

After Access 2023: Digital Nigeria Post the Pandemic



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Executive Summary

This working paper highlights key findings from Research ICT Africa's most recent After Access Survey conducted in Nigeria. The findings show recent trends in Internet access and use in the country as well as identifying the major barriers to access and the limitations preventing deeper digital engagements.

The data shows that only 32% of individuals report using the Internet within the past three months, meaning that a staggering two-thirds of the Nigerian adult population, or 80 million adults, do not use the Internet, even when they are within network range.

Positively, Nigeria has the 10th cheapest mobile data prices in Africa, according to the latest Research ICT Africa Mobile Pricing (RAMP) database. Yet, internet access costs have jumped nearly fourfold to become a significant barrier for 14% of non-users, up from 4% in 2018. Although data costs have been generally stable or even decreased on some bundles, it is clear that rising affordability limitations within the populace hinder digital inclusiveness - 49% of users say they will use the Internet more if data costs are lowered.

Gender and geographic inequalities remain largely unchanged, with Internet access currently 54% higher for men compared to women and access 75% higher in urban areas compared to rural areas. Almost half of the individuals not using the Internet lack the necessary knowledge, skills, and devices to access the digital world.

Given Nigeria's size and potential, the survey results present an opportunity for immediate and effective policy actions. The following actors can implement the strategies recommended in this report to expand the number of Nigerians who can use the Internet and deepen the usage of those already connected. Policy recommendations include:

- ❖ **The Nigerian Government** to facilitate the deployment of advanced (4G & 5G mobile and fibre optic) networks across the country; work with the private sector to mobilise and deploy capital in the provision of affordable and accessible devices, platforms, and digital literacy programmes among the population; and encourage the development of content and applications that are culturally relevant and available in local languages.
- ❖ **The Telecommunications Regulator** to undertake a market review to assess dominance in the market; resolve inefficiencies in the '[middle mile](#),' that is the network infrastructure that connects local networks; mandate operators to ensure that services and devices are readily accessible and user-friendly for marginalised groups; and develop and implement targeted policies and initiatives that license smaller players focused on serving rural and underserved communities.
- ❖ **Mobile Network Operators** to offer more affordable and competitive tariffs and packages; collaborate to address common challenges in infrastructure, spectrum, and resources and to explore opportunities to deepen inclusion.
- ❖ **Consumer Rights & Civil Society Groups** to collaborate with the government, regulators, operators, and development partners to implement widespread digital literacy programmes; and organise forums and consultations for information sharing and consensus building.

Introduction

Nigeria’s [National Digital Economy Policy and Strategy](#) lays out the Nigerian government’s plans “to transform Nigeria into a leading digital economy providing quality life and digital economies for all” (FMCDE, 2019, p.5). The document lays out eight pillars through which to achieve this mission:

- (i) development regulation;
- (ii) digital literacy and skills;
- (iii) solid infrastructure;
- (iv) service infrastructure;
- (v) digital services development and promotion;
- (vi) soft infrastructure;
- (vii) digital society and emerging technologies; and
- (viii) indigenous content development and adoption.

The plan highlights the critical demand-side issue of digital skills, but the rest of the plan has a very strong supply-side focus. This is despite Research ICT Africa’s (RIA) 2018 After Access survey highlighting the demand-side constraints on Internet uptake – lack of digital skills, awareness, and affordable access to smart devices – which are reiterated in the present After Access Survey. Achieving Nigeria’s digital vision requires the development of robust digital infrastructure nationwide to ensure that data costs are affordable and to improve the intensity of use and quality of data services. Until the demand-side barriers are addressed, any infrastructural improvements will not be enough to realise Nigeria’s digital vision.

This report provides an overview of the high-level findings from the 2022 After Access in Nigeria, as well as some background information around Nigeria’s development and digitalisation objectives. As the Internet is the core requisite for individuals and firms to be able to access digital technologies, the report focuses on recent trends and barriers in Internet access, as well as assessing the inclusivity of recent developments in this regard. The report then moves beyond access to look at use, identifying and analysing some key activities for which Nigerians use digital technologies. Finally, the paper provides some key findings from the microenterprise survey before ending with high-level policy recommendations.

Nationally representative demand-side surveys measuring access to and use of digital technologies.

The 2022 After Access Survey is the fourth round of the survey since its inception in 2005 (Table 1). This most recent round covers seven countries, encompassing questions about the ways in which individuals access and use digital technologies and how this has impacted on their lives. In each country, a household survey covers household characteristics and detailed questions on the accessibility and use of ICT at the household level, as well as individual attributes and the use of ICT by a randomly selected household resident.

Table 1: Countries included in After Access Survey

Year	Count	List
2008	17	Botswana, Cameroon, Ghana, Kenya, Namibia, Rwanda, South Africa, Uganda, Tanzania, Benin, Burkina Faso, Cote d'Ivoire, Ethiopia, Mozambique, Nigeria, Senegal, Zambia
2012	13	Botswana, Cameroon, Ethiopia, Ghana, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Tunisia, Uganda
2018	10	Ghana, Kenya, Lesotho, Mozambique, Namibia, Rwanda, Senegal, South Africa, Tanzania, Uganda
2022	8	Ethiopia, Ghana, Kenya, Nigeria, Senegal, South Africa, Tanzania, Uganda

For the 2022 Nigeria survey, 2 230 household and individual, as well as 718 microenterprise surveys, were completed. The findings provide the first glimpse into the ways Nigerians are interacting with ICT at a national level post the COVID-19 pandemic.

All households surveyed are included in the analysis at the household level, aspects assessed at the individual level are restricted only to individuals over the age of 15 years old. Microenterprises are defined as businesses with up to 10 employees who are not part of a franchise. Weighting for the household and individual survey is based on calculated sampling probabilities drawing on official national statistics provided by Nigeria's National Bureau of Statistics (NBS)¹ to ensure national representivity of the findings. No weights are used for the analysis of the microenterprise survey data, and therefore findings should be seen as indicative. For a detailed description of the survey sampling, see the Appendix to this report.

Background

From 2018, the Nigerian telecommunications market entered a period of stagnation due to several factors arising from rising inflation and foreign exchange rates, deteriorating operating conditions, and restrictive economic plans. One example is the national government's currency exchange rules which hindered the ability of private network operators to acquire dollar-based foreign equipment for network expansion or freely move investment capital into and out of the country. While the impact of COVID-19 was largely positive to service providers, in that use by those online increased for those who could afford to intensify their use, it negatively affected both access and use by individuals and households overall. In June 2023, the new administration of President Bola Tinubu lifted most of these policies by unifying the central bank's multiple foreign exchange windows as the first step towards economic reforms, actions that will provide the telecoms sector with relief if implemented.

