablets, modems and smartphones using components sourced from China and other Asian countries. However, these plans have not materialised, highlighting the structural and market challenges faced by domestic smartphone manufacturers in many African countries.

Device customisation

While the Togolese market benefits from smartphone customisation aimed at African markets more generally – such as affordable entry-level smartphones, particularly from Chinese OEMs, dual-SIM devices and long-lasting batteries – there are no customisations specifically designed for Togo. In fact, unlike in some other African countries where OEMs have developed smartphone user interfaces in local languages, this remains absent in Togo.

Pre-owned smartphones

In Togo, interest in pre-owned smartphones is divided among consumers in rural and low-income groups. For some, purchasing a second-hand device is a cost-effective route to smartphone ownership. However, an equal proportion of respondents reject the idea due to perceived risks, such as frequent malfunctions, counterfeiting and the absence of warranties. When devices are upgraded, they are typically passed down within the family rather than sold on the open market, resulting in a limited natural 'second-hand pipeline'. This is particularly evident given our survey findings, which show that over 60% of current owners in Togo have kept their phones for more than five years. Such long replacement cycles restrict the number of locally used devices returning to circulation.

Distribution and supply chain

Smartphone distribution in Togo remains heavily concentrated in urban centres. Devices arrive via the Port of Lomé, pass through customs (where they are subject to VAT and various other charges) and are then stocked by city retailers or operator stores. By the time they reach rural buyers, costs have escalated further due to transport, handling and reseller markups. Key informant interviewees report that distribution poses significant challenges, with logistics and customs fees being identified as major contributors to elevated device costs. They also note that limited transport infrastructure, high internal logistics expenses and costly local storage present additional obstacles. These factors push many consumers towards the informal grey market, where devices are cheaper but often lack warranties or quality assurance.

To address these shortcomings, operators and ecosystem players are trialling new approaches. Bundled device-and-data packages and financing models (e.g. instalments, PAYG) have proven most effective among urban low-income users and first-time smartphone adopters. Operators also emphasise the importance of partnerships with manufacturers and retailers to extend their reach into underserved areas. Nevertheless, the last mile remains neglected. Focus groups of rural respondents described phones as being available only on weekly market days or via travelling sellers. Formal operator channels exist, but they are sparse outside of major towns. In these areas, informal vendors dominate, raising the risk of counterfeit devices and poor after-sales support.

Financing and bundling schemes

In our survey, 57% of respondents in Togo prefer the option of purchasing low-cost smartphones outright with cash, compared to 32% who favour financing. However, insights from the focus group revealed a different dynamic: only a few customers utilise formal credit or instalment schemes, with the majority relying on borrowing from family and friends or entering

informal agreements with sellers, often due to the perception of high interest rates associated with formal financing channels.

Mobile operators are the predominant providers of smartphone financing solutions in Togo. In 2024, Yas launched the Agbanan Phone, which customers can buy with payments of XOF300 ($0.53) daily via Mixx by Yas (formerly Tmoney), spread over six months. Local e-retailers, meanwhile, now advertise phones with daily repayment options ranging from XOF150 ($0.30) to XOF350 ($0.50), broadening access beyond operator storefronts. Bundling initiatives have also gained traction. For lighter usage, Moov Africa Togo introduced low-cost night-time bundles such as iZi'Moon to appeal to younger, price-sensitive consumers.

Nevertheless, trust remains essential. Without visible after-sales support, many hesitate to enter instalment plans. In this regard, Carlcare's Lomé service centre plays a crucial role in building trust through warranties and repair services, though it is not available in rural or peri-urban areas.

9.2.2 End-user factors

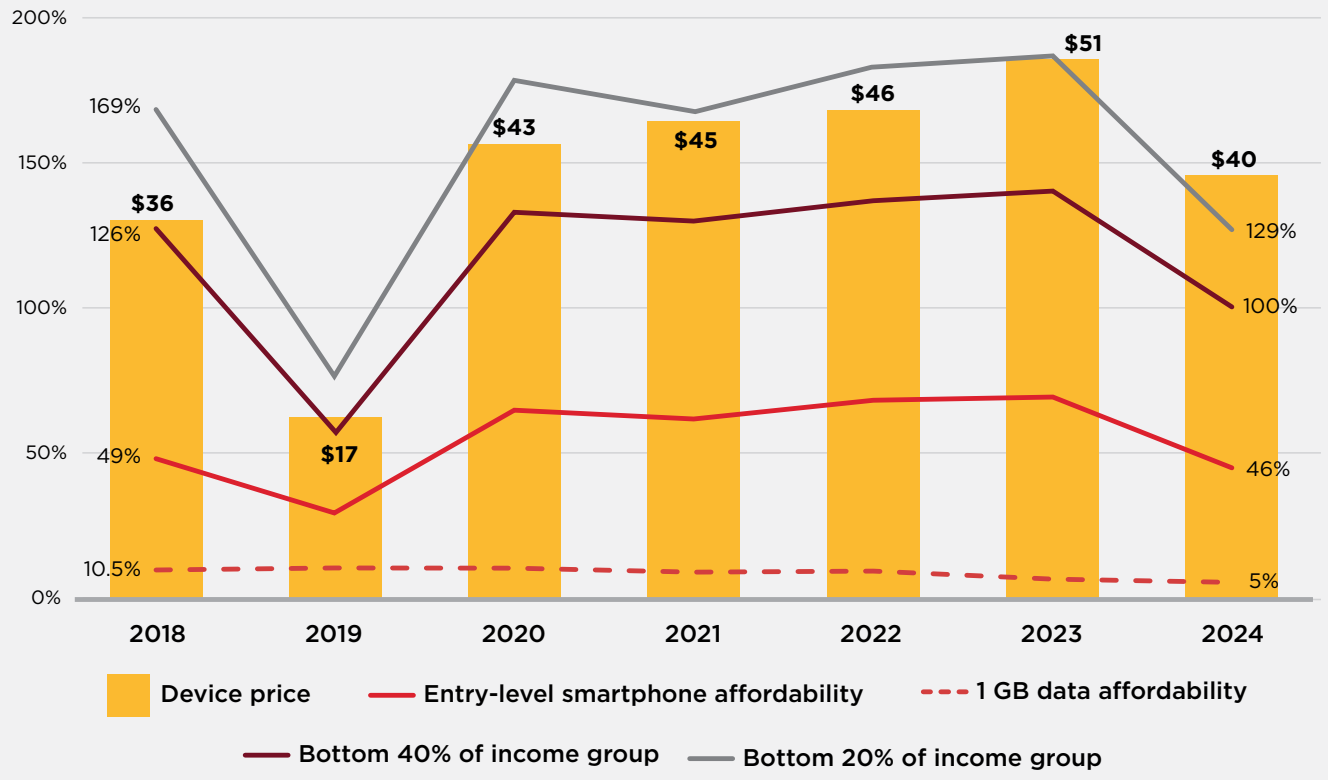
Disposable income

The median price of an entry-level smartphone in Togo is $40, equating to 50% of the average monthly earnings. For the lowest 40% income group, the same phone consumes an entire month's income, while for the lowest 20% it exceeds the average monthly income. Faced with competing needs, purchasing a smartphone often drops down the priority list for individuals in lower income brackets. The scale of the affordability challenge in Togo is underscored by the fact that over 80% of survey respondents cited cost as the main reason for not owning a smartphone. For those who aspire to make a purchase, the stakes are high: a smartphone is considered a major household asset and the risk of theft or damage is a deterrent.

> *"I just don't have the money right now, and I don't feel the need to buy a smartphone yet." – Focus group participant*

> *"It's expensive. I can't afford it and I'm afraid it might get stolen." – Focus group participant*

Fig 28: Togo: entry-level smartphone price and cost of 1 GB of data relative to income
Percentage of monthly per capita income
Source: GSMA Intelligence



Awareness and literacy

Over 80% of survey respondents in Togo reported finding smartphones easy to use, yet 19% still experience difficulties with basic functions. Among those who do not own a smartphone, 18% cited a lack of knowledge about how to use one as the principal barrier, second only to cost. Of those who struggle with using smartphones, approximately 25% expressed a need for assistance with basic operations or accessing the internet, while nearly 15% requested support in installing applications and making payments or paying bills.

