

After Access 2022:

Internet usage trends in South Africa

- ❖ The share of South Africans using the Internet increased from 49% in 2018 to 76% in 2022. Over this period the gender gap in Internet use closed from 8% to being negligible, and the rural gap decreased from 22% to 10%.
- ❖ There is little evidence of COVID-19 driving an increase in Internet access, suggesting the trend is independent of the shock. However, 70% of individuals who were already online before the pandemic reported an increase in use since the initial COVID-19 lockdown. This confirms our critique that mandatory price reductions (compcom) and providing more temporary spectrum for increased demand, improved Internet use for those connected but did nothing to address the barriers to adoption.
- ❖ The main barriers to Internet access are a lack of awareness and knowledge of how to use it. The main barrier for online individuals to use the Internet more is overwhelmingly the high cost of data.
- ❖ 59% of microbusinesses still do not use the Internet for their businesses in any way; however this is a marked improvement from 76% in 2018. Over this same period the share of rural microbusinesses using the Internet increased from 8% to 33%; however this is still 29% lower than what is observed in urban areas.
- ❖ Internet access appears to be loosely correlated with scale, with online businesses exhibiting higher turnover and asset accumulation than those offline. However, offline businesses appear more profitable as represented by significantly higher profit margins.

Introduction

Whilst the COVID-19 pandemic had an accelerating effect on information and communications technology (ICT) development and uptake around the world, it also highlighted the stark contrasts across different countries and the shortcomings in much of the developed world to use digital technologies to mitigate against the impact of large external shocks (Banya et al., 2022; Mothobi & Gillwad, 2021; United Nations, 2022). Even within countries the ability to access and use ICT varies significantly across different population segments. Without improvements in accessibility and usability for marginalised groups, there is the risk that ICT developments will not translate into inclusive development and could even act as a further barrier causing a widening of inequalities both across and within countries.

To develop policies and regulations which will ensure inclusive ICT developments are a vehicle for advancing the United National 2030 Sustainable Development Goals, a deeper understanding is needed of how individuals, households and businesses interact with ICT and how this interaction impacts on their livelihoods and well-being. Whilst aggregate trends are useful in assessing progress at a macro level and identifying the impact of

After Access... the first glimpse into the ways individuals in South Africa are interacting with ICT at a national level post the COVID-19 pandemic

relevant policies and shocks, to really understand the main drivers and barriers and how they manifest for different entities it is important to have nationally representative data available on ICT accessibility and use at the individual, household, and business level.

South Africa provides a setting where data at this specific level is particularly valuable. Although an economic giant in relation to many African societies, with a well-functioning democracy and rule of law, there exist deep socio-economic inequalities which have resulted in South Africa being ranked as the most unequal country in the world (World Bank, 2022a). Despite being the focus of many national and sub-national policies and plans since the official end of apartheid in 1994, inequality is still determined by race, gender, age and geographic location, with those at the intersections of these factors being the most marginalised. This is reflected in digital inequality.

National representative demand-side surveys of individual or household, and microbusiness access and use, are essential for assessing policy outcomes and are especially in predominantly pre-paid mobile markets like South Africa the only way to obtain data that can be disaggregated by sex, education, income, geographic location – information critical to identifying the exact point of policy intervention to redress different aspect of inequality. The first point of access into the digital world is the Internet, and so this brief focuses on high-level findings related to the ability to access the Internet across different segments of the South African population.

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

The After Access Surveys began in 2005 with the first set of survey data finalised in 2008, encompassing 17 African countries¹ and covering questions about the ways in which individuals are able to access and use technologies and how this has impacted on their lives. There have since been survey rounds in 2012 (13 countries) and 2018 (10 countries) with the most-recent round commencing in 2022 with the aim of data being collected, cleaned and made available for all countries in 2023. 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 accessibility and use of ICT at the individual level. In addition, a second survey of microbusinesses is conducted in each country covering questions on the use of ICT specifically for business-related functions and the barriers faced in terms of access and use.

For the South African surveys, a nationally representative sample of 1,958 households in the individual survey and 565 microbusinesses was drawn from the census frame. It provides the first glimpse into the ways people in South Africa 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, while aspects assessed at the individual level are restricted only to individuals over the age of 15 years. All businesses surveyed for the microbusiness survey were included in the analysis and the sampling framework restricted the sample to only businesses with up to 10 employees.

Weighting for the household survey is conducted at the enumerator area (EA) level drawing on national data provided by the national statistics office and based on calculated sampling probabilities. For the microbusiness survey information was not available at the EA level and so weighting was done at the provincial level based on statistics obtained from the Small Enterprise Development Agency (SEDA).

¹ Botswana, Cameroon, Ghana, Kenya, Namibia, Rwanda, South Africa, Uganda, Tanzania, Benin, Burkina Faso, Cote d'Ivoire, Ethiopia, Mozambique, Nigeria, Senegal, Zambia

The next section provides the context for this brief with a short background on South Africa and ICT policy. Following this some aggregate trends in Internet use by individuals and households are provided followed by a section on the impact of the recent COVID-19 pandemic thereon, and then a section applying an equity lens to Internet use. The next section then looks at Internet use amongst microbusinesses in South Africa using the microbusiness survey. The brief concludes by providing some high-level policy recommendations.

Background

South Africa is one of the largest and most sophisticated economies in Africa and is a leader in ICT developments on the continent. The country recorded Gross Domestic Product of US\$ 420 billion in 2021, this equates to US\$ 6 664 per capita and a contribution of 22% to the total GDP of sub-Saharan Africa. However, the country is also ranked as the most unequal society in the world with high levels of marginalisation along a number of demographic characteristics including race, gender, age and geography (Leibbrandt et al., 2012; World Bank, 2022a).

“ICT will underpin the development of a dynamic and connected information society and a vibrant knowledge economy that is more inclusive and prosperous”
– South Africa’s National Development Plan (NPC, 2012, p.190).