The Government's policy to promote market liberalisation and private sector leadership of the economy in the telecoms sector saw the licensing of new players to offer broadband satellite (SpaceX in 2021) and 5G services (MTN, Mafab and Airtel in 2022). Despite these positive developments, systemic weaknesses in policy implementation and constraints in the operating environment – including unchecked frequently-occurring site vandalism and lack of effective competition regulation – have combined to prevent the emergence of a competitive and more evenly developed communications market. Nigeria also has more submarine cable landings (five with two new installations nearing completion) than most African countries. Yet, there are no national Internet service providers (ISPs) in the country other than the larger Mobile Virtual Network Operators (MVNOs) who serve only a handful of the largest markets - Lagos, Abuja, Kano, and Port Harcourt. Unable to compete, smaller operators are squeezed out of the market.

The implementation by the Government of [SIM-NIN registration](#)² in 2020 and the cashless policy of the central bank in 2022 were challenged by inadequate network infrastructure to support electronic data exchanges at urban and rural locations across the country. Furthermore, unlike other aspects of the digital economy, such as the Nigerian start-up ecosystem, the telecoms sector has proffered limited innovation

¹ <https://www.nigerianstat.gov.ng/>

² This is the government-mandated process of attaching the Nigerian National Identity Number (NIN) to validate the person registered with a SIM card.

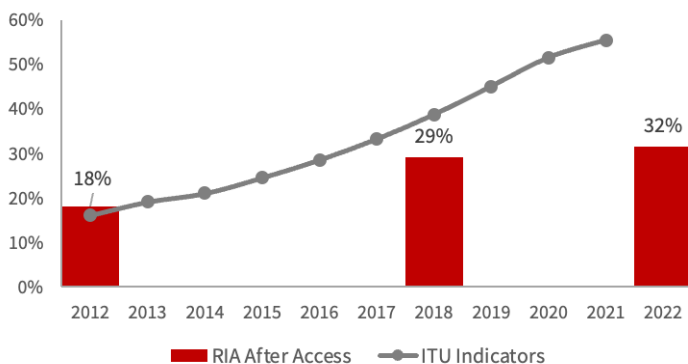
in recent years. Where new license categories have been created, such as infraco³ or MVNO, they have been slow to launch services and when they do, market effects have been negligible.

The overall effect of these factors on the telecoms market is mixed. On the one hand, there are some areas of progress, but there are several market inadequacies and vulnerabilities that need to be urgently resolved by decision-makers responsible for the sector, as the results of this survey show. These issues are highlighted in the Policy Recommendations at the conclusion of this working paper.

Internet access trends

While estimates from the International Telecommunication Union (ITU) show steadily increasing Internet access between 2012 and 2022 (International Telecommunication Union, 2023), the demand-side data coming from the After Access surveys suggest that these are being overstated. As shown in Figure 1, the After Access 32% internet access rate for 2022, or 32 million adults⁴, is significantly lower than the 56% reported by the ITU for 2021. The ITU results are drawn from administrative data received from the country, which is then adjusted according to any other data sources the ITU has.

Figure 1: Internet access in Nigeria, 2012-2022



Source: RIA (2012, 2018, 2022), International Telecommunication Union (2023)

There are several factors that may be responsible for this significant differential. First, it can be attributed to the enforced implementation of SIM - NIN registration by the NCC in Dec 2020 which negatively impacted subscriptions affecting ITU’s projection estimates from previous data. Prior to this, operators were banned by the regulator from acquiring new subscribers, which, together with the Central Bank’s currency exchange restrictions, hampered the ability of Mobile Network Operators (MNOs) to extend their 4G networks (Odunewu, 2022). Secondly, operators’ supply-side data provided to the regulator counts each active SIM as a unique subscriber - which results in double and multiple overcounting as many individuals own more than one line.

In contrast, the After Access survey identifies, from a representative sample of people, individuals who say they have used the Internet in the last three months. These factors, in addition to the residual impact of COVID-19, may have combined to stagnate Internet penetration in Nigeria evidenced by the muted rise in Internet use from 2018 to 2022.

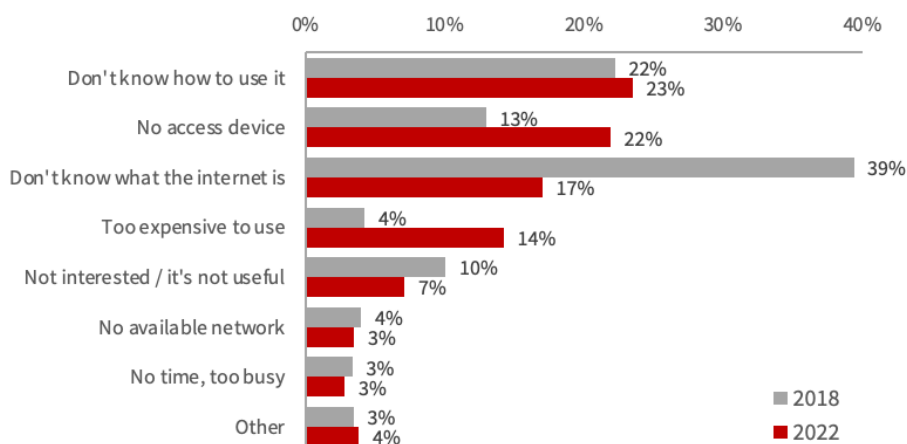
³ Infracos are private infrastructure companies licensed by the NCC to provide carrier-grade, regional dark fibre services on a commercial basis (Adepetun, 2020)

⁴ Adults defined as 16 years or older

Underlying Figure 1 is that a staggering 68% of the adult population, or 79 million Nigerian individuals over the age of 15 are not presently using the Internet.

Of Nigerians who do not use the Internet, 23% say they lack the necessary skills and knowledge to use the Internet and cited this as the main reason they do not use it. As Figure 2 shows, this marks a shift from 2018, when the most significant issue was a lack of awareness, with 39% of non-users saying that they did not even know what the internet was. A close and increasingly prominent second barrier in 2022 was the lack of an appropriate access device (22%). Meanwhile not knowing what the Internet is remains a significant barrier (17%) despite dropping sharply in prominence since 2018.