In practice, learning to use a smartphone generally happens informally. Local retailers, particularly in rural areas where digital literacy challenges are most acute, often step in to guide customers, while some customers rely on family members. Yas's SoWe programme seeks to tackle the digital skills gap and strengthen social connections among young people.

> *"My niece is always the one person who will teach me how to do things." – Focus group participant*

Social and cultural factors

Women are more likely to borrow phones than to own them, mainly due to economic factors but also due to male gatekeeping. The survey results provides further nuance. Among smartphone owners in Togo, women tend to use their phones for longer periods before replacement compared to men, reflecting less frequent access to new devices and a greater likelihood of borrowing. Such biases have led to women reporting lower confidence in using smartphones.

"Men mostly own the phones. Women borrow." – Focus group participant

"Men have more access to technology, which limits women's digital autonomy." – Focus group participant

Beyond gender, wider social attitudes also influence adoption. Phone sharing is prevalent in Togo, but this often gives rise to social challenges. Nearly 75% of survey respondents cited trust issues, with over half expressing concerns about privacy breaches and spousal control. Furthermore, more than 10% reported experiencing gender-based violence linked to phone usage within the home. In response, operator-led initiatives have focused on gradually breaking down cultural barriers. For example, as part of the GSMA's Connected Women Commitment Initiative, Yas has committed to empower women in Togo by making a formal commitment to increase the proportion of women in their mobile internet and mobile money customer base.

Individual behaviour and preference

Survey respondents in Togo placed great importance on durability, long-lasting battery life, privacy features (such as biometrics and app locks) and ease of use, indicating a preference for practicality. These behavioural patterns underscore that, even when affordability is addressed, uptake will remain limited unless trust and safety are assured. To encourage adoption, individuals must feel confident that smartphones are not only affordable, but also safe, private and genuinely worth the risk of owning.

9.2.3 Macro factors

Fiscal policies

As all smartphones sold in Togo are imported, they are subject to customs duties, VAT and other taxes that increase the retail price for end users. This includes an 18% VAT applied to devices, including entry-level models, and customs duty of approximately 15%.

Table 12: Togo: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
Customs duty	Usually 15% for smartphones
VAT	18%

Mobile network coverage

Togo has made rapid progress in expanding mobile coverage; by 2024, 99% of the population was covered by 4G networks. While this lays the foundation for widespread mobile internet adoption, four in 10 people still rely on 2G connections. Despite the extensive mobile coverage, mobile operators continue to invest in their networks to extend coverage to the last remaining areas and to improve quality of service, which, if not addressed, could also serve as a disincentive for smartphone adoption. Focus group participants noted difficulties connecting at

certain times of the day, likely due to network congestion.

In early 2024, Yas secured XOF36 billion (€55 million) in financing from the IFC to modernise its network, extend fibre backbones and expand 4G capacity nationwide. At the same time, efforts are being made to improve reliability through greener infrastructure. By late 2024, Axian Group reported that 38% of Yas's network sites were solar powered, reducing reliance on diesel and helping to keep cell sites functioning during power outages.

Enabling infrastructure

Fewer than 20% of rural households have access to mains electricity, meaning many are forced to rely on informal charging services, generators or solar lamps. Focus group participants often highlighted electricity as a significant challenge, with those who can afford it using a generator to charge their phones. To address such issues, a comprehensive approach is needed: expanding reliable access to energy, developing retail and repair networks and investing in public access points for connectivity.

In 2017, the government introduced the Cizo initiative, an off-grid solar subsidy programme developed in collaboration with Bboxx and EDF, to enhance access to energy and digital services. The Cizo initiative (which translates to 'lighting up' in the local Guin language) operates by supplying solar home systems through a PAYG model utilising mobile money, supplemented by a government-funded digital subsidy known as the Cizo cheque. This partnership is designed to accelerate rural electrification, promote clean energy solutions and facilitate greater affordability and accessibility of smartphones to the broader population.

These measures are not merely supplementary but are vital components. In their absence, even those who manage to acquire a smartphone may struggle to keep it powered and operational, which could hinder broader adoption.

10. Zambia

Zambia at a glance

58%
Smartphone adoption

21.42million
live in Zambia

54%
live in rural areas

Percentage of total connections

2G	3G	4G	5G
7%	43%	45%	5%

Network coverage

99% 4G
35% 5G
percentage of the population

GDP

$1,235
GDP per capita

Smartphone

$88
median cost of entry-level smartphone

Cost of smartphone

85%
of monthly income per capita is cost of entry-level smartphone

Mobile data

2%
of monthly income per capita is cost of 1 GB of data

Note: Figures relate to the end of 2024 unless otherwise stated.

Sources: GSMA Intelligence, World Bank, GSMA survey data

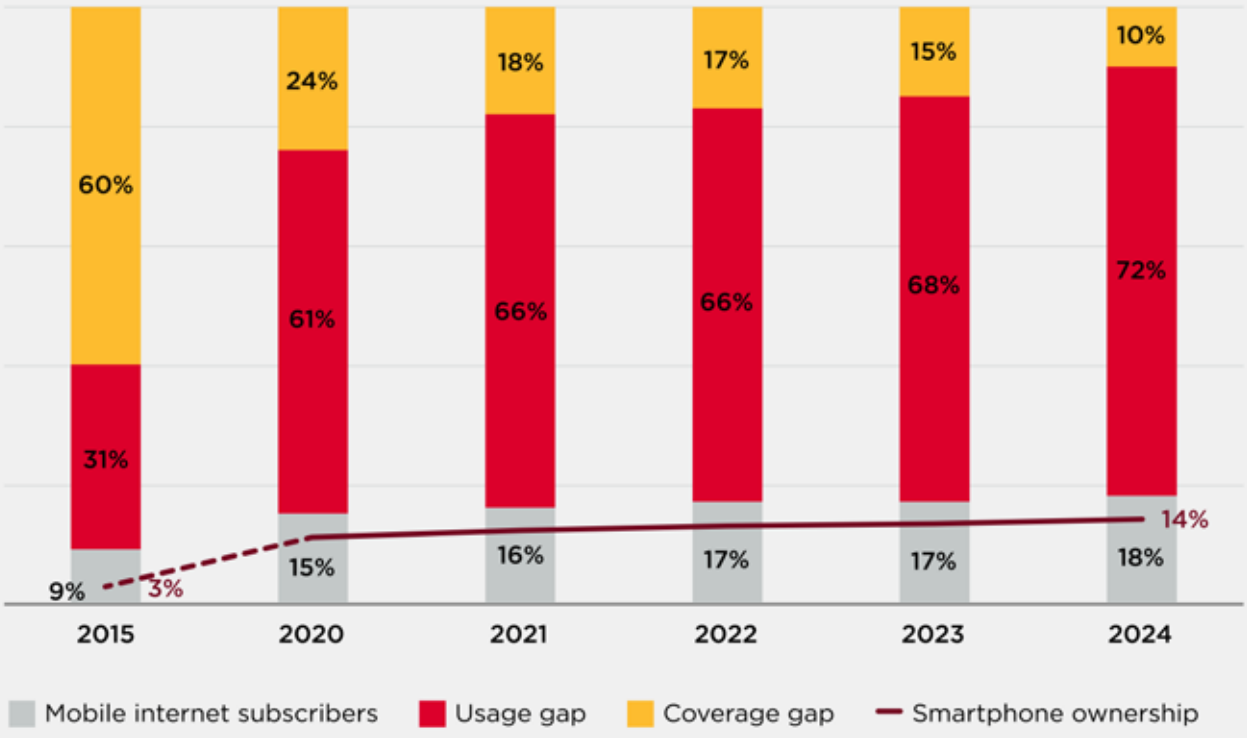
10.1 The connectivity landscape in Zambia

Over the past decade, Zambia's coverage gap has narrowed by 30 pp, leaving just 10% of the population without access to mobile broadband. While this means that more than 2 million people remain affected by the coverage gap, the usage gap – having more than doubled in the same period – poses an even greater challenge. The usage gap in Zambia reached 72% in 2024, making it one of the largest usage gaps on the continent. This clearly shows that mobile internet adoption has not kept pace with the expansion of mobile broadband networks, pointing to considerable barriers to adoption beyond network coverage.