South Africa’s National Development Plan (NDP) was developed in 2012 and lays out the vision for the country for 2030 and the proposed framework for achieving this vision, which all national development efforts are to align with (NPC, 2012). One of the core components of the plan is to improve infrastructure in order to “facilitate economic activity that is conducive to growth and job creation” (NPC, 2012, p.39). Achieving this objective encompasses several critical infrastructure improvements including addressing poor performance of the ICT sector and the failure in expanding accessing to marginalised groups, where marginalised groups targeted by the plan are low-income households, women, rural dwellers, and the youth. The NDP envisioned that by 2020, “ICT will underpin the development of a dynamic and connected information society and a vibrant knowledge economy that is more inclusive and prosperous” (NPC, 2012, p.190).

To drive the improvements in the ICT sector in line with the objectives set out in the NDP, the South African Government published a National Integrated ICT Policy White Paper in 2016 that includes supply and demand side policy interventions aimed at improving the state of the ICT sector and moving South Africa towards a digital society by digitally transforming the public sector, improving digital access through developing trust and building digital skills, and advancing digital inclusion through the digital economy, financial inclusion, and digital content, services and applications (Department of Telecommunications and Postal Services, Republic of South Africa, 2016).

In order to enable wider usability of digital technologies, the government has also implemented a National Digital Skills and Future Skills Strategy which identifies priority digital skills for the country in line with international trends and national development objectives, and action points for key role-players which will lead to the development of these skills amongst the population (Department of Communications and Digital Technologies, Republic of South Africa, 2020).

South Africa’s National Development Plan views small, micro and medium enterprises (SMMEs) as central to advancing the country’s development objectives and in reducing the barriers for marginalised groups to integrate into the national economy. However, the 2022

National Integrated Small Enterprise Development (NISED) Masterplan, a national support strategy which was prescribed in the 1996 National Small Enterprise Act 1996 to ensure a thriving MSME sector that makes a significant contribution to inclusive growth and employment creation, highlights the lack of progress which has been made in achieving these goals:

“Despite considerable resources and policy intervention to support SMMEs, support for these enterprises remain uncoordinated and fragmented with duplication of initiatives based on symptoms and, at best anecdotal evidence. Research and data to monitor SMME performance remain elusive at the national level, resulting in the ill-informed design of programmes and support to match SMME needs and opportunities (financial and non-financial). This continues to result in low survival rates of SMMEs and stagnant growth.”(Department of Small Business Development, Republic of South Africa, 2022, p.7)

It is critical that that policies aimed at improving access to digital technologies also consider the needs and challenges of small and micro enterprises to harness the potential to overcome barriers faced in this sector; and to ensure that digitalisation leads to a closing of the gap with large formal enterprises and does not lead to a further widening of the current inequalities.

National trends in Internet use

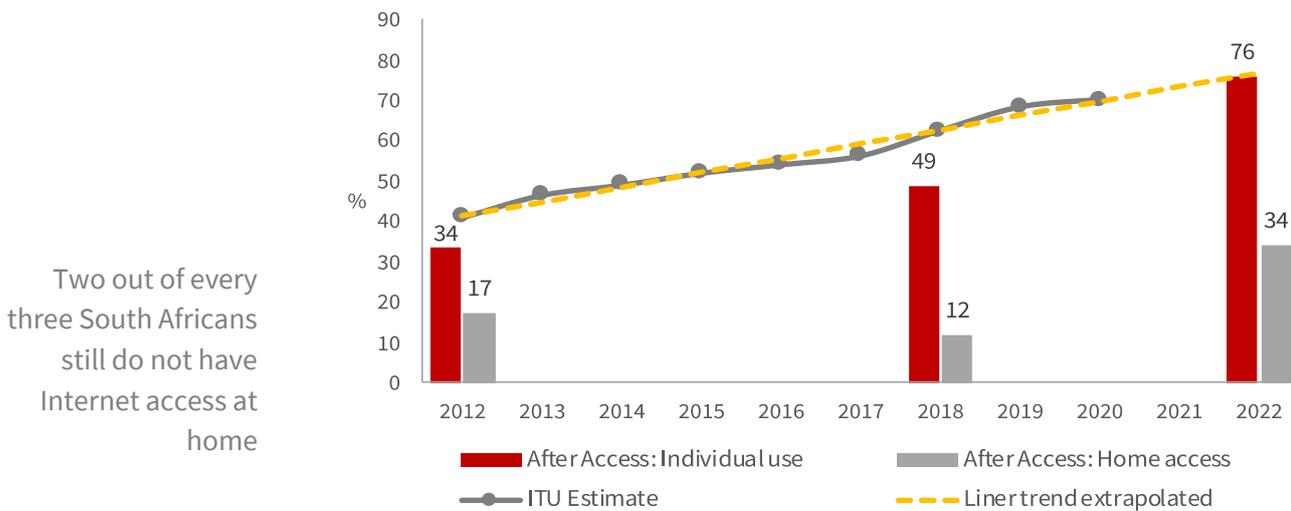
In 2022, 76% of South Africans reported using the Internet (49% in 2018)

Between 2018 and 2022 the percentage of South African’s using the Internet increased from less than half (49%) to more than three quarters (76%). There was a slight change in the After Access questionnaire design between these two periods, specifically a change in the definition of Internet users from indicating that they use the Internet currently in 2012 and 2018, to indicating that they have used it in the last three months in 2022. However, this is not expected to make a significant difference as most users of the Internet tend to use it frequently. For example, 97% of those online in 2022 (73% of the total population) claim to use the Internet for social media. Of those who use social media, 88% use it at least once a day and 98% use it at least once a week. The requirement relating to using the Internet in the last three months aligns with the definition adopted by the International Telecommunications Union (ITU, 2020) and the findings of the After Access survey align closely with the estimates of the ITU² as compared in Figure 1.

Despite the gains in increasing Internet access in South Africa, approximately two thirds of South Africans still do not have Internet at home and must rely on external facilities such as workplaces, libraries, restaurants, and other public Wi-Fi facilities to get online. The breakdown in Figure 2 shows that where individuals have Internet access at home, they generally used it – only 11% of individuals with home access claiming not to use it. This means that 84% of non-users do not have home access.