Figure 2: Main access barriers, 2012 vs 2022



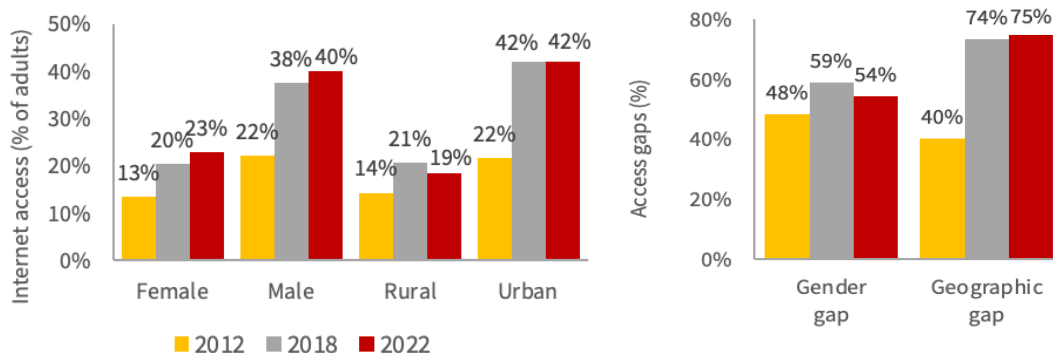
Source: RIA (2018, 2022)

Overall, the significant barriers individuals face appear to be demand-side factors, highlighting the importance of addressing these constraints in order that the supply-side infrastructural progress actually translates to inclusive digitalisation development. The cost of using the Internet has become a more prominent issue cited as the main access barrier for 14% of non-users (4% in 2018). The other supply-side factor, the availability of Internet connectivity (ability to receive a signal), was cited as the main access barrier for only 3% of non-users (4% in 2018).

The gender access gap, measuring the difference in Internet access between the male and female populations, has declined slightly since 2018, meaning that women’s access increased more than that of men over this period.

However, as Figure 3 shows, male access remains far higher than that of females, and this gap is larger than ten years prior.

Figure 3: Gender and geographic access inequalities, 2012 vs 2022

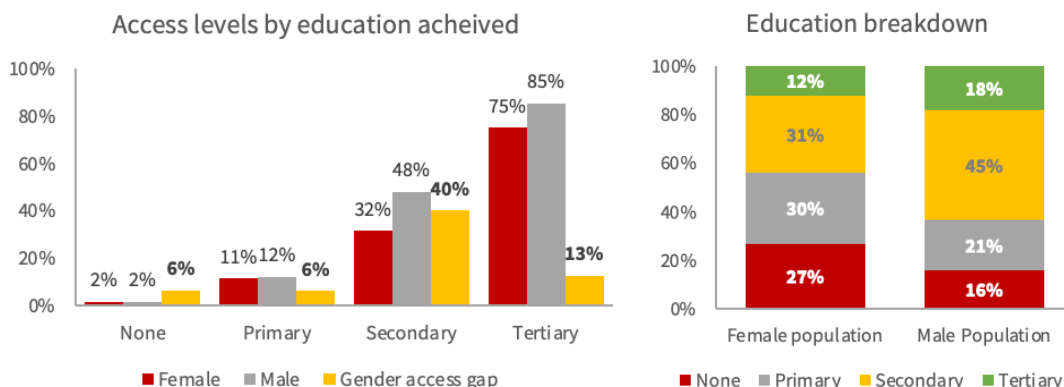


Source: RIA (2012, 2018, 2022)

The proportion of the rural population using the Internet declined slightly between 2018 and 2022, resulting in a second period of widening access inequality between urban and rural areas. In 2022 Internet access in Nigeria’s urban areas was estimated at 42%, compared to only 19% in rural areas.

Gender and geographic digital inequalities should not be considered independently from each other. Evidence in the literature shows that gender and geographic digital inequalities reflect underlying structural inequalities, particularly those relating to income and education, which are key determinants of Internet access (Chair et al., 2016). As Figure 4 shows, access increases with higher levels of educational achievement. What is also evident is that the access gap between males and females is smaller than the population average when looking at groups with the same level of education. In particular, access levels among individuals who have not achieved higher than a primary school education are relatively similar between males and females, with an access gap of only 6%. While this increases to 40% for those with a secondary education, it is still significantly lower than the population average of 54%. For individuals with a tertiary education, it again declines to only 13%. This means that a large part of the gender access gap can be attributed to differences in the level of education. As the right-hand graph in Figure 4 illustrates, females have a higher concentration around the lower levels of educational achievement compared to men, as this corresponds to lower access levels, it means that females will have lower access levels.

Figure 4: Gender access inequalities by education level, 2022



Source: RIA (2022)

Relative to the comparison at the entire population level, women have similar access levels to men with the same level of education and have, on average, far higher access levels than men with lower educational

attainment. This highlights the importance of addressing inequalities in the education system in Nigeria to be able to address digital inequalities. Although this is not the entirety of the issue, based on the current levels of access by gender and education level, if female education was improved in line with that of men, female Internet access would increase from 23% to 30%, and the gender gap would fall from 54% to 33%.

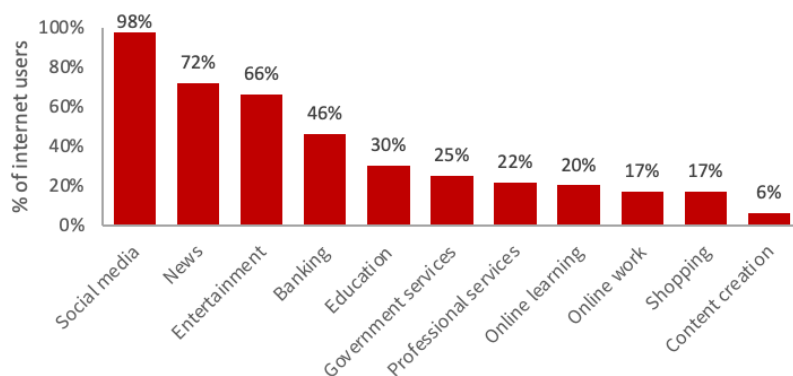
Moreover, some individuals sit at the intersections of multiple inequalities, for example, rural women in low-income households with low levels of education face severe marginalisation (Gillwald & Partridge, 2022). This calls for an intersectional approach that targets policy interventions at the intersections of these inequalities to reach the most marginalised. It also means that efforts at promoting an inclusive digital economy need to consider inequalities in terms of gender and location in the broader context of structural inequalities.

Individual use cases

As inequalities in the use of online services are only measured amongst those online, the inequalities widen further once overlaid with the inequalities already identified in Internet access. Therefore, in attempting to develop an online service that achieves inclusive outcomes, it is important that the initiative both assists marginalised groups in gaining Internet access but also focus efforts on ensuring that once access has been achieved, marginalised groups are equally aware of and able to use online services in a meaningful way.