Individual access to smartphones is a crucial factor influencing the rate of mobile internet uptake. As of 2024, only 14% of the total population owned a smartphone, with ownership increasing by just 1 pp annually over the past five years.

Fig 29: Zambia: connectivity landscape

Percentage of population
Source: GSMA Intelligence



10.2 Understanding factors influencing smartphone adoption

10.2.1 Device ecosystem

Domestic production

There are currently no local smartphone assembly plants in Zambia. However, in late 2023, the government partnered with ZTE to establish a smartphone assembly facility aimed at reducing costs and making use of local resources, following the example set by other African nations, although key components will still need to be imported. The project was scheduled

to commence by mid-2024, but no public updates on its progress are available. In the longer term, Zambia has the potential to incorporate more of the value chain domestically. As a major producer of raw materials used in electronics, such as copper and cobalt, there is a strategic opportunity to link mineral beneficiation with electronics manufacturing in the future.

Device customisation

The Zambian market benefits from smartphone customisations aimed at African markets more generally – such as affordable entry-level smartphones, particularly from Chinese OEMs, dual-SIM devices and long-lasting batteries – but there are no customisations specifically designed for Zambia.

Pre-owned smartphones

The market for pre-owned and refurbished smartphones is significant in Zambia, providing a more affordable entry point for consumers, though there are also concerns about quality and trust. Survey data reveals that approximately 30% of smartphone users in the country acquired their devices second hand and over 70% of non-owners would consider purchasing a used phone if a new one is unaffordable. Cost is a major consideration. Nearly 50% of respondents identified low price as the main reason for opting for a pre-owned device, though assurances of quality and warranties were also important. A similar proportion of respondents would consider buying a pre-owned smartphone if they could trust its condition and authenticity.

At present, the market is predominantly informal, comprising peer-to-peer transactions, small-scale vendors and parallel or grey imports. However, buyers face risks such as counterfeit devices, potential scams or limited after-sales support. Most local retailers do not offer refurbished phones, citing related challenges. This situation points to a marked reliance on informal markets and price disparities that affect consumer purchasing behaviour. For mobile operators, this presents an opportunity: operator-led trade-in or certified pre-owned schemes could deliver affordable, guaranteed devices, keeping handsets in use and providing upgrade options for low-income users.

> *"We don't sell refurbished phones – it's more problematic than selling a new one." – Retailer*

Distribution and supply chain

Zambia is a landlocked country, so most smartphone shipments arrive via ports in neighbouring countries, such as Tanzania, or by air freight. These shipments then pass through customs and are transported by road to central warehouses, often located in Lusaka or the Copperbelt, before being distributed to retailers nationwide. A major issue in the distribution process is customs clearance delays, which can cause smartphone shipments to be held up for several months, especially if documentation problems arise. This bottleneck frequently leads to higher handset prices, as the resulting unpredictability forces distributors to either hold more inventory – tying up capital – or risk stock shortages in the market.

After clearing customs, high fuel costs, limited rail freight and poor rural roads further increase last-mile distribution expenses. Zambia's geography and infrastructure make inland logistics expensive, with fragmented transport networks pushing up smartphone delivery costs. Ultimately, these costs are passed on to consumers. Distribution is sparse outside major cities; formal handset retailers are concentrated in urban areas, meaning rural customers must travel to district towns or rely on informal sellers to purchase a smartphone.

Large importers or mobile network operators often handle bulk shipments, while independent wholesalers and sub-dealers are involved in distributing products to smaller markets. Key informant interviews indicate that some provincial dealers obtain stock from central hubs such as Lusaka or Kitwe and sell it within their regions. In cases where local supply is insufficient, dealers may source phones from neighbouring countries like Tanzania, potentially resulting in variable pricing and challenges in maintaining consistent quality control or warranty services throughout the country.

Financing and bundling schemes

Over 80% of smartphone users in Zambia who responded to our survey indicated that they purchased their devices outright with cash. This highlights the limited development of smartphone financing solutions. Nearly 90% of survey respondents reported never attempting formal financing options, citing concerns about high interest rates, inflexible repayment terms and the risk of repossession. For most people, current financing arrangements do not yet address their core needs. Credit-profiling challenges further restrict access, particularly for unbanked or informal-sector consumers, limiting the reach of instalment plans.

Nevertheless, there is a growing variety of financing options available, including lay-by instalment plans, where devices are released after full payment, and Chilimba (rotating savings groups). For example, MTN Smart Pay offers repayment over up to 24 months, while Airtel and Zamtel have partnered with CreditHive to deliver flexible instalment plans via mobile money. Mobile operators have also noted that device–data bundles, which pair a smartphone with discounted or free starter data, have attracted significant interest from customers, as these not only reduce upfront costs but also ensure immediate usability. Inspired by off-grid energy models, Vitalite Zambia piloted a GSMA-backed scheme offering smartphones through mobile money micropayments, validating demand for daily or weekly instalments in rural areas.

10.2.2 End-user factors

Disposable income

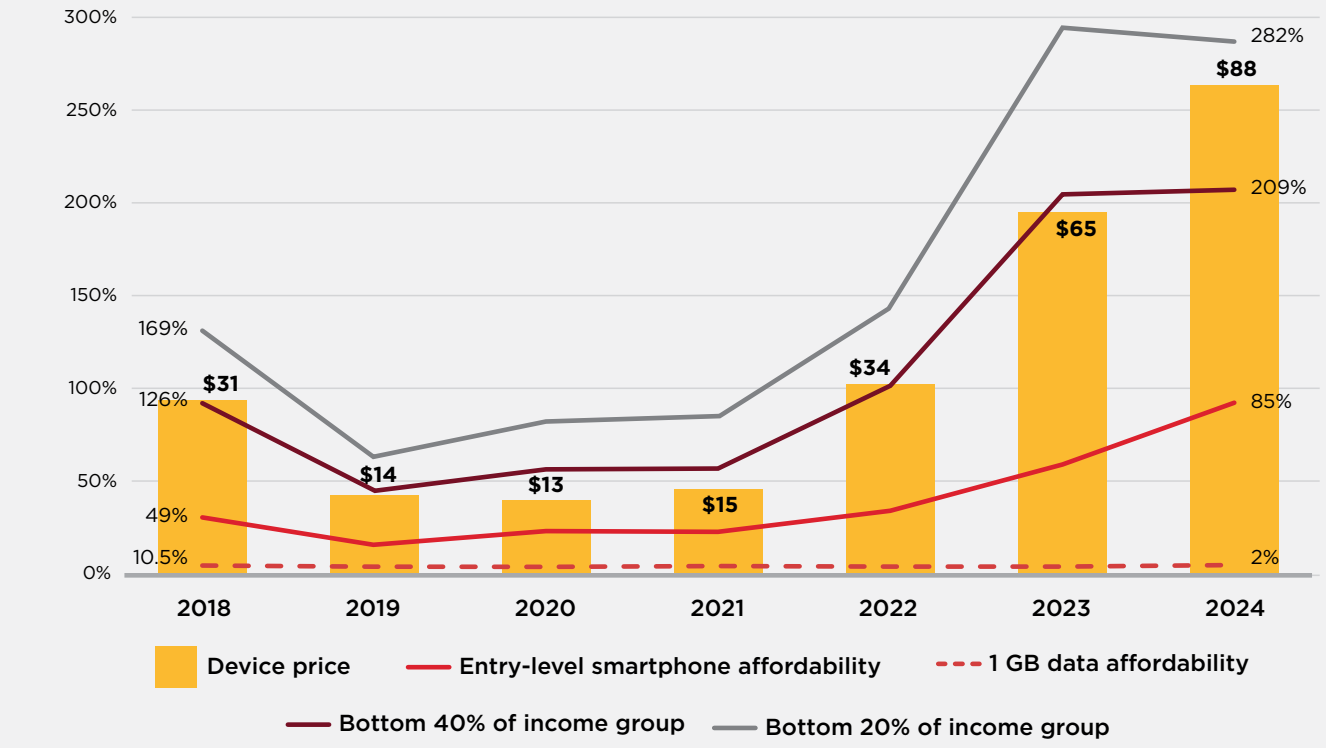
Nearly half of survey respondents in Zambia cited high smartphone costs as the principal barrier to adoption. The median price of an entry-level smartphone is approximately $88, which equates to 85% of the average monthly income. For households in the lowest 40% income bracket, these costs can be twice their average monthly earnings, and nearly three times as much for those in the bottom 20%. As a result, smartphones are often considered non-essential items, prompting individuals to rely on feature phones or to borrow devices from others as alternative solutions. Rural participants particularly emphasised that feature phones remain the default choice because of their durability, low cost (as little as ZMW250 ($11)) and long battery life.