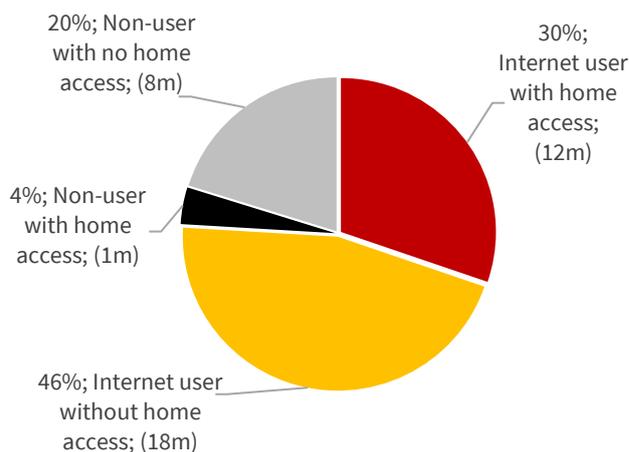
² The ITU data is only available up to 2020; the data is extrapolated to 2022 using Ordinary Least Squares (OLS) to measure the relationship between Internet use and time.

Figure 1: Internet use amongst the South African population, 2012-2022



Data source: (RIA, 2012, 2018a, 2022a; World Bank, 2022b)

Figure 2: Breakdown of South African population by Internet use and home access, 2022



Data source: (RIA, 2022a)

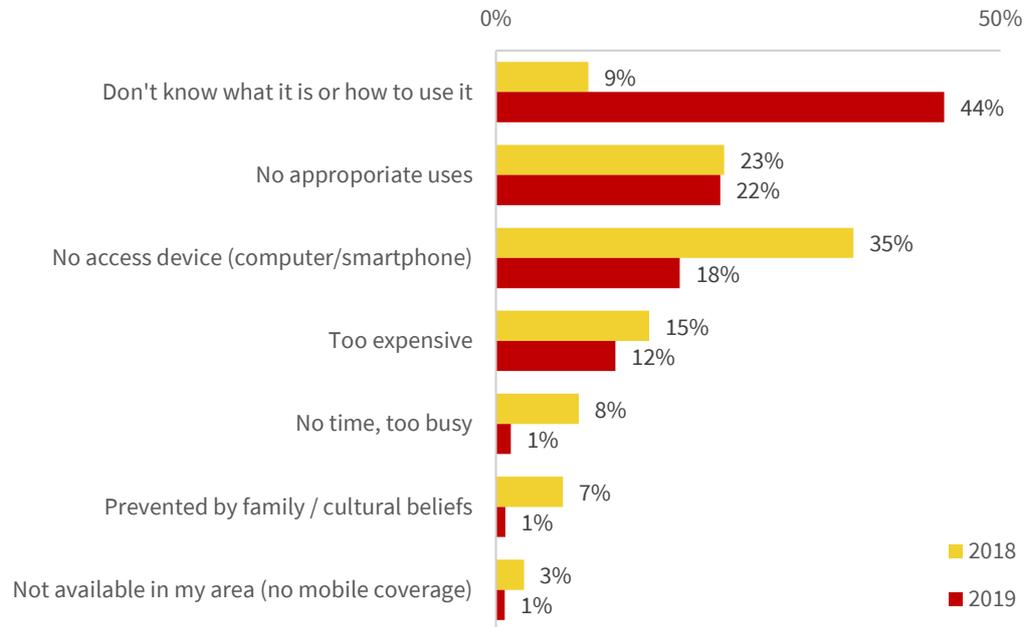
Whilst in 2018 the main reason users cited for not using the Internet was the lack of access to a suitable device, in 2022 most respondents not using the Internet claim the main reason is not knowing what the Internet is or how to properly use it. The second most-common issue for both years at the aggregate level is not seeing any value based on the available use cases. This highlights the need for greater efforts at widespread initiatives to improve awareness of the Internet and how individuals can benefit from being online.

For users already online, the main barrier to using the Internet more has always been data cost, however this has become even more prominent with the number of respondents citing this as the main issue increasing from 45% to 70%. This increase has been mainly made up by reductions in users claiming that the main reason is network speed and the Internet not being considered useful (see Figure 4). The Research ICT Africa Mobile Pricing database contains information on the price of data bundles and blended voice and sms mobile packages collected from mobile network operators across African on a daily basis. Based on the cheapest available option in each country, of the 43 countries for which data is available

70% of Internet users claim the high cost of data is the main reason for not using more

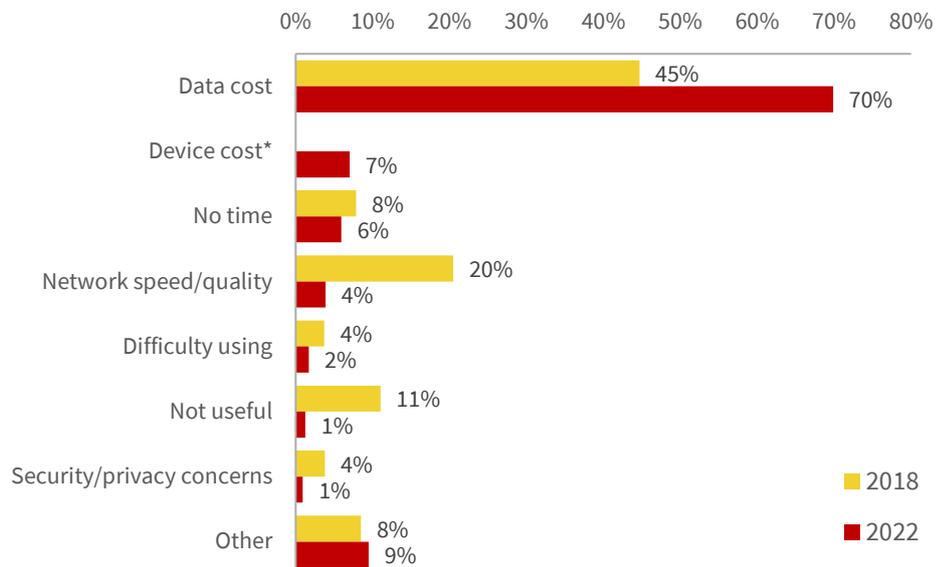
for the most recent period³, South Africa is the 14th most expensive country. The US dollar equivalent of a 1GB data package in South Africa is US\$ 4.65, similar to countries such as Cape Verde, Gambia, Guinea and Morocco and substantially higher than countries such as Mauritius (US\$ 2.57), Nigeria (2.38), Kenya (US\$ 1.69) and Ghana (US\$ 1.09) (RIA, 2022c).