The biggest use of the Internet amongst users is for social media, with almost all users (98%) claiming to use social media. Besides social media, entertainment (72%) and news (66%) also rank high. The use of digital financial services is also growing in popularity, and nearly half of Internet users claim to use the Internet for this purpose (Figure 5).

Figure 5: Main uses of the internet, 2022

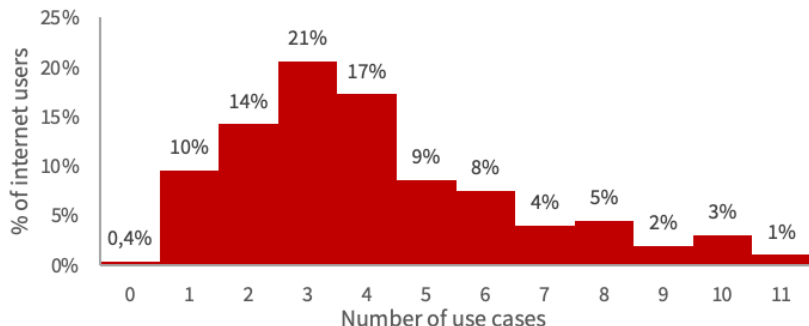


Source: RIA (2022)

Almost all people online use the Internet in at least one of the ways (or use cases) cited above, with less than 1% claiming not to use any of these 11 services. As can be seen in Figure 6, the mode⁵ number of use cases is three, with the average estimated at just over four.

⁵ Mode = most common outcome

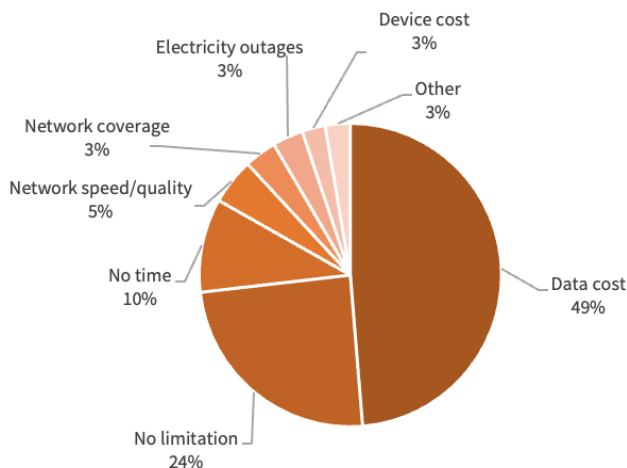
Figure 6: Number of cited services used by internet users, 2022 (max=11)



Source: RIA (2022)

Almost a quarter of Internet users claim to not feel limited in the ability to go online, with the remaining 76% claiming they would use it more if they were not restricted from doing so. As Figure 7 shows, the most pressing limitation is the cost of data with roughly half of Internet users claiming this to be the main thing holding them back from deeper digital engagement. A further 10% claim to be limited mainly in terms of the time they have available to use the Internet.

Figure 7: Main use limitations, 2022



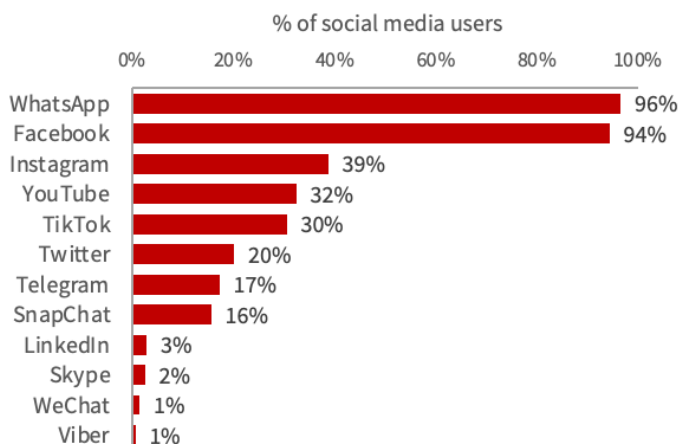
Source: RIA (2022)

Relative to other countries, mobile data in Nigeria is on the cheaper side. The Research ICT Africa Mobile Pricing (RAMP database) shows that for the third quarter of 2022, when the survey commenced, the cheapest cost for a 1GB data package was equivalent to USD2.38 (through 9Mobile). Whilst this is significantly more than countries such as Ghana (USD1.09) and Ethiopia (USD1.15), Nigeria is the tenth cheapest of 42 African countries where data was available, and in which the average price was almost double that of Nigeria at USD4.67. The highest price recorded is an exorbitant USD18.19 in the Seychelles (RIA, 2023).

Social media

As the main use of the Internet, social media provides an important avenue to engage consumers who are online. Looking at specific social media platforms in Figure 8, Whatsapp and Facebook are the most popular with 96% of social media users using Whatsapp and 94% using a Facebook account. Media and entertainment platforms Instagram, Youtube and TikTok are also used fairly widely, with X (formerly “Twitter”), Telegram and Snapchat less popular but still having significant use.

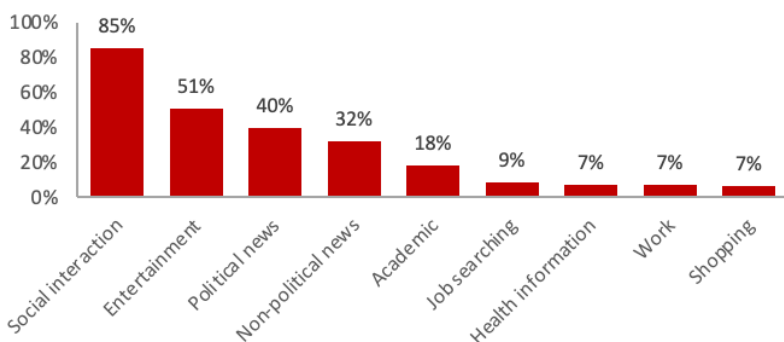
Figure 8: Main social media platforms used in Nigeria, 2022



Source: RIA (2022)

In line with the prominence of Whatsapp and Facebook amongst social media users, the main use of social media is for social interactions, providing a cheaper alternative to the high cost of voice calls. Entertainment is another common use of social media featuring in the top three uses for more than half of social media, with accessing news also significant (Figure 9).

Figure 9: Uses featuring in the top three uses of social media, 2022



Source: RIA (2022)

The prevalence of social media use amongst Internet users highlights the value of these platforms in reaching a wide audience. However, the current use is primarily for social interactions and entertainment. This represents a relatively untapped opportunity to harness social media as a platform of learning, providing public information, and trading of goods and providing services.