> *"If smartphones became a little more affordable, we would see a number of people buying smartphones." – Focus group participant*

Fig 30: Zambia: entry-level smartphone price and cost of 1 GB of data price relative to income

Percentage of monthly per capita income

Source: GSMA Intelligence



Awareness and literacy

Almost 30% of non-users in Zambia cited a lack of knowledge regarding how to use the internet as their reason for remaining offline, despite living within areas covered by mobile broadband. Insights from focus group participants revealed that first-time users often require step-by-step guidance, especially in local languages. The survey found that while over 90% of respondents were familiar with WhatsApp and Facebook, fewer than 20% felt confident about installing apps or using mobile banking independently. In 2025, MTN partnered with BlackNGreen to launch 'Call Natasha', an AI customer service agent that provides financial tips, news, general enquiries and more efficient support overall.

> *"I can open WhatsApp, but I don't know how to install other apps. If it was in Bemba, it would be easier." – Focus group participant*

A significant proportion of non-users are unaware of the internet's practical benefits; 29% of non-smartphone owners don't see mobile internet as being useful. Many rural participants expressed uncertainty about what can be done online and lacked awareness of services such as e-government or agricultural resources. Notably, interest increased when participants were introduced to relevant examples, highlighting the potential impact of effective awareness initiatives. MTN Zambia's Internet for Good programme has reached over 40 schools in Lusaka and the Copperbelt, equipping teachers and students with knowledge of safe and productive internet practices.

Social and cultural factors

In terms of social and cultural factors in Zambia, two challenges were evident from our survey findings: 27% of respondents said 'smartphone perception' (e.g. smartphones being viewed as frivolous or distracting) reduced their willingness to own or use a smartphone, while 17% pointed to cultural beliefs as a reason to not own or use a smartphone. Social pressure also plays a role. Around 12% of respondents without smartphones indicated that social or family disapproval influenced their decision – for example, lacking spousal consent or smartphones being perceived as inappropriate. Meanwhile, 6% specifically referenced religious or cultural beliefs, such as beliefs that internet content may conflict with their values. While these are not majority opinions, they represent significant minorities, particularly among certain groups, such as women aged over 35 living in rural areas.

Phone sharing is common, with nearly 35% of users reporting regular sharing of their device with family members and friends. However, this practice raises privacy concerns. Problems can occur when borrowers download and leave behind unwanted content on the device. Parents echoed worries about misuse, with 18% of households with children expressing fear of exposure to inappropriate content when devices are shared.

> *"I delete my chats before I share my phone, because people will go through everything." – Young focus group participant*

Individual behaviour and preference

Risk aversion is evident in purchasing decisions. When a new handset is unaffordable, men are more likely than women to buy a pre-owned smartphone (40% versus 32%). In interviews, women described second-hand phones as a gamble, expressing concerns about hidden faults and the potential loss of mobile money balances. Women tended to favour short warranties or certified pre-owned devices when available.

Consumers also choose brands and form factors that help manage day-to-day risks, such as long-lasting battery life, dual- or triple-SIM capabilities for network flexibility and durability. Approximately 10% of survey respondents in Zambia currently have smartphone insurance, while 61% would purchase it if it were available, indicating substantial latent demand. Most retail shops do not offer insurance options or possess adequate provider knowledge, reflecting low awareness. However, one operator that does provide insurance reported strong customer interest driven by concerns around theft, loss and damage. In July 2025, Airtel Money partnered with Insurance Corporation Zambia to launch digital insurance accessible via mobile phones to address barriers such as paperwork, distance and limited awareness.

10.2.3 Macro factors

Fiscal policies

As Zambia relies on imports, end-user prices are subject to customs duties, VAT and other taxes, which can increase smartphone costs by 30% or more. When VAT on usage is also considered, the total cost of ownership for first-time buyers approaches the average monthly earnings.

Table 13: Zambia: taxes on smartphones and services
Source: GSMA Intelligence

Tax	Rate
VAT	16%
Customs duty	10–15%

Mobile network coverage

Network coverage in Zambia now reaches 90% of the population. Continued investment by mobile operators is expected to further close the coverage gap and enhance network performance in areas already served. Recent improvements to coverage and reliability have included the refurbishment of approximately 87 towers in northern districts through the universal access and service fund, extending mobile internet to additional communities. Zamtel is upgrading around 600 towers from 2G to 4G, with a particular focus on rural locations. MTN Zambia became an authorised Starlink reseller in 2025, offering satellite broadband access to areas lacking fibre connectivity or consistent 4G service.

Enabling infrastructure

Focus group participants have indicated that limited access to reliable electricity hinders smartphone adoption, with one respondent noting that charging devices remains a challenge in rural areas. Another interviewee observed that, owing to power shortages, people are switching from television to mobile devices to access their preferred content, leading to growing demand for longer-lasting batteries. Off-grid energy providers are tackling this issue by integrating power solutions with mobile devices. For example, WidEnergy, a women-led enterprise, supplies clean energy products to remote communities and has distributed more than 1,300 PAYG smartphones, including 470 to women. Recent findings show that 71% of their users have reported significant improvements in their quality of life since 2023[57].

57 GSMA Innovation Fund: Impact Portfolio 2023, GSMA, 2024

GSMA

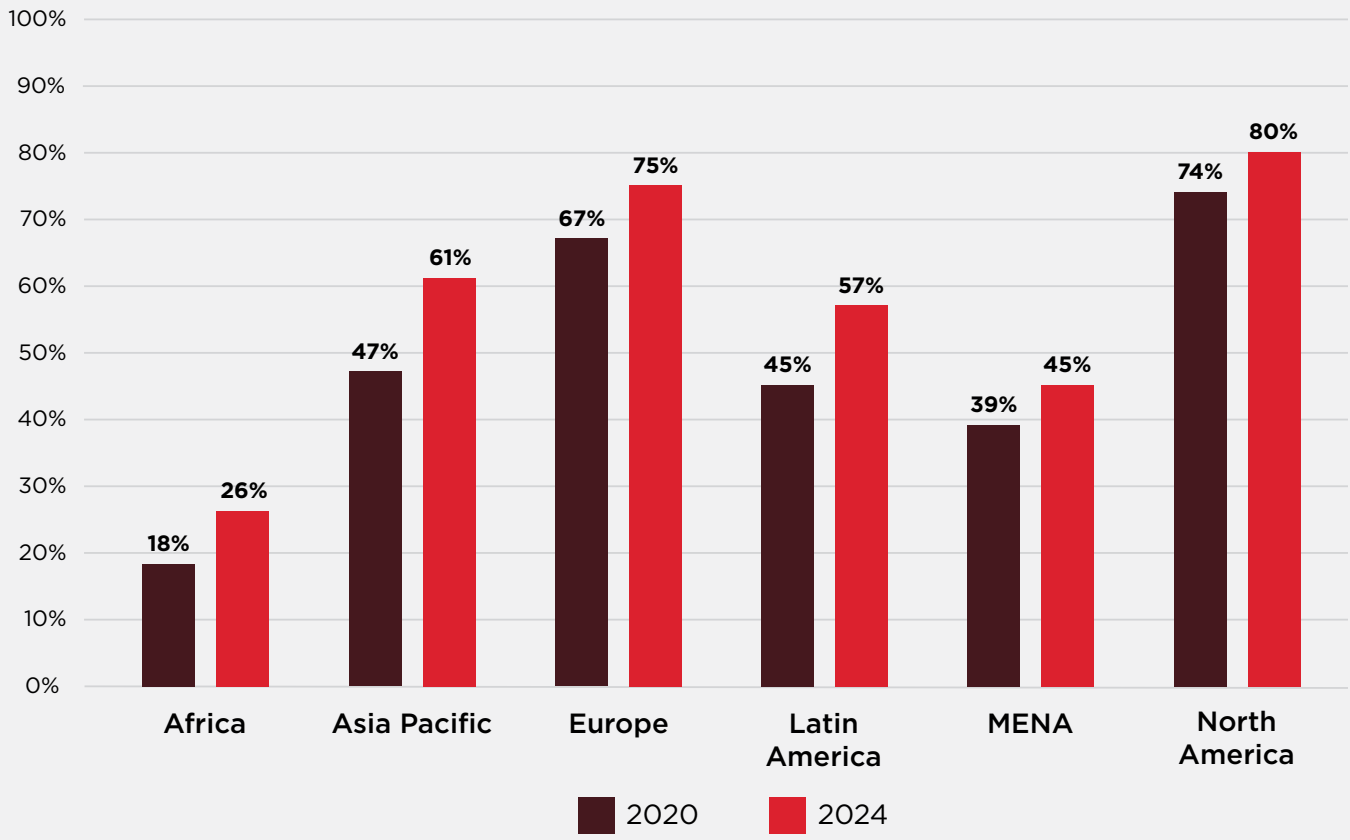
11. Measures to accelerate smartphone adoption in Africa