Figure 3: Main barriers preventing individuals using the Internet, 2018 vs 2022



Data source: (RIA, 2018a, 2022a)

Figure 4: Main limitations preventing Internet users from using it more



Data source: (RIA, 2018a, 2022a)

* The option of "device cost" was not available in the 2017-2018 survey

³ Quarter 3, 2022

There are some clear shifts in relation to South Africans and accessing the Internet. To understand these trends further it is important to understand the trends in Internet use considering the major shocks that have impacted ICT demand amongst households, as well as the structural inequalities which exist in relation to the access to and use of digital technologies across different demographic groups.

COVID-19 impacts

The COVID-19 pandemic had an acceleration effect on digitalisation due to the demand for contactless interactions as a result of imposed lockdown restrictions and fear of contracting the virus. This led to an increase in online communication, buying and selling, interacting with government, and conducting business activities (Banya et al., 2022). The ability to digitally substitute was a key factor in the capacity for households to remain sustainable both during the pandemic and in the post-pandemic recovery in response to shifts in the economy towards digital channels.

Table 1 provides a transition matrix showing the change in Internet connectivity status at the household level from before the COVID-19 lockdown in South Africa (March 2020) to the time of enumeration (May to June 2022). Overall, there were almost one and a half million households who did not have Internet before the lockdown who since went online. This is equivalent to 11% of all households which did not have Internet access prior to the lockdown. The number of households moving offline was lesser, at only half a million, resulting in a 900 000 increase in the number of households with Internet access. However, it should be noted that this decrease was from a smaller base and as a result the rate of movement offline (10%) was almost equivalent to the rate of movement online (11%). This latter movement online seems logical given the nature of lockdown restrictions and resulting pressure to work, learn, and interact via contactless channels. The drivers pushing households offline is less straightforward but may reflect economic pressures stemming from the COVID-19 lockdowns and resultant tightening of household budgets.

1.4 million households obtained Internet access since the start of South Africa’s lockdown – equating to 11% of those who were not previously online

Table 1: Transition matrix of Internet use from before the national COVID-19 lockdown

		Total	Household has Internet now?	
			Yes	No
Household had Internet prior to COVID-19 lockdown?	Yes	5 461 522	4.9m (90%)	0.5m (10%)
	No	12 289 831	1.4m (11%)	10.9m (89%)

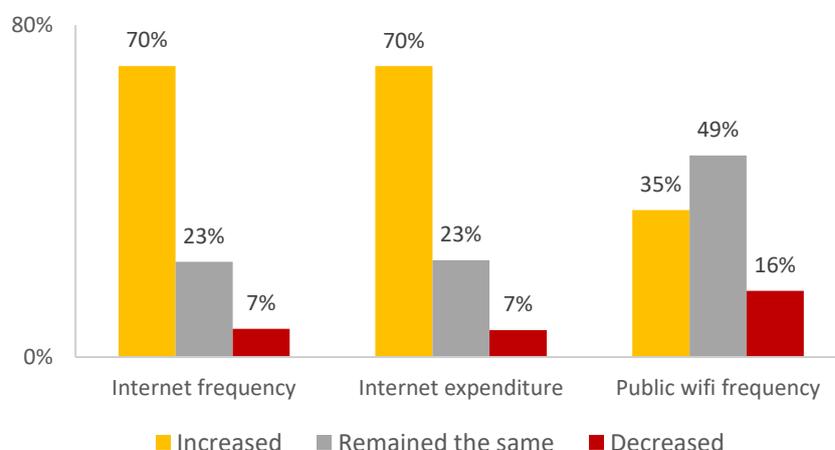
Data source: (RIA, 2022a)

Although the impact of COVID-19 on households gaining home Internet access was mild, there has been a strong increase in the frequency with which those already online used the Internet. As Figure 4 shows, of those who have been consistently online over the past two years, 70% report that the frequency with which they use the Internet has increased over this period, compared on only 7% who said it decreased. Internet expenditure movements closely followed frequency of use, implying expenditure only increased as usage increased and not independently of it. The use of public Wi-Fi amongst users also increased but significantly less so than general Internet use. For individuals who have been using public Wi-Fi for the past two years, 35% said their use had increased, and with 16% claiming it had

70% of Internet users reported an increase in the frequency of Internet in the past two years

decreased. The slightly dampened impact on public Wi-Fi use may be a result of lockdown restrictions on the use of public facilities where Wi-Fi can be accessed.

Figure 5: Change in the frequency of and expenditure on Internet use over the past two years



Data source: (RIA, 2022a)

An increase in individuals getting online suggests progress has been made in expanding Internet access to more individuals and there is evidence of online individuals expanding their adoption of online activities, particularly in the past two years due to behavioural changes required to cope with the impacts of the COVID-19 pandemic. However, growth by itself does not equate to progress in terms of socio-economic development and it is important to also gage how equitable growth has been and how able marginalised groups are to access and use ICT in a meaningful way.