Digital financial services

The African Development Bank has adopted the definition of financial inclusion developed by the Alliance for Financial Inclusion (AFI) which stipulates that formal regulated financial products and services are made available (access), are used by individuals and enterprises (usage), and are appropriately tailored to the needs of users (quality) (Triki & Faye, 2013). As the World Bank argues, the foundation for financial inclusion is a deposit or transaction account with a financial institution or mobile money provider which is capable of storing value as well as making and receiving payments (Demirguc-Kunt et al., 2017). There exists a vast literature which shows the benefits of financial inclusion for sustainable development.

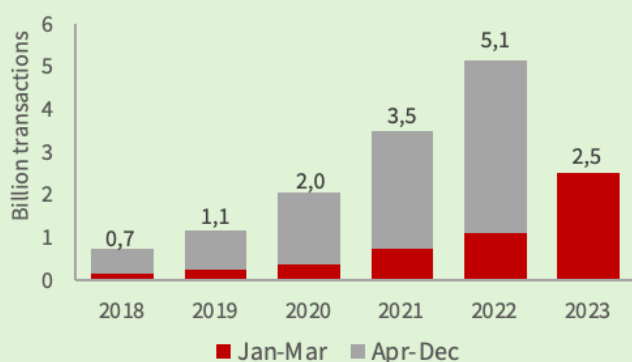
Nigeria has one of the most sophisticated digital financial services ecosystems in Africa, with a robust bank-led payment system and innovative fintech sector. The Central Bank of Nigeria (CBN) has played a

central role in providing the infrastructure and regulatory environment to promote financial inclusion through an inclusive instant payment system which is tailored to the needs of low-income consumers (AfricaNenda, 2022).

Box 2: NIBSS Instant Pay (NIP)

The Nigeria Inter-Bank Settlement System Plc (NIBSS) launched NIBSS Instant Pay (NIP) in 2011, corresponding with the year CBN launched its Cashless Policy. NIP has achieved inclusive growth, catering to the use cases of low-income consumers (AfricaNenda, 2022). The strong growth in the use of NIP can be observed in Figure 10 which shows the annual transaction volumes increasing from 700 million in 2018 to more than 5 billion in 2022. This growth looks set to continue into 2023 with the data for the first three months totaling 2.5 billion, 126% more than was observed for the first three months of 2022.

Figure 10: Annual volume of transactions through NIP, 2018-2023



Source: NIBSS (2023)

Even though Nigeria’s currency, the Naira (₦), has exhibited annual inflation between 11% and 19% for the period reviewed (World Bank, 2023), the average nominal value of transactions has fallen from ₦110 254⁶ in 2018 to ₦75 304⁷ in 2022 (NIBSS, 2023). This further highlights the increased use of NIP for low-value, high-frequency payments associated with low-income consumers (Level One Project, 2019).

The success of NIP can be attributed to several factors including limits set on transaction costs on digital payments to protect consumers, an expanded agent network to provide accessible access points across the country and full integration with the country’s digital identification system (AfricaNenda, 2022; USAID, 2019). The growth achieved thus far provides an opportunity for further adoption of digital products and services and illustrates the capabilities of Nigeria to adopt and use digital technologies.

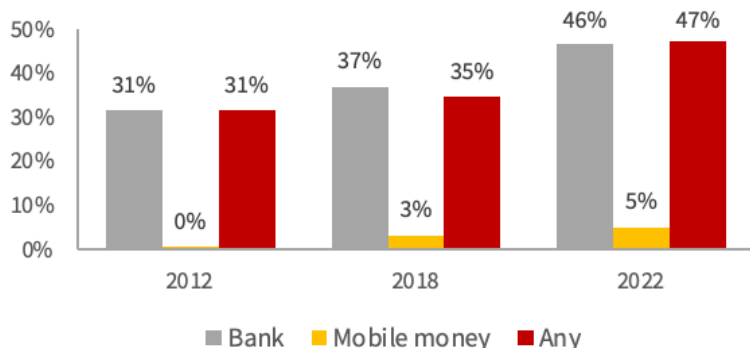
Financial inclusion in Nigeria reached 47% in 2022, meaning that almost half the population can now access digital financial services (Figure 11). In particular, the percentage of the adult population with a bank account has risen from 31% in 2012 to 46% in 2022. It should be noted that mobile money is measured in the survey as financial services provided through mobile network operators, such as with M-PESA in Kenya. Although the Nigerian payment system now allows for such mobile money operators to participate directly in the payment system, these services are only used by a relatively small share of the adult population (5%), with most of the financially included being attributable to the banking sector. However, there are many financial technology companies (fintechs) operating in Nigeria which offer a wide range of

⁶ Approximately USD 360 (IMF, 2023)

⁷ Approximately USD 177 (IMF, 2023)

innovative mobile financial services, as well as other value-added services, working either directly or indirectly through the country’s commercial banks. This has allowed the Nigerian financial sector to provide products and services which meet the needs of low-income consumers and achieve widespread uptake of digital payments and other digital financial services (USAID, 2019).

Figure 11: Financial inclusion in Nigeria, 2012 vs 2018 & 2022



Source: RIA (2012, 2018, 2022)

The findings on financial inclusion from the After Access survey align relatively closely with the World Bank’s (2022) Findex surveys which reported 45% financial inclusion in 2022, with 45% of the population having a bank account and 9% owning a mobile money account.

Bank account ownership was significantly higher amongst individuals who use the Internet (85%) compared with those who don’t (28%). The demographic differentials also mirrored the Internet gender access gaps with a higher proportion of men owning a bank account (54%) compared to women (39%) and bank account ownership being significantly higher in urban areas (60%) than rural areas (30%).

Internet usage was significantly higher for banked individuals than for the total population (58% vs 32%). The percentage of bank account owners which make use of online banking services is estimated at 32%, a significant portion but less than the 58% estimated as the number of internet users amongst the banked population. This highlights a gap to provide digital services, first to the 26% of banked individuals who use the Internet but don’t use online banking, and then to use the growing market to harness online banking as an incentive for individuals without an internet connection to come online.