Bridging the mobile internet usage gap in Africa is closely linked to increasing smartphone ownership penetration, which stood at 24% at the end of 2024 (see Figure 31). Over the past decade, the story of smartphone penetration in Africa has been one of two distinct periods: ownership penetration doubled between 2015 and 2020, but the rate of growth has slowed in the last five years, rising by only 6 pp between 2020 and 2024. This contrasts with the global average increase of 11 pp during the same period, despite Africa still having the lowest smartphone ownership penetration of any region. The slow adoption of smartphones, which are critical for meaningful engagement in the digital economy, may further widen the existing digital divide between Africa and other regions if this issue is not adequately addressed.

Fig 31: Smartphone ownership by region

Percentage of population

GSMA Intelligence



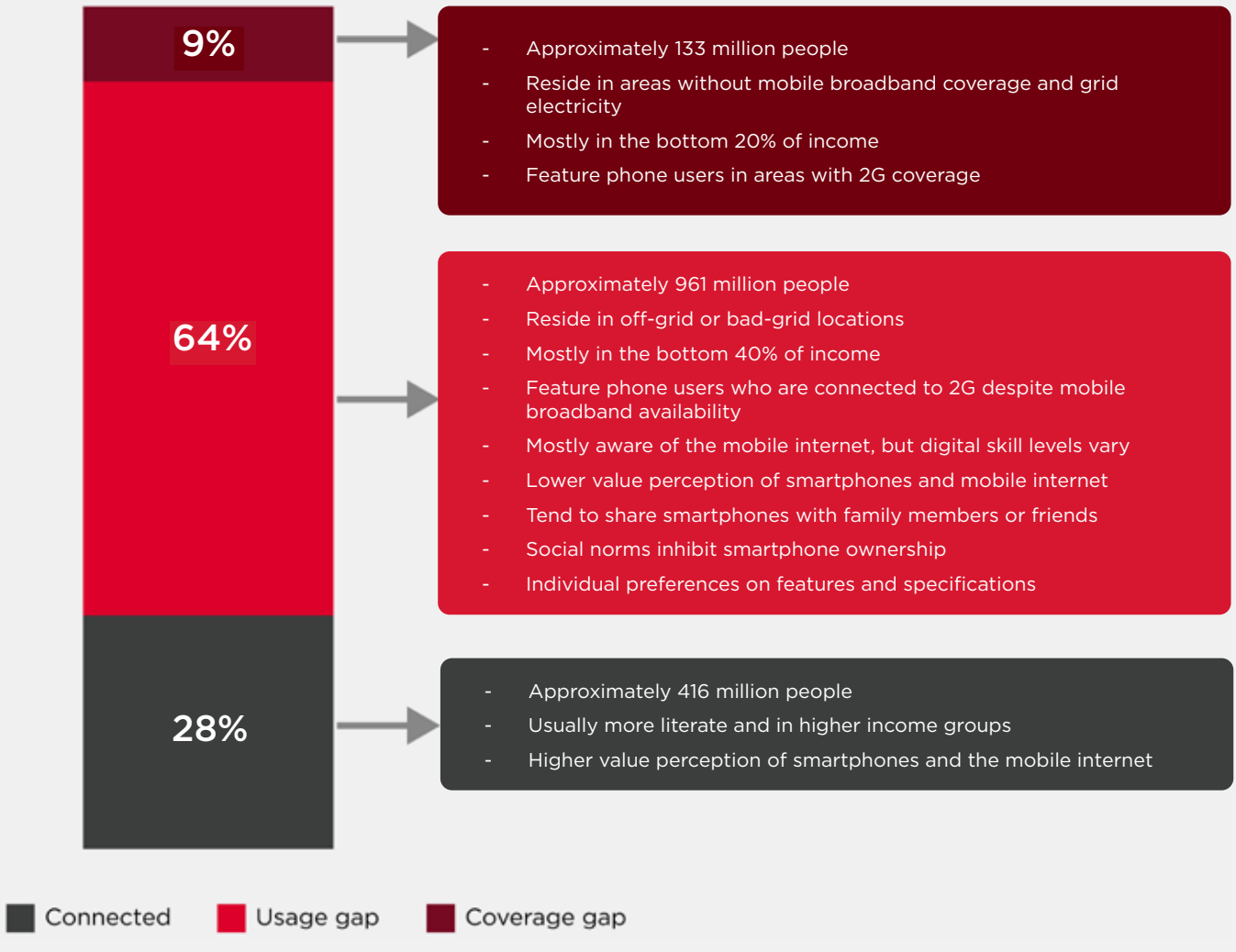
Free-market forces have largely propelled smartphone adoption in Africa to its present level. However, the recent slowdown in uptake suggests that unconnected individuals in Africa continue to face major obstacles, most notably a considerable affordability gap that affects the ability to pay, particularly among those on lower incomes. Furthermore, the research undertaken for this study reveals that, besides affordability, a host of additional barriers further affect the willingness to pay among the most vulnerable individuals. These obstacles range from perceptions of value and limited literacy to personal behaviours and prevailing social norms.

11.1 Characteristics of the connectivity landscape in Africa

Given these complexities, addressing the challenge of smartphone adoption in Africa requires a multifaceted approach. This involves a broad range of stakeholders – including governments and policymakers, mobile operators, other participants in the mobile ecosystem and development partners – working to develop solutions that directly tackle the specific barriers experienced by individuals across social and economic divides. This is crucial for rebalancing supply-and-demand dynamics and accelerating smartphone uptake among underserved populations. As a first step, it is essential to develop a clear understanding of the scale and characteristics of Africa's connectivity gap (see Figure 32).

Fig 32: Key characteristics of the connectivity landscape in Africa

Source: GSMA Intelligence



11.2 Key insights and call to action

In this section, we present key insights from the available evidence and outline action points for stakeholders to address prevailing barriers and capitalise on nuanced opportunities to drive smartphone adoption.

Domestic production

> **Key takeaway:** Domestic production presents the possibility of more affordable devices, yet it remains unviable in most African countries.

At least five countries in Africa, including Egypt, Kenya and South Africa, have operational local smartphone assembly plants. Several others, such as the DRC, Malawi and Zambia, have begun initiatives to assemble smartphones domestically. The main aim of local assembly is to lower the cost of smartphones for end users by avoiding international shipping expenses and customs duties. However, a range of inhibiting factors, such as high production costs, skills shortages and dependence on imported components, limits the commercial viability and competitiveness of local smartphone assembly in most African countries. In this context, there is a need for governments and OEMs to take the following actions:

- **Assess the long-term sustainability of local assembly before initiating domestic production programmes.** Key considerations include economies of scale, global competitiveness and supply-chain resilience. If a thorough evaluation of domestic production prospects suggests limited viability or minimal impact on smartphone affordability in the short term, attention should instead be given to alternative strategies that can deliver prompt results, given the urgency of bringing unconnected people online.
- **Recognise that local brands frequently face challenges in appealing to aspirational consumers, who generally favour devices from established global brands.** Consequently, even where domestic production exists, it cannot by itself sufficiently address the challenge of smartphone adoption, as it may fail to meet the specific needs and preferences of certain market segments, which could be substantial in some countries.
- **Leverage continental trade protocols to realise some of the advantages of domestic production offered by existing smartphone assembly plants in Africa.** Under the African Continental Free Trade Area (AfCFTA) rules of origin, smartphones assembled in any African country qualify for preferential or zero tariffs when exported to other member states, provided that at least 40% of the value is added locally or cumulatively across African nations. By aligning production processes with AfCFTA's harmonised standards and digital trade protocols, these facilities can scale up output to meet regional demand.