Equity considerations

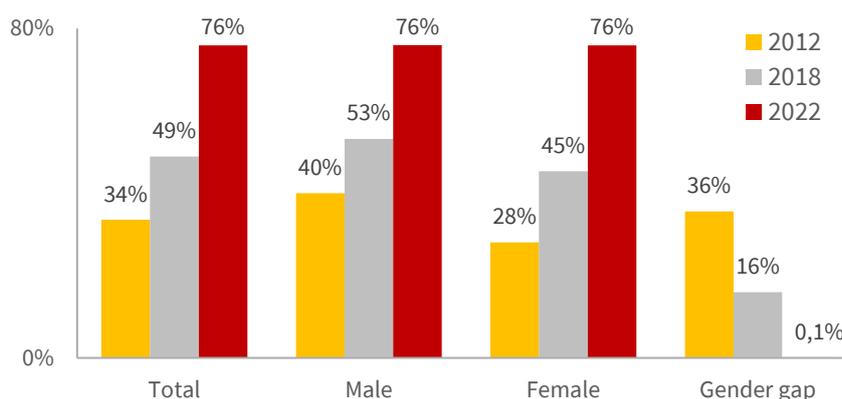
South Africa has achieved aggregate gender equity in Internet access for 2022. Ten years prior, in 2012, a substantial 36% gender gap⁴ was evident in terms of Internet use in South Africa with female use standing at 28%, far below the 40% recorded for males. Between 2012 and 2018, female Internet use increased at a faster rate than male Internet use, leading to a closing of the gap to 16%. This trend continued to 2022 to the extent that the use of the Internet by both females and men stood at 76% and the country's gender gap has been reduced to a negligible amount.

⁴ A gender gap is calculated based on the average proportional difference with the national average. A gap on an indicator i , between 2 groups a and b , is thus calculated based on the difference between the scores of the two groups relative to the population mean ($score_i^\mu$):

$$gap_i^{a,b} = \frac{score_i^b - score_i^a}{score_i^\mu}$$

Figure 6: Gender gap in Internet access in South Africa

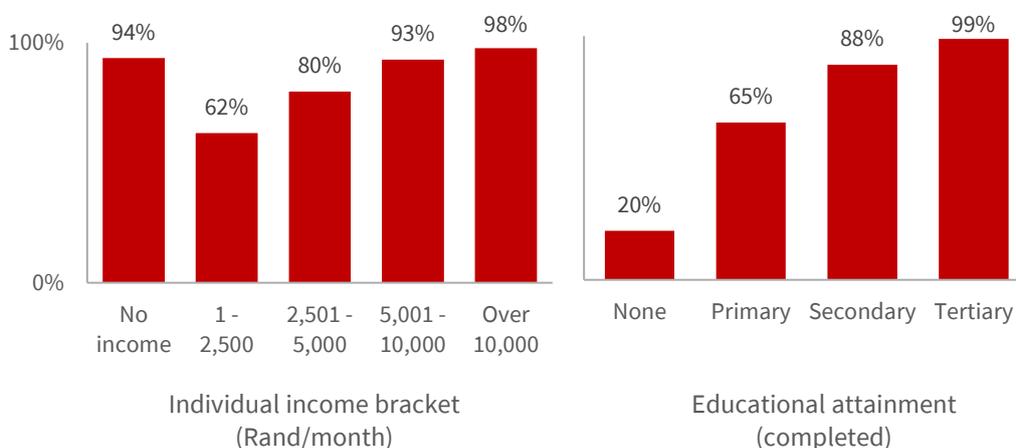
South Africa has achieved aggregate gender equity in Internet access for 2022



Data source: (RIA, 2012, 2018a, 2022a)

The rate of Internet use generally increases for higher income groups and higher levels of education, both broken down in Figure 7. Only 62% of individuals earning an income greater than US\$ 0, but less than US\$ 2 500 per annum, use the Internet. This percentage increases for each higher income bracket to get to 98% for individuals earning more than US\$ 10 000 per annum. The exception to the upward trend is individuals earning no income where Internet use was relatively high, at 94%. This exception is likely due to a number of factors including the pressure for the unemployed to use the Internet to find work and to generate finances for sustenance, as well as the fact that the analysis is at the individual level and an unemployed individual may have high-earnings potential were they to be employed and may live in a household with a high level of household income per capita. The trend in relation to education levels is even more striking, with only 20% of individuals who have not yet completed primary school claiming to use the Internet. This increase sharply to 65% with just a completed primary school education, and up as high as 88% with a completed high school or equivalent education. This highlights the important role of education as an enabling factor for digitalisation. Whilst the Internet provides an opportunity to access education and skills development potential, if those currently behind in educational attainment are also the ones not able to go online, then online learning opportunities will exacerbate current inequalities in the capacity to educate and learn.

Figure 7: Internet use by income level and educational attainment, 2022



Data source: (RIA, 2022a)

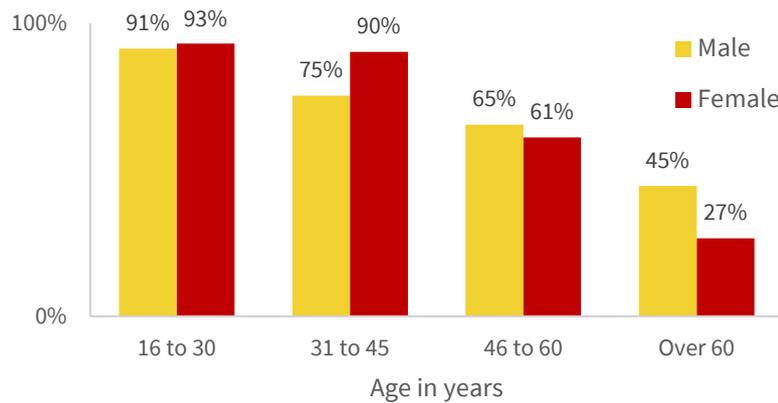
The importance of education is not surprising given the previous finding that a lack of knowing about the Internet or how to use it is the main access barrier for almost half of those not yet online. This barrier becomes less significant with more education as evident by the fact that it is the main barrier for 61% of individuals who have not completed a primary education, 41% of those who have completed primary but not secondary education, and only 27% of those who have completed secondary education. For those with a secondary education the biggest barrier was the cost (21%), followed closely by not being perceived to offer any value to consumers, based on the available use cases (20%).