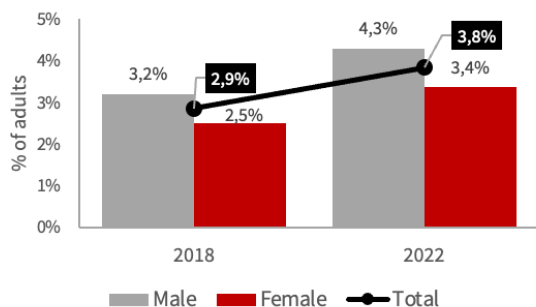
Platform work

Platform work is the matching of demand and supply of paid work through a digital platform. The percentage of Nigerian adults engaged in platform work⁸ increased from 2.9% in 2018 to 3.8% in 2022 (Figure 12). Whilst this may sound like a small percentage given Nigeria’s large population this implies that more than 4.5 million Nigerians are doing platform work with almost 1.5 million new jobs created between

⁸ Platform work is defined in the survey questionnaire as “a form of work in which organisations or individuals use an online platform to access other organisations or individuals to provide specific services or solve specific problems in exchange for payment. These sites require workers to create a user profile in order to find and accept assignments, and they also coordinate payment once the work is complete. For example, Uber, Bolt, Amazon Turk etc.”

2018 and 2022⁹. Female employment increased at a slightly faster rate than men resulting in a small decrease in the gender gap from 25% to 24%.

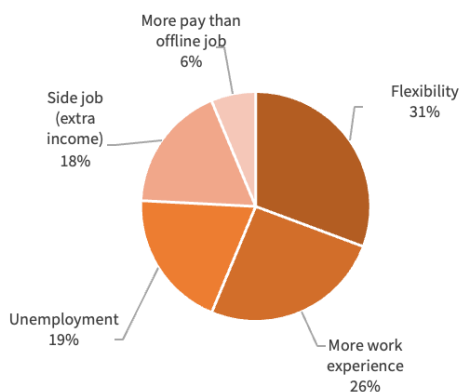
Figure 12: Percentage of Nigerian adults (>15 years old) engaged in platform work



Source: RIA (2018, 2022)

Platform work in Nigeria is mainly undertaken due to the flexibility offered (the case for 31% of platform workers) and the ability to build up work experience (26%). A smaller share of the workforce has turned to platform work as a result of unemployment (19%). Only 6% of platform workers claim to be driven by better pay on offer (Figure 13).

Figure 13: Motivation for becoming a platform worker, 2022

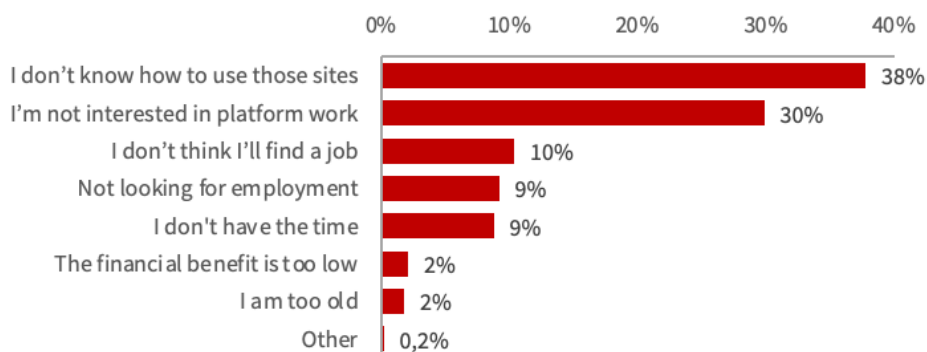


Source: RIA (2022)

The main barrier preventing individuals from not engaging in platform work was a lack of the digital skills required to engage with digital work platforms (Figure 14). Of all the individuals not engaged in platform work, 38% claimed this was the main reason. A further 30% claimed to not be interested in it. It should, however, be noted that the lack of awareness about platforms masks other barriers. Only once individuals become more aware other key issues will begin to surface.

⁹ Based on an urban population of 111 505 415 and a rural population of 99 895 289 in 2021. The population growth rate is assumed to be 2.4% each year (World Bank, 2023). Based on Nigeria’s Demographic and Health Survey, 57.0% of the urban population is aged 15 years and older and 51.6% of the rural population (NPC, 2019).

Figure 14: Main reason for not doing platform work, 2022



Source: RIA (2022)

As a final note on platform work, as with online government services the ability to engage with platform work is not evenly distributed amongst internet users with men internet users more likely to be involved in platform work than women and those in urban areas more likely to be platform workers than those in rural areas. This again creates a double layer of inequality and highlights the need for initiatives to address marginalisation not just in access but also in the ability to use digital technologies productively.

Digital technology adoption by microenterprises

In addition to individual and household surveys, RIA also conducted microenterprise surveys in Nigeria with the aim of assessing the opportunities and constraints that microenterprises face regarding the adoption and use of ICTs. A total of 718 interviews were completed across 148 enumerator areas sampled from the national census frame. As in other parts of Africa, women predominate in the informal sector with 64% of the firms in this sample being female-owned. Roughly 60% of the microenterprises surveyed were located in urban areas. The most common form of business registration is with local authorities or municipalities, over 16% of firms in the sample are licensed with local authorities. Only 4% of these firms report VAT registration. Even fewer firms, (3% in the sample) are registered for corporate income tax. As a result, most firms and their employees remain informal and invisible to the state.

Electricity is a complementary infrastructure for digitalisation and it is only accessible to 48% of the firms in the data. While there has been improvement in bank account ownership and mobile money penetration, financial inclusion remains a challenge and access to bank accounts is largely driven by use of personal bank accounts for business purposes. In addition, personal savings remain the primary source of capital for microenterprises in Nigeria and most microenterprises operate from the owner’s home (49%).

Mobile phone ownership is crucial for accelerating digital and financial inclusion. Despite a positive trend and a high mobile phone penetration rate of 81%, digitalisation is held back by the low adoption and sub-optimal use of smartphones. Smartphones are regarded as gateways to Internet access, but remain inaccessible to 72% of micro businesses included in the study. This is reflected in the low uptake among microenterprises with less than 14% claiming to use the Internet for business activities.

Access to mobile devices across sectors, geographic location and gender is highly uneven. The adoption and use of smartphones is highest in the service sector (40%). Smartphone penetration is also lower among female-owned microenterprises (23%) and those located in rural areas (18%). The adoption and use of computers by micro businesses remains very low in Nigeria with only 4% of the firms surveyed having access to working computers. Furthermore, the differentials in device ownership are also reflected

in Internet adoption. Similar to mobile phone uptake, Internet access exhibits a positive trend, but remains low (13%) and unequal. Mobile Internet connectivity is much lower than smartphone ownership among microenterprises in the sample. The Internet gender gap has narrowed from 97% to 83% between 2018 and 2022, but remains among the highest on the continent..