Spotlight

Local smartphone assembly in Egypt

Egypt is developing as a regional centre for smartphone assembly, with brands such as HMD Global, Samsung, Oppo, Vivo and Xiaomi establishing assembly facilities to serve markets in Africa and beyond. This expansion has been influenced by government policies and increasing domestic demand for more affordable smartphones. As of 2024, Egypt's annual installed capacity reached 11.5 million units, and projections indicate continued growth. Egypt Makes Electronics, a presidential initiative, provides incentives for manufacturers, including tax breaks, land discounts and customs-duty reductions on imported parts. Additionally, the devaluation of the Egyptian pound has led to higher costs for imported smartphones, contributing to increased demand for locally assembled devices.

Device customisation

Key takeaway: Device customisation is essential to balance smartphone demand and supply, ensuring that handsets are tailored to the needs of local users and are available at prices they can afford.

Hardware customisation is vital for smartphone adoption in Africa because it directly addresses local challenges such as affordability, content relevance and unreliable electricity supply, particularly in rural areas. Customisation is key to achieving the price point required to bring many of the most vulnerable individuals online. GSMA Intelligence estimates that a $40 smartphone could make mobile internet accessible to an additional 20 million people in Sub-Saharan Africa, while a $30 handset could enable an additional 50 million people to get connected. Other key features in devices tailored for African markets include long-lasting batteries, user interfaces in local languages, cameras optimised for darker skin tones and robust construction for enhanced durability. However, there is no universal specification that would appeal to every potential smartphone user, given individual preferences and unique environmental conditions. In this context, there is a need for the following:

- **Encourage user feedback and iterative localisation to improve features based on ongoing input.** This process helps address changing user requirements, such as adjusting storage for high media consumption in urban youth demographics, while avoiding allocation of resources to less relevant features.
- **Expand language integration by incorporating a broader range of African languages and dialects into voice assistants and keyboards.** Africa is home to nearly 2,000 languages and dialects. Although several of these are now supported on smartphones, allowing local users to interact with their devices in familiar languages, a considerable gap remains in the coverage of languages available.

Spotlight

The GSMA-led affordable 4G smartphone target

In October 2025, the GSMA, in collaboration with six major African mobile operators – Airtel, Axian Telecom, Ethio Telecom, MTN, Orange and Vodacom – put forward a baseline set of minimum specifications for affordable entry-level 4G smartphones. These requirements encompass aspects such as memory, RAM, camera quality, display dimensions, battery performance and additional features, aiming to deliver reliable and durable 4G devices at a substantially reduced cost.

The GSMA has announced plans to engage with OEMs and technology firms in the coming months to consult on proposed minimum requirements and build a consensus for affordable 4G devices. By aligning behind a common objective for accessible 4G technology, Africa's leading operators and the GSMA are demonstrating a strong commitment to both manufacturers and policymakers. This initiative represents a significant step towards narrowing the digital divide and enabling millions more individuals to benefit from enhanced mobile connectivity.

Pre-owned smartphones

Key takeaway: Pre-owned smartphones appeal to both cost- and brand-conscious segments of the market; however, the predominance of informal channels currently limits their potential.

The considerable interest in pre-owned smartphones among individuals who do not yet own a smartphone is curtailed by the limited availability of formal distribution channels, as well as the risks associated with informal channels, such as counterfeiting, a lack of after-sales support and inadequate quality assurance. Pre-owned smartphones have the potential to serve customers at who are conscious of both cost and brand, many of whom belong to the youth demographic. While these individuals are often aspirational and seek higher-specification devices, they frequently possess limited earning power. Notably, the youth demographic is the fastest-growing segment in Africa, with roughly 60% of the continent's population under the age of 25. To fully realise the potential of the pre-owned smartphone market, stakeholders can take the following steps:

- **Mobile operators can formalise the pre-owned smartphone market, recirculating already imported devices.** This can be achieved by introducing trade-in schemes, establishing dedicated refurbishment and repair centres, and providing both online and offline sales channels complete with after-sales support. By offering a trusted and secure marketplace for used devices, operators can guarantee quality, fair pricing and a seamless customer experience.
- **Governments can collaborate with industry players to implement measures that build consumer confidence in refurbished devices.** This may include establishing a certification scheme for sellers of used mobiles, providing the assurance consumers require regarding the quality and origin of pre-owned handsets. For instance, the EU has introduced legislation on

device repairability, designed to make it easier and more attractive for consumers to repair smartphones or purchase refurbished models.

- **Mobile operators and OEMs can capitalise on the pre-owned smartphone opportunity to enhance the industry's sustainability credentials.** Adopting a circular economy approach helps to reduce e-waste and conserve resources, thereby lessening the considerable carbon footprint and environmental impact linked to manufacturing new devices. By extending the lifespan of existing phones, mobile operators and OEMs can meet the increasing consumer demand for environmentally responsible choices and demonstrate meaningful progress towards their sustainability goals.

Spotlight

Mobile industry initiatives to improve circularity

In June 2023, a consortium of 12 mobile operators, including Safaricom, in collaboration with the GSMA, agreed on a target of 2030 for the number of used mobile devices collected through operator take-back schemes to reach at least 20% of the total number of new devices distributed directly to customers. The GSMA estimates there are 5 billion abandoned phones currently residing in people's homes and offices; if properly recycled, these could yield £8 billion worth of gold, palladium, silver, copper, rare-earth elements and other critical minerals.

Distribution and supply chain

Key takeaway: Inefficient last-mile distribution networks frequently lead to increased retail prices, further worsening the affordability challenge for the most vulnerable individuals.

In terms of smartphone distribution in Africa, there are frequently challenges throughout the entire supply chain, ranging from delays in customs clearance to the poor condition of roads used for last-mile delivery, particularly outside major urban centres and main highways. Additionally, the limited presence of formal retailers in rural areas means that customers often depend on informal sellers, who typically have restricted stock and rarely offer after-sales services. These difficulties are most pronounced in rural regions, where most unconnected individuals reside. The consequent rise in retail prices further diminishes their ability and willingness to pay for smartphones. Addressing the distribution challenge requires the following actions:

- **Mobile operators can utilise existing agent networks for smartphone distribution.** Agents serve as local points of contact where customers can view and purchase devices, which is particularly relevant in areas with limited access to retail stores. Local agents may establish relationships with customers, potentially increasing their willingness to buy higher-value items such as smartphones. Additionally, agents can sell smartphones alongside related services, including data plans, offering a consolidated solution for customers and potentially increasing sales for the agent.

- **Mobile operators and other stakeholders can incorporate smartphones into existing rural and multi-product delivery systems.** By bundling smartphone delivery with essential items such as solar home systems, clean cookstoves or sanitation kits, stakeholders can effectively utilise established last-mile networks. Public and development partner–led initiatives distributing educational or health products may also serve as valuable distribution channels. M-Kopa's approach of combining energy products with smartphones illustrates how such models can enhance both reach and relevance.
- **Governments have a vital role in facilitating smartphone distribution, particularly in addressing challenging customs procedures.** Improving customs processes at border crossings is essential to reduce or eliminate distribution-related costs. For instance, Rwanda has implemented an electronic single window system to shorten customs clearance times for imported goods, including smartphones and other electronics.
- **Mobile industry stakeholders can collaborate with local cooperatives to provide targeted access for groups with latent demand but low ownership rates.** These groups include rural women, young people and farmers. Although some partnerships are already in place, expanding these into wider, more structured programmes could help to overcome distribution barriers and boost market penetration in hard-to-reach areas.
- **Investments in county-level repair hubs would provide users with reassurance that their devices can be serviced locally.** This would alleviate concerns about wasted expenditure should the users' phones develop faults. Rwanda's Digital Ambassadors programme is an example of an initiative where community-based agents can assist with repairs (the agents also support device sales and digital skills training).