Whilst the main barrier to access is related to knowledge and skills, the main barrier preventing those online from being able to expand their online activities, namely data costs, is very much a financial issue and is disproportionately felt by individuals with lower incomes due to having less disposable income. For individuals who earn an income less than R2 500 per month (US\$ 150), 59% reported that data cost was their main limitation on using the Internet, falling to 47% for incomes between R2 500 and R5 000 per month (US\$150 to US\$300), 35% for individuals with incomes between R5 000 and R10 000 per month (US\$300 to US\$600), and 21% for incomes over R10 000 per month (US\$600). This trend flattens if the focus is restricted only to individuals who experienced an issue, meaning that the prominence of data costs as a limitation is relatively consistent across income groups but the likelihood of an individual experiencing limitations is significantly higher for lower income groups as evidenced by 83% of the lowest income bracket facing limitations, compared to 73% for the next bracket, 58% for the next and only 31% for the highest income bracket. This means that although the prominence of data costs as an issue amongst those facing limitations on further use does not change significantly across income groups, as the base of individuals facing limitations is much higher for lower income groups, addressing high data costs will be progressive in that the benefits will be disproportionately felt by lower income individuals.

A significant 53% gender gap exists for individuals over the age of 60 years

Internet use is highest amongst the youth with 92% of individuals between the ages of 16 and 30 being online. This percentage decreases consistently for older age groups with Internet users making up only 34% of individuals over 60. Although there is a consistent downward trend in Internet use with age, the nature of the decline is different for men and women. Internet usage rates are similar for men and women in the 16 to 30 age group, but it drops much sharper for men than for women moving up to the 31-to-45-year age cohort. From here the drop in Internet access for men declines at a much slower rate than for women such that female access is lower than that of men for both age cohorts over 45 years of age, while for individuals over 60 years of age there is a 53% gender gap. The South African Government has begun a process of digitalising the provision of certain government services, including grant and pension distribution (Howson & Partridge, 2022). Unless the gender gap for over 60-year-olds is addressed, women will be at a relative disadvantage to men in terms of being able to access important public services including state pensions and old age grants which this age group is largely dependent on.

Figure 8: Internet use by age cohort and gender, 2022



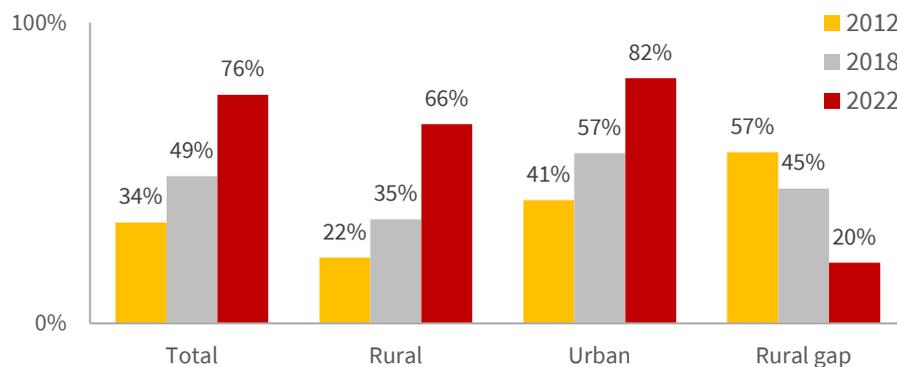
Data source: (RIA, 2022a)

Due to South Africa’s history of racial discrimination and the use by the government of territoriality as a means of suppressing and controlling the black majority of the population (Robinson, 1997), the country has deep-seated spatial inequalities which have persisted despite policies and strategies aimed at spatial integration and more equitable access to housing and the national economy for individuals in marginalised areas. Much of the economic development has occurred in South Africa’s metropolitan areas and most rural and peri-urban areas still face high levels of marginalisation from the economy, and poor public service delivery (Megbowon, 2018).

Internet use in rural areas increased from 35% in 2018 to 66% in 2022

Internet access is another area where rural areas are at a disadvantage compared to urban areas despite the fact that digital technologies could offer solutions to economic marginalisation. In 2022 there was a 20% gap in terms of Internet access in South Africa. As Figure 10 shows, this marks a significant decline from 45% in 2018. This is as a result of a strong increase in rural Internet adoption from 35% in 2018 to 66% in 2022. Although this marks positive progress in closing the gap, rural Internet use is still far below the 82% observed in urban areas.

Figure 9: Rural gap in Internet access in South Africa



Data source: (RIA, 2012, 2018a, 2022a)

There has been clear progress in expanding Internet access in South Africa and in reducing some of the inequalities in access for certain groups. However, there does still exist some large differences with low levels of Internet use observed for the elderly, rural dwellers and individuals with low incomes and low levels of education.

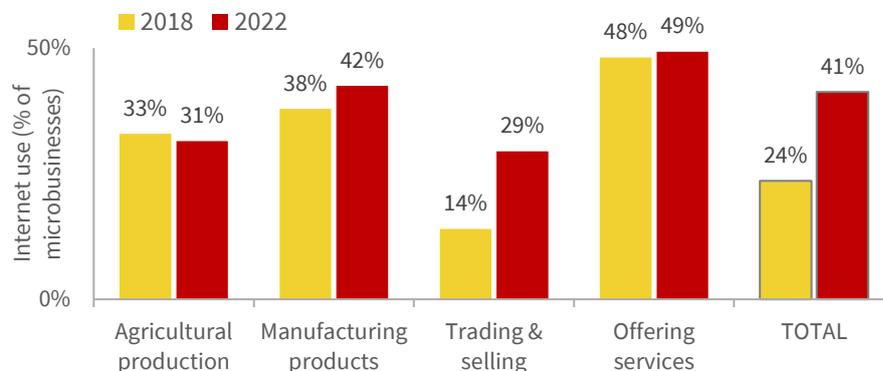
ICT use by microbusiness

The microbusinesses surveyed in South Africa were primarily service providers, accounting for 57% of all entities, with a further 36% made up by traders and sellers. Women owned⁵ 46% of microbusinesses and there were 31% located in rural areas as opposed to urban. Most businesses source supplies from small and medium formal businesses and sell predominantly to individual customers. Informality of microbusinesses, measured as not being registered with a local authority or for value-added tax, stands at 64%, an increase from 60% in the 2018 round of the survey.

41% of microbusinesses report using the Internet for their businesses in 2022 (24% in 2018)

Internet use amongst microbusinesses in South Africa has increased significantly compared to 2018 when the previous round of the After Access survey was conducted. Whilst back in 2018 only 24% of businesses surveyed claimed to use the Internet for business operations, in the 2022 survey this rose to 41%. As can be observed in Figure 11, only for businesses producing agricultural products did the share of businesses that were online decrease over this period, from 33% to 31%. Traders had the lowest share of online businesses, 29%; however this was also the sector with the largest increase from the 2018 survey when it was only 14%. The highest share of online operations is found amongst microbusinesses offering services where Internet use has now reached almost half of all businesses.