Moving beyond access, Internet use differs markedly between male-owned and female-owned enterprises. In absolute terms, the gap in Internet use between female-owned and male-owned enterprises is highest in the use of communication platforms such as Zoom to communicate remotely with others as well as in use of cloud services. This means that even controlling for inequalities in terms of access, male-owned microenterprises which are using the Internet are much more likely to use these services than female-owned microenterprises which are using the Internet. It is estimated that female-owned enterprises with internet access are more likely to use the Internet for emails and instant messaging compared to male-owner microenterprises with Internet access. However, the gaps in these use-cases which are in favour of female-owned microenterprises are very small relative to the gaps which favour male-owned enterprises.

The low adoption rate of digital technology amongst Nigerian microenterprises is mainly due to limited resources and lack of knowledge of how to productively use and capitalise on these technologies. Specifically, 31% of microenterprises which do not use the Internet claim that the affordability of appropriate devices is the main barrier preventing access. However, combined with the need for training on how to productively use the Internet for a business (28%), more easy-to-use devices (9%) and demonstration of the benefits (6%) would result in 43% of non-Internet users coming online. Amongst microenterprises which are using the Internet, the major barrier limiting the extent of Internet use is the cost of data with 29% of microenterprises saying they would use the Internet more if the cost of mobile data was lower. A further 21% highlighted issues in connectivity.

Overall, it is mainly demand-side factors holding back access, with supply-side constraints needing to be addressed to encourage a more in-depth digital experience. This echoes the findings from the household and individual survey.

Policy recommendations

Having established itself as a leading economy in Africa, Nigeria is now well-placed to build on digitalisation efforts to date and become a leader in digitalisation on the continent. Whilst much has been done to highlight and develop solutions for supply-side constraints, particularly the need for infrastructure investment, less has been done to address the demand-side constraints which now appear to be the most critical barriers to inclusive digital development.

While the poor outcomes reflect on certain sectoral policy and regulatory failures, what is also important is to realise the cross-cutting nature of digitalisation. For its potential to be harnessed for post-pandemic economic reconstruction requires transversal policy that works across the entire digital system. This is necessary to ensure the levels of coordination required from the public sector (eg. Basic education, science and innovation, trade, health, public administration) and between the public and private sector and civil society for Nigeria to be ready to optimise opportunities on the continent such as the African Continental Free Trade Area.

Government

- ❖ Expedite the implementation of the National Broadband Plan 2020-2025, which aims to achieve 70% broadband penetration by 2025, by facilitating the deployment of advanced (4G & 5G mobile

and fibre optic) networks across the country, speedily granting right of way permits at minimal or no cost and supporting public-private partnerships in network provisioning and infrastructure sharing.

- ❖ Work with the private sector to mobilise and deploy capital in the provision of affordable and accessible devices, platforms, and digital literacy programmes among the population, especially in rural and underserved areas, to enable inclusion and to make consumers benefit from the opportunities offered by telecoms services.
- ❖ Encourage the development of content and applications that are culturally relevant and available in local languages to widen the base of users.

Regulator

- ❖ Undertake a market review to assess dominance in the market and provide remedies that address structural dominance in the market and create a more fair competitive environment.
- ❖ Resolve inefficiencies in the 'middle mile' that negatively impacts the ability of operators to competitively transmit wholesale bandwidth out from the submarine cable landing station in Lagos into other parts of the country, a factor that is presently preventing the availability of cheaper data nationwide.
- ❖ Mandate operators to ensure that their services and devices are readily accessible and user-friendly for marginalised groups especially women, and persons with disabilities, among others.
- ❖ Encourage innovation and competition by developing and implementing targeted policies and initiatives (such as for community networks and other last mile connectivity providers) that license smaller players whose primary focus is on serving rural and underserved communities.

Operators

- ❖ Offer more affordable and competitive tariffs and packages taking into account the income levels, preferences, and peculiar needs of marginalized groups.
- ❖ Collaborate with other operators and stakeholders in the telecoms sector to address common challenges in infrastructure, spectrum, and resources and to explore opportunities to deepen inclusion.

Consumer Rights & Civil Society Groups

- ❖ Collaborate with the government, regulators, operators and development partners to implement widespread digital literacy programs, educating consumers on the benefits and applications of digital services.
- ❖ Foster collaboration among stakeholders by organizing forums and consultations for information sharing and consensus building.

References

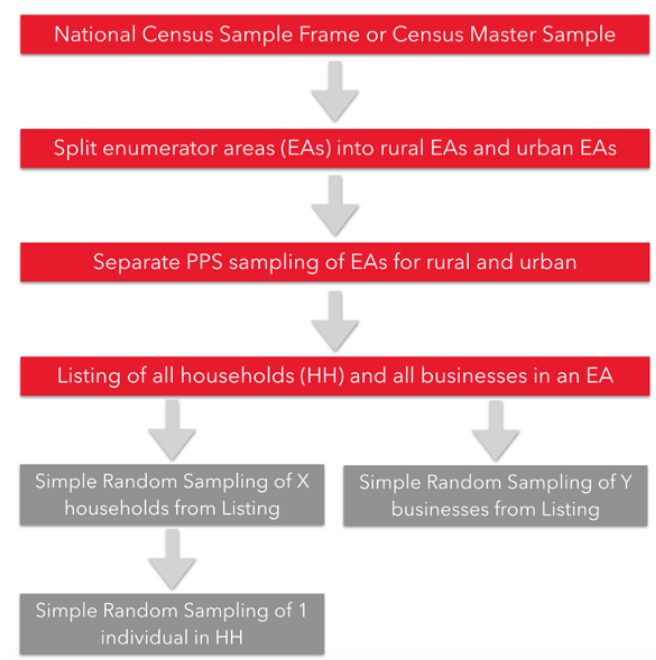
- Adepetun, A. (2020, October 28). *Waiting for the InfraCo revolution in Nigeria*. The Guardian Nigeria News - Nigeria and World News. <https://guardian.ng/technology/telecoms/waiting-for-the-infraco-revolution-in-nigeria/>
- AfricaNenda. (2022). *The State of Instant and Inclusive Payment Systems in Africa (SIIPS 2022 Case Study): NIBSS Instant Payment*. https://www.africanenda.org/uploads/files/22312_EN_SIIPS_Casestudy_NIP_HQ.pdf
- Chair, C., Deen-Swarray, M., & Khan, S. (2016). *Taking the microscope to ICT gender gaps in Sub-Saharan Africa*. 22.
- Demirguc-Kunt, A., Klapper, L., & Singer, D. (2017). *Financial Inclusion and Inclusive Growth: A Review of Recent Empirical Evidence*. World Bank, Washington, DC. <https://doi.org/10.1596/1813-9450-8040>
- FMCDE. (2019). *National Digital Economy Policy and Strategy (2020-2030)*. Federal Ministry of Communications and Digital Economy. <https://www.ncc.gov.ng/docman-main/industry-statistics/policies-reports/883-national-digital-economy-policy-and-strategy/file>
- Gillwald, A., & Partridge, A. (2022). *Gendered Nature of Digital Inequality: Evidence for policy considerations*. UN Women.
- IMF. (2023). *International Financial Statistics*. <https://data.imf.org/regular.aspx?key=61545850>
- International Telecommunication Union. (2023). *ITU DataHub*. <https://datahub.itu.int/>
- NIBSS. (2023). *Industry Statistics*. <https://nibss-plc.com.ng/industry-stat/>
- Odunewu, S. (2022, May 26). Over 100m mobile lines inactive as of March 2022, says NCC. *Blueprint Newspapers Limited*. <https://blueprint.ng/over-100m-mobile-lines-inactive-as-of-march-2022-says-ncc/>
- Rea, L. M., & Parker, R. A. (2005). *Designing and Conducting Survey Research: A Comprehensive Guide* (3rd edition). Jossey-Bass.
- RIA. (2012). *After Access Survey 2011-2012: Measuring digital inequality in Africa (Digital data for Africa); Household and Individual Survey 2011-2012*.
- RIA. (2018). *After Access Survey 2017-2018: Measuring digital inequality in Africa (Digital data for Africa); Household and Individual Survey 2017-2018*.
- RIA. (2022). *After Access Survey 2022: Measuring digital inequality in Africa (Digital data for Africa); Household and Individual Survey 2022*.
- RIA. (2023). *Research ICT Africa Mobile Pricing (RAMP) [dataset]*. <https://researchictafrica.net/research-ict-africa-ramp-index-2/>
- Triki, T., & Faye, I. (2013). *Financial Inclusion in Africa*.
- USAID. (2019). *Nigerian Payments Landscape*. https://pdf.usaid.gov/pdf_docs/PA00WBPK.pdf
- World Bank. (2023). *World Development Indicators*. <https://databank.worldbank.org/source/world-development-indicators>