Financing and bundling schemes

> **Key takeaway:** Financing and bundling present opportunities to enhance smartphone affordability, but limited awareness and risk aversion remain major barriers.

The landscape for smartphone financing and bundling solutions in Africa is unevenly developed. Markets such as Kenya and South Africa offer a diverse range of services targeting different segments, while other countries have very few or no such services at all. Although financing has the potential to improve affordability by spreading out the high upfront cost of devices, awareness of these services remains low, particularly among unconnected populations. Even among those who are aware, concerns about high interest rates, repossession and theft are major deterrents. Additionally, eligibility criteria often exclude individuals with irregular incomes, such as those working seasonal jobs, making it difficult for them to qualify. Improving access to financing solutions would require the following:

- **Targeted schemes for individuals and micro entrepreneurs with irregular income streams, including market women, students, farmers and informal workers.** These segments, often excluded from traditional credit systems, would benefit from flexible financing models tailored to their unique circumstances and repayment schedules. Safaricom's Lipa Mdogo Mdogo initiative, which allows daily repayments without the need for formal credit checks, offers a proven model that could be adapted for use in other markets.

- **Innovative approaches to reach consumers in lower income brackets, who tend to be more risk averse.** Mobile operators could capitalise on the extensive networks of existing savings and credit associations in rural and remote areas to deliver innovative device financing solutions to low-income populations, such as seasonal repayments for farmers or group instalments via community groups. By embedding smartphone purchases within trusted community financial networks, users can gradually transition to ownership while minimising financial risk.
- **Transparency in eligibility and application requirements from the outset to preserve trust in financing schemes.** Insufficient information on financing solutions often leads to the disqualification of ill-prepared applicants, which can leave them confused and discouraged. Practical solutions to prevent this include making financing information available in local languages and providing additional support or assistance to help applicants navigate the process.
- **An interoperable or centralised credit referencing system to improve the assessment of eligibility criteria.** Given the underdevelopment of credit referencing services in most markets, some mobile operators and mobile money providers have created their own systems using customer usage data. However, these systems are often not interoperable, meaning that customers may be deemed ineligible if they are unable to verify their credit history with another operator.
- **Insurance solutions to help address concerns about damage or theft during the financing period.** Device safety and security are key issues for low-income consumers, who often view smartphones as vital family assets. Although insurance represents an additional cost, financing schemes that strike a balance between affordability and insurance provision can help allay fears regarding the financial consequences of loss or damage.

Disposable income

> **Key takeaway:** There remains a segment of the market whose disposable income is insufficient to afford a smartphone without external financial assistance.

In some countries, the cost of an entry-level smartphone amounts to several times the monthly salary of those in the lowest income brackets. For individuals in this group, alternative interventions such as device financing and pre-owned devices may still leave smartphones beyond their reach. Furthermore, the depreciation of local currencies in many countries in recent years, coupled with inflationary pressures on essentials such as food and transport, has intensified the affordability challenge. This situation calls for targeted approaches such as the following:

- **Smartphone subsidies and bundled airtime should be offered to vulnerable individuals within this category.** However, it is worth noting that the perceived value of smartphones is lowest among people in these segments, who face competing financial priorities. Therefore, linking devices to the economic benefits that they can deliver, such as improving household income, is crucial to ensuring sustainability and, importantly, reducing the risk that beneficiaries will resell subsidised devices for immediate financial gain.

- **In addition to subsidies, governments and stakeholders within the mobile ecosystem could adopt community-based strategies.** These include, for example, utilising women's savings groups or cooperative lending structures. This would allow repayments to be distributed over time, enabling gradual ownership across entire groups and facilitating the sharing of knowledge and experience among peers once devices have been acquired.

Awareness and literacy

> **Key takeaway:** Despite widespread awareness of mobile internet, limited digital literacy restricts engagement with more advanced services that could enhance the perceived value of smartphones.

Beyond affordability, digital literacy is a significant factor impacting smartphone adoption. Even for individuals who can afford smartphones, a lack of digital literacy can discourage ownership. This is due to the direct effect digital literacy has on how users perceive the value of smartphones; those unfamiliar with such devices may choose to prioritise other needs instead. Therefore, it is important that initiatives to improve affordability are implemented alongside efforts to enhance digital literacy. Otherwise, there is a risk of increased smartphone adoption without a corresponding rise in meaningful use of mobile internet and the potential social and economic benefits that come with it.

Insights from our survey show that smartphones tend to be used mainly for communication and entertainment by the less digitally literate, with minimal use for e-learning, e-government or financial services. Significantly, when considering the purchase of a smartphone, respondents to our survey in Rwanda prioritised economic factors over simple affordability, indicating that they saw little purpose in owning a device unless it could facilitate education, support agricultural activities or provide access to essential services. This highlights a clear opportunity: by improving digital skills and positioning smartphones as practical tools for learning, livelihoods and engagement with government services, their perceived value could be markedly increased. This is critical to maximise the benefit of connectivity and enhancing the value perception of smartphones, and involves the following:

- **Adopting a multipronged approach with solutions tailored to various consumer categories, based on their unique circumstances and social factors.** For instance, in urban areas, campaigns could emphasise readily available services such as e-commerce, while outreach in rural regions might focus on locally relevant applications, including agricultural advice, health information and remote learning.
- **Pairing device purchases with practical digital skills training.** This should cover the essentials, such as using the phone, installing apps and staying safe online, to help lower the intimidation barrier for first-time users.
- **Incorporating community-based training and collaborating for digital skills programmes.** Community-based training can be used to reach women and other vulnerable groups, while

peer-led digital skills programmes can be delivered via collaboration with development partners and local institutions.

- **Promoting locally relevant applications in native languages to enhance the accessibility and necessity of smartphones.** This ensures that individuals can access online content in languages they are familiar with.

Spotlight

Improving digital literacy using AI LLMs in indigenous African languages

In October 2025, the GSMA, together with leading mobile operators in Africa and other AI ecosystem stakeholders, announced a continent-wide collaboration to strengthen Africa's AI ecosystem by developing inclusive African AI language models. The initiative aims to attract resources and expertise to address gaps in data, computing power, talent and policy, ensuring that African languages, cultures and knowledge are fully represented in the global digital future.

The emergence of large language models (LLMs) in indigenous African languages has the potential to greatly enhance digital literacy by providing educational content, government services and digital tools in local languages. For instance, LLMs can act as AI tutors, explaining complex subjects in indigenous languages, thereby making learning more effective for students who may not be proficient in a language, such as English. Additionally, local creators can use AI tools to generate and translate content, such as subtitles and stories, into indigenous languages. This not only amplifies local culture and literature but also makes a wider range of content available in users' first languages.

By enabling access to information in the native tongue of users, LLMs may help bridge the digital divide, make online content more accessible and promote digital inclusion across the continent. LLMs can also empower more people to engage with the digital world, from healthcare to agricultural advice by making the internet and digital platforms more accessible through local languages. This approach also supports the development of homegrown AI solutions tailored to local needs and contexts.

Social and cultural norms

Key takeaway: In addition to economic factors, social and cultural norms are a major factor influencing device sharing, which brings both potential benefits and challenges.

Extreme forms of social norms restricting smartphone ownership, such as male gatekeeping in patriarchal societies, persist in many contexts. Parental restrictions – regarding the age at which children may own a phone, largely due to concerns about distraction – also act as a significant barrier to adoption. This is particularly consequential given Africa's demographic profile, with just over 40% of the continent's population under the age of 15. Overcoming these barriers

calls for trust-based strategies, such as engaging female retail agents and local champions or implementing community-driven campaigns that emphasise the social and economic advantages of smartphone ownership, especially for women and young people.

