

South Africa Telecom Market Analysis

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Abstract

This report analyzes the telecom market in South Africa (SA) by first comparing the SA telecom market with other countries, and then, by using the trends found in other countries' telecom markets as a benchmark, determining how SA subscribers can anticipate better pricing in the future.

Keywords

Telecom Operators, Wireless, Fixed Network, Data, Airtime

1. Background

South Africa, as the second-largest country in Africa, has a population of 58.56 million and a GDP in 2020 of \$301 billion, ranking 39th in the world. South Africa and Nigeria often act as benchmarks for other African countries.

Telecommunication service requirements in SA have grown rapidly in the past five years. Recently, data requirements have grown especially quickly because of new technologies (like Artificial Intelligence and the Internet of Things) and the COVID-19 pandemic. The two key markets within the SA Telecom market are “to Business” (2B) and “to Consumers” (2C). Each of the two key markets has two main telecom infrastructures: wireless & fixed network. Together, they currently serve about 99M wireless subscribers in South Africa, meaning that every subscriber has on average 1.7 SIM cards (in **Figure 1**), excluding fixed network services' subscribers (such as xDSL and fiber). Later, when we analyze fixed network services (xDSL and fiber) separately (in **Table 1**), it will be seen that the coverage rate of South African operators is higher than those of operators in China and Germany.

South Africa's macroenvironment indicates that growth is gradually slowing. At the same time, an analysis of subscriber trends suggests that, while consumption in subscribers increased, willingness to pay has decreased. These two trends are likely due to the impact that COVID-19 had on the subscribers' incomes.

Table 1. Number of connections.

Connectivity Services	2014	2015	2016	2017	2018	2019	2020	2021	AGR (%), 2017-2021
Busines Cnnections (Thousands)									
Internet Access - xDSL	404.34	392.48	346.35	322.95	299.48	257.71	200.71	138.33	-19.1%
Internet Acces- Fth	38.32	63.35	96.89	140.18	200.18	280.71	383.40	498.01	37.3%
*Others	93.20	92.78	94.78	99.33	105.17	112.12	119.12	125.73	6.1%
Total Connections	535.86	548.61	538.02	562.46	604.83	650.55	703.23	762.07	7.9%
Consumer Connections (Thousands)									
Internet Access - xDSL	577.63	618.87	629.68	579.48	541.12	468.96	384.28	282.60	-16.4%
Intemnet Access - Fth	13.07	36.10	81.75	173.66	280.57	436.82	620.37	749.08	44.1%
*Others	340.54	279.99	307.37	581.22	1129.99	1360.53	1526.23	1580.52	28.4%
Total Connections	931.24	934.97	1018.80	1334.37	1951.68	2266.32	2530.88	2612.20	18.3%

*IDC: Others including Dedicated Internet Access (DIA), Fixed Wireless Access (FWA), and Satellite (SAT).

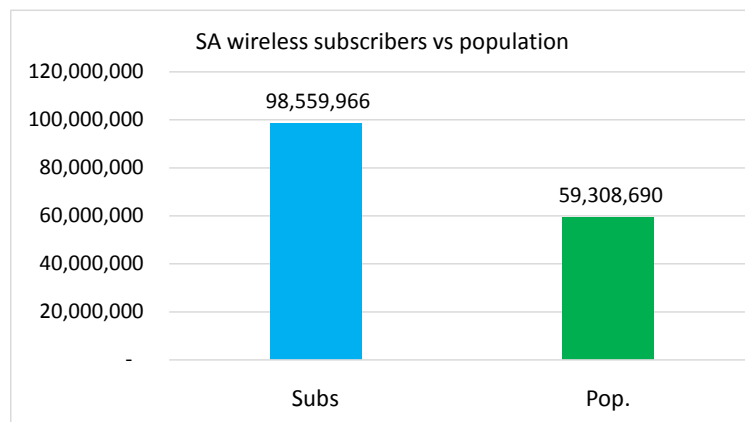


Figure 1. SA Wireless subscribers vs population. *Number of subscribers: Operator’s finance report. *Population: the World Bank.

Because of these trends, wireless operators in South Africa are facing a huge challenge in growing the Telecom market. However, due to data services becoming more common and popular in SA, communication service demands are still growing. I therefore forecast that wireless subscribers will continue growing, though they will not increase as quickly as they have over the past three years; fixed network subscribers’ growth will remain constant or slightly decline due to the growth of wireless subscribers, which will take over some of the market from the fixed network.

The next question is whether the average unit price is cheaper or more expensive in South Africa than it is in other countries. The table compares South Africa’s unit prices to those of Germany and China to compare with South Africa (in **Table 2, Figures 2(a)-(c)**), and it clearly indicates that South Africa’s market unit price is cheaper than that of Germany but more expensive than that of China. The unit price was influenced by macro-economic status and operators’ operation capability. Generally, the unit price in SA is reasonable and unit prices will likely continue to decline.

Table 2. South Africa's unit prices vs Germany & China.

Country	GDP per capita USD	Operator	Data (GB)	Package Price	Unit Price per GB	Unit Price USD/GB
SA	6001.40	Cell C	100	ZAR 199.00	1.99	0.145
		MTN	120	ZAR 269.00	2.24	0.163
		Vodacom	100	ZAR 899.00	8.99	0.655
		Telkom	80	ZAR 248.00	3.10	0.226
Germany	46,445.25	Congstar	200	EUR 45.00	0.23	0.274
		Lycamobile	50	EUR 79.99	1.60	1.951
		DT	20	EUR 20.00	1.00	1.220
		Vodafone	16	EUR 29.95	1.87	2.283
China	10,261.68	China Mobile	200	CNY 29.00	0.15	0.023
		China Telecom	200	CNY 19.00	0.10	0.015
		China Unicom	125	CNY 36.00	0.29	0.045

**Figure 2.** *Data