Appendix: Survey Methodology

Research ICT Africa conducted the first After Access survey between 2005 and 2008 covering a total of 17 countries across the African continent. Since then, additional surveys have been conducted for 2010 to 2012 and for 2017 to 2018. The latest round of the survey is currently underway after commencing in 2022. The survey provides detailed accounts of how individuals interact with ICTs and the barriers holding individuals back from tapping into the benefits of digitalisation. For each country surveyed, a nationally representative household and individual survey is accompanied by a microenterprise survey which contains questions on the ways in which microenterprises use ICTs within their businesses.

The random sampling for households, individuals and businesses is based on Census sample frames. A Census divides a country into enumerator areas (EAs) which roughly have a household density of 200. A random sample of EAs stratified by urban/rural was randomly selected based on a complete list of EAs from the National Statistical Office. Households in EAs were randomly selected with the help of satellite imagery and remote sensing of rooftops. Software specialised in the detection of roof types from satellite imagery was used to create a list of the locations of all dwellings in a sampled EA. A random sample of 22 dwellings was then drawn from the EA.

Figure A1: Sampling steps



- ❖ Step 1: The national census sample frames are split into urban and rural enumerator areas (EAs).
- ❖ Step 2: EAs were sampled for each stratum using probability proportional to size (PPS).
- ❖ Step 3: Households in EAs were listed through the use of a software that detects roof types from satellite imagery. The listing process for businesses was compiled manually through a random walk process. The listings served as sample frames for the simple random selections of households and businesses.

- ❖ Step 4: *X* Households and *Y* businesses were sampled using simple random sample for each selected EA.
- ❖ Step 5: One individual from all household members 15 years or older was randomly selected for the individuals survey based on simple random sampling.

The desired level of accuracy for the survey was set to a confidence level of 95% and a margin of error of 5%, which yields a minimum sample size per tabulation group of 385.

Table A1: Minimum sample size for variables expressed as proportions for large populations

Margin of error	95%	99%
+1	9 604	16 577
+2	2 401	4 145
+3	1 068	1 842
+4	601	1 037
+5	385	664
+6	267	461
+7	196	339
+8	151	260
+9	119	205
+10	97	166

Source: (Rea & Parker, 2005)

Three weights were constructed: for households, individuals and microenterprises. The weights are based on the inverse selection probabilities¹⁰ and gross up the data to national level when applied.

Household weight:
$$HH_w = DW \frac{1}{P_{HH} * P_{EA}}$$

Individual weight:
$$IND_w = DW \frac{1}{P_{HH} * P_{EA} * P_I}$$

Business weight:
$$Bus_w = DW \frac{1}{P_{Bus} * P_{EA}}$$

Household selection probability:
$$P_{HH} = \frac{n}{HH_{EA}}$$

EA selection probability:
$$P_{EA} = m \frac{HH_{EA}}{HH_{STRATA}}$$

¹⁰ See UNSD (2005) page 119 for a detailed discussion on sampling weights see page 119 fn the UNSD’s Handbook on *Designing Household Survey Samples*: https://unstats.un.org/unsd/publication/seriesf/seriesf_98e.pdf

Individual selection probability: $P_i = \frac{1}{HH_{m15+}}$

Business selection probability: $P_{BUS} = \frac{q}{BUS_{EA}}$

DW = design weight compensation for over-sampling of urban EAs and under-sampling of rural EAs;

HH_{EA} = number of households in selected EA based on information of last census or updated listing by field team;

HH_{STRATA} = number of households in strata (urban, rural);

HH_{m15+} = number of household members or visitors 15 years or older;

m = target number of EAs for each strata;

n = target number of households in EA;

q = target number of businesses in EA.

The target number of households in each EA varied from country to country. Usually, a maximum of 20 households and 10 businesses are selected from each EA.

Table A2: Survey counts for After Access 2022 as at January 2024

Country	Population	Data collection status	Household surveys completed	Microenterprise surveys completed	Country surveyed in 2017/2018?
South Africa	59 893 885	Complete	1 933	566	Yes
Nigeria	218 541 212	Complete	2 230	718	Yes
Uganda	47 249 585	Complete	1 031	520	Yes
Ethiopia	123 379 924	Complete	2 095	499	No
Kenya	54 027 487	Complete	1 703	547	Yes
Tanzania	65 497 748	Fieldwork complete, cleaning in progress	1 821	510	Yes
Ghana	33 475 870	Complete	1 062	544	Yes
Senegal	17 316 449	Scheduled	-	-	Yes