Figure 10: Share of businesses which use the Internet for the business by sector, 2018 and 2022



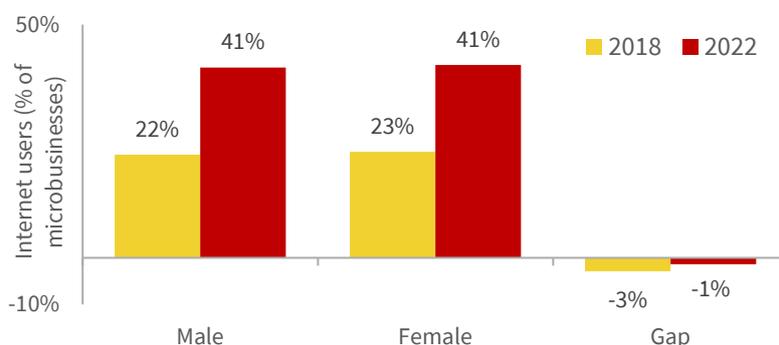
Data source: (RIA, 2018b, 2022b)

In contrast to what is observed in most of the developing world, and large parts of the developed world, Internet use is higher for female-owned microbusinesses in South Africa compared to male-owned ones. As is evident in the gender breakdown in Figure 12, Internet use has increased significantly and at a similar rate for both male-owned and female-owned businesses and therefore the increase in Internet use for both groups mirrors the trend observed in the population. The increase was slightly faster for

⁵ Where there are multiple owners, female-ownership is defined as at least 50% of the owners being female

men compared to women and as such the gender gap changed from -3% (i.e., 3% higher for women compared to men) to -1% (i.e., 1% higher for women compared to men).

Figure 11: Internet use by gender of microbusiness ownership and gender gap

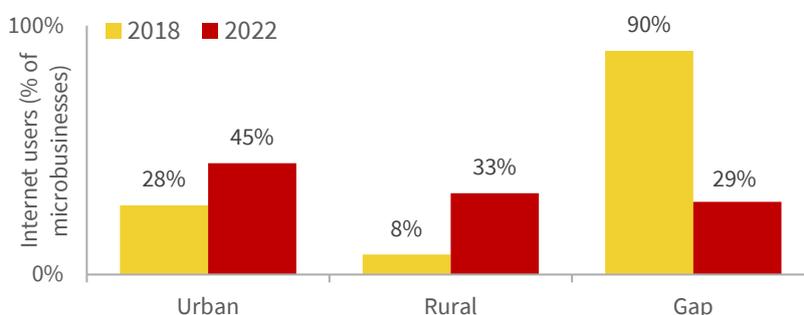


Data source: (RIA, 2018b, 2022b)

The higher Internet penetration for female-owned businesses is at least in partly due to differences in the sectoral distribution of the businesses. Female-owned businesses are more concentrated in service provisioning (63%) compared with men (52%) and this sector group also has the highest Internet adoption rate (Figure 11). Looking within the different business types, whilst the direction of the gap varies for different sectors where the gap is less than zero (i.e. in favour of women), it tends to be small in magnitude., whereas where the gap is greater than zero (i.e. in favour of men) – although equal in incidence – it is much larger in magnitude⁶. This suggests that women may still face unequal access barriers, but this is masked in aggregated statistics by the different distribution of female-owned businesses in terms of the broad business types. There was a substantial increase in the number of rural-based microbusinesses accessing the Internet. As shown in Figure 13, only 8% of rural microbusinesses surveyed in 2018 used the Internet for their business, but this increased to 33% in the 2022 survey. This is still lower than what is observed for urban microbusinesses (45%) and therefore there is still a significant rural gap of 29%; however this is a marked decline from 2018 when it stood at 90%.

The rural gap for microbusinesses declined from 90% in 2018 to 29% in 2022

Figure 12: Internet use by microbusiness location and rural gap

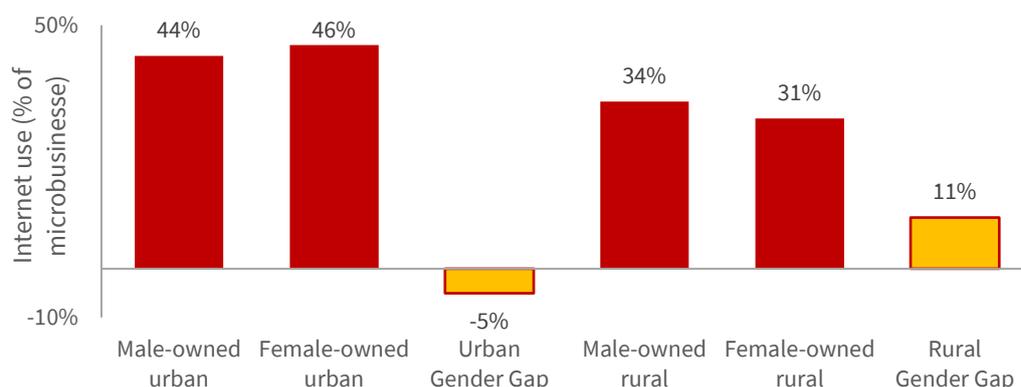


Data source: (RIA, 2018b, 2022b)

⁶ Specific sectoral gender gaps are: Agriculture 101%; Manufacturing -16%; Trade 45%; Services -15%.

It is important to note that simple categorical classification of individuals does not account for the heterogeneity which exists within groups and the intersectional nature of different inequalities (Gillwald & Partridge, 2022). Even at a very basic level, Figure 14 splits urban and rural businesses based on whether they are male owned or female owned and some gaps start to become evident. In urban areas female Internet use exceeds that of men by 5%; however in rural areas Internet use amongst female-owned businesses lags that of male-owned businesses by 11%.