In most cases, although affected individuals may not yet be permitted to own their own device, they are able to use a family member's or friend's phone, primarily for communication, entertainment or completing school assignments. However, this practice is often accompanied by several risks, including lack of privacy, accelerated wear and tear, battery depletion and potential unavailability when needed, highlighting the importance of personal ownership to maximise the benefits of connectivity. Conversely, device sharing frequently provides many individuals with their initial exposure to smartphones, fostering an interest that can later be converted into personal ownership.

For mobile operators and other ecosystem stakeholders, this highlights a need to understand the specific social norms present within any given context. Recognising these nuances is a crucial first step towards developing effective solutions for those affected. Additionally, with the increasing adoption of e-learning solutions, there is an opportunity for governments, educators, mobile operators and other stakeholders to incorporate such solutions into targeted offerings for families with school-age children, thereby demonstrating the value of smartphone ownership within this segment of the market.

Individual behaviours and preferences

> **Key takeaway:** Individual behaviours and preferences differ considerably, diminishing the influence of any single factor on overall smartphone adoption.

Insights from our survey reveal a highly fragmented landscape, with individual behaviours and preferences spanning a wide spectrum and no dominant trend emerging. This diversity stems from the multifaceted nature of smartphone usage in contemporary life, shaped by factors such as age, literacy, social and cultural context, location and occupation. For example, younger users in urban centres tend to favour high-specification, global brands, whereas older demographics in rural areas prefer robust devices offering long battery life and user interfaces in local languages. This highlights that no single feature or brand universally appeals, reflecting a market driven by niche requirements rather than mass consensus.

This variability underscores the challenges in predicting consumer behaviour and reinforces the need to adapt within the industry, as rigid strategies based on presumed majorities could lead to missed opportunities in catering to distinct segments. In this context, key stakeholders seeking to accelerate smartphone adoption in Africa, notably governments and policymakers, mobile operators, device OEMs and development partners, must adopt flexible and customisable approaches to bridging the smartphone access gap. Targeting the market segments most ready to adopt smartphones will be essential. Examples of such segments include college-age students currently using feature phones but who could benefit from educational data plans, or high-volume mobile money users on feature phones who could take advantage of advanced financial products offered through smartphones.

Fiscal policies

Key takeaway: The impact of taxes and other fees on the retail price of smartphones means that fiscal policies represent the most effective and readily actionable strategy for enhancing smartphone affordability and, consequently, accelerating smartphone adoption across Africa.

Customs fees, VAT and other costs associated with fiscal policies constitute a major part of the retail price of smartphones in Africa, sometimes adding up to 50% of the free-on-board price,[58] even for entry-level devices. An unfavourable fiscal environment for smartphones, particularly for entry-level models, risks undermining all other strategies aimed at improving smartphone affordability, including device financing and even local assembly, given that imported components and factory equipment are also subject to various taxes and fees. This situation disproportionately affects low-income individuals, for whom the cost of a device represents a significant proportion of their monthly income.

The differing experiences of Rwanda and South Africa clearly illustrate the immediate and substantial impact that taxes and fees can have on smartphone adoption. In Rwanda, the reintroduction of 18% VAT on smartphones in July 2025 was followed by a slowdown in the growth of smartphone connections on mobile networks. Conversely, in South Africa, the removal of excise duty on all smartphones priced below ZAR2,500 ($143) in April 2025 led to a surge in sales for devices in that price bracket (see sections 6.2.3 and 8.2.3). This highlights the effect of fiscal policies on smartphone adoption among underserved groups.

As the mobile industry collaborates to define and implement specifications for an affordable entry-level smartphone, it is vital for governments and policymakers to support this initiative with enabling fiscal policies. At a minimum, governments across Africa should remove taxes on entry-level smartphones priced below $100. Such action could reduce the cost of entry-level devices by around 50% in many African countries, increasing the prospects of achieving the sub-$40 target for affordable 4G smartphones.[59]

Mobile network coverage

Key takeaway: Bridging the remaining coverage gap is a necessary first step in connecting unserved populations to the internet.

Over the past decade, investments by mobile operators in network infrastructure have reduced the mobile broadband coverage gap in Africa from 41% in 2015 to 9% by the end of 2024. While this decline demonstrates substantial progress in expanding connectivity, approximately 133 million people still reside in areas without access to a mobile broadband network. For these individuals, owning a smartphone would be of little practical use unless they relocate or, preferably, a mobile broadband network is deployed in their current location. Notably, the scale

58 The price when the smartphone leaves the OEM's factory (or port of origin) and is loaded onto the shipping vessel (or truck/aircraft)

59 Assuming logistics and other costs remain constant

of the coverage gap differs markedly across the continent, ranging from over 30% in some countries (e.g. the DRC and the Central African Republic) to 1% or less in others (e.g. Morocco and South Africa).

Addressing the remaining coverage gap is, above all, an economic challenge. The cost of expanding mobile broadband networks rises sharply in rural and remote areas, while revenues from each additional site tend to decrease as fewer people are covered per new installation. Moreover, in uncovered areas, where there are often low-income communities who face greater obstacles in digital literacy and skills, mobile broadband usage would likely be low even if coverage was available. In response, governments across Africa have implemented various measures to improve the economics of rural deployment, including USFs. However, a joint study[60] conducted by the Africa Telecommunications Union and the GSMA in 2023 underscored the urgent need for reforms in the implementation of USF frameworks throughout the region, to enhance their effectiveness and fulfil their core purpose of extending mobile broadband coverage to underserved areas.

Spotlight

Policy levers to accelerate rural deployment

USFs on their own are not a panacea for the connectivity gap in Africa. Rather, they should be viewed as a complementary mechanism to vital policy levers and market-based solutions to close the coverage gap and stimulate demand for connectivity. This allows USFs to be better targeted to where they are needed, such as where there is a market failure rather than a regulatory failure. In this context, it is important for governments and policymakers to continue to implement necessary policy reforms in key areas as a primary means of bringing connectivity to underserved populations:

- Taxation: Reducing the tax burden on service providers and users and introducing tax-free zones in rural areas to boost investments in such areas.
- Spectrum: Reducing or removing spectrum fees for USF sites or rural sites in general to reduce the cost of running sites.
- Infrastructure deployment: Reducing red tape for new base stations, speeding up approval processes for rights of way and providing regulatory support for infrastructure sharing to improve coverage.
- Technology-neutral licensing: Enabling operators to deploy the most efficient networks faster and more cost-effectively.
- Investment in supporting infrastructure: Investing in infrastructure, such as grid electricity, security and access roads, to deliver social good and reduce the cost of rollout.

60 Universal service funds in Africa: Policy reforms to enhance effectiveness, GSMA, 2

Enabling infrastructure

Key takeaway: Tackling the electricity challenge is essential for encouraging smartphone uptake, particularly in rural areas where infrequent charging opportunities can deter potential users.

Around 600 million people, or 43% of Africa's total population, lack access to electricity.[61] For many of the individuals who do not yet own a smartphone, the absence of reliable electricity is a significant barrier to ownership due to the need for frequent charging, typically every one to two days. Indeed, in areas where electricity is scarce, users often revert to basic feature phones or restrict their usage, thereby perpetuating a cycle of digital exclusion. This highlights the interrelationship between access to electricity and smartphone adoption, which forms a virtuous cycle: electricity enables opportunities driven by smartphones (such as access to education, financial services and healthcare via apps), while smartphones, in turn, create further incentives for investment in energy infrastructure to sustain connectivity.

Addressing Africa's electricity deficit requires collaboration among a wide range of stakeholders, including governments, international organisations, private-sector entities and civil society. With an estimated $400 billion needed by 2050 for grid upgrades and off-grid solutions, coordinated efforts are essential to accelerate universal access and achieve the World Bank's target of providing energy access to 300 million Africans by 2030.[62] Recognising the need for partnership and the close relationship between the telecoms and energy sectors, stakeholders across Africa are increasingly launching joint initiatives to improve energy access. For example, in July 2025, the REA and NCC in Nigeria established a joint steering committee (see section 5.2.3). In Ethiopia, Ethio Telecom has collaborated with the Ethiopia Electric Utility to deploy more than 32 mini-grids nationwide, providing stable energy supply to telecoms sites and promoting digital adoption among rural communities.

61 Africa Energy Outlook 2022, IEA, 2022

62 "Mission 300: Building momentum for energy access in Africa", World Bank, October 2025

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