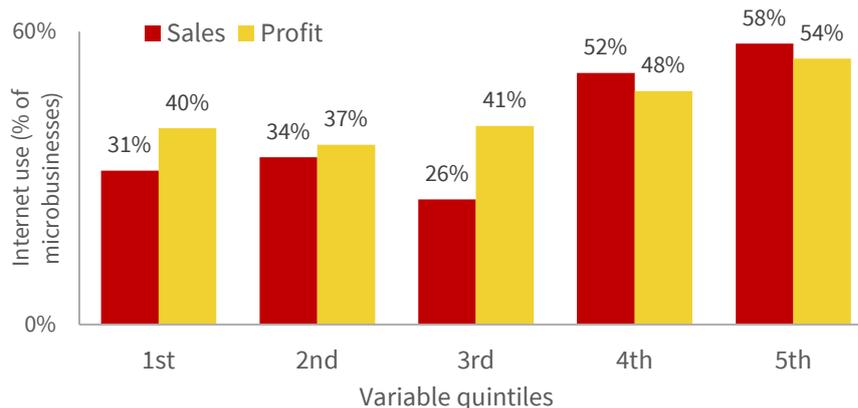
Figure 13: Internet use by gender and geographic location



Data source: (RIA, 2022b)

There is a positive correlation between business financial performance and Internet use as indicated in Figure 14 by higher Internet usage rates for businesses in higher sales and profit quintiles. However, the relationship in this regard is not straightforward with Internet usage rates relatively consistent across the bottom three quintiles and the increase only noticeable once moving into the top 40%.

Figure 14: Average Internet use by microbusiness profit and sales quintiles



Data source: (RIA, 2022b)

Businesses which were online had revenue streams almost three times as high as businesses which do not use the Internet

On average, businesses which were online had revenue streams almost three times as high as businesses which do not use the Internet. However, the increase in profits is more suppressed with online businesses on average having only 61% higher levels of profit than offline businesses. This is, interestingly, due to offline businesses operating at higher profit margins compared with online businesses (54% versus 24%). Online businesses were on average also slightly larger than offline businesses; however both subsets have on average close to two employees. In terms of fixed assets there was a substantial difference observed

between online and offline businesses. Whilst part of this is due to the fact that a large share of offline businesses had no fixed assets, even when these businesses are excluded, for businesses with fixed assets there is a large gap between those online and offline.

Table 2: Scale of operations for online and offline businesses

Averages	Offline	Online	Difference (%)
Number of employees (excluding owners)	1.93	2.36	22%
Turnover (US\$)	11 223	41 516	270%
Profit (US\$)	6 088	9 774	61%
Profit margin (Profit/turnover %)	54%	24%	-57%
Value of fixed assets (excluding ICT)	9 943	13 876 019	139456%
Value of fixed assets (excluding ICT and zero values)	28 219	27 042 776	95730%

Data Source: (RIA, 2022b)

Despite gains in getting more microbusinesses online, most microbusinesses are still not able to use the Internet to advance their businesses. Growth has been particularly strong for rural-based businesses but there still exists a significant rural gap and although overall female-owned businesses appeared as likely to use the Internet as male-owned businesses, this does not hold in rural areas where there still is an 11% gender gap in favour of men. Whilst offline businesses appeared able to achieve high profit margins, they do not reach the same scale of operations as businesses which are online.

Policy implications

The findings from the 2022 After Access surveys from South Africa show significant progress in advancing digital inclusion, reaching gender parity in terms of Internet use at both the individual and microbusiness level. The rural gap has also declined substantially; however rural dwellers still lag significantly behind their urban counterparts both in terms of general use of the Internet and in terms of creating better opportunities for women. There is also evidence of Internet use being correlated with other intersectional inequalities such as income, education, and age.

Whilst these findings only paint a very high-level picture, they highlight some important trends which should be explored in more depth. The findings also illustrate the importance of digging deeper into standard indicators around ICT access to look at gaps which exist for specific population segments and the intersections with other inequalities. Further work is also needed to move beyond the prerequisite of access to look at how the Internet is used and whether marginalised groups are equally able to use it in a meaningful way. The After Access Survey provides a tool which researchers and policymakers can harness to speak to these issues as well as zooming in on specific aspects of ICT and how it can impact on development.

Despite being very high-level, there are some key implications for policymakers working on issues related to ICT that can be drawn from these findings. Recommendations include:

- ❖ Improve awareness of the Internet and the potential benefits which individuals can gain from its use in order to address the knowledge gap which came out as the main reason for individuals not being online.
- ❖ Address the issue of high data costs as the main barrier preventing increased use of the Internet amongst individuals who are online. This will also decrease the cost burden of being online and address the fact that online businesses are on average less profitable than businesses which remain offline.
- ❖ Boost efforts to decrease income and education inequalities in order to drive greater access to digital technologies. At the same time policymakers should look for ways to improve accessibility for low-income and low-education households in order to provide short-term solutions to reducing ICT access and usage inequalities but also to further reduce the intersectional inequalities highlighted through providing opportunities for improved socio-economic participation.
- ❖ Target females over the age of 60 with digital awareness and education campaigns in order to reduce the gender gap in this age cohort. Planning and implementation processes need to assess and take cognisance of any cultural factors which may be influencing the large gap that was observed.
- ❖ Assess the main drivers in the improvements in rural Internet access at both the individual and microbusiness level to highlight successful strategies on further access to rural dwellers and to provide channels to support rural development efforts.
- ❖ Provide support for rural female-owned businesses to access the Internet in order to drive rural development and to reduce the current rural gender gap.
- ❖ Whilst addressing the cost of data will help businesses operating at a small scale to be able to access the Internet, this should be complemented with the incentivising of Internet solutions which are specifically tailored for these businesses in order to enable microbusinesses to use the Internet to scale, rather than being dependent on scale to be able to get online.

For more RIA updates, sign up [here](#), and read more about the After Access 2022 survey [here](#).

Author

Andrew Partridge: apartridge@researchictafrica.net

Enquiries

info@researchictafrica.net

Workshop 17, 17 Dock Road, V&A Waterfront, Cape Town

T: +27 21 447 6332

W: www.researchictafrica.net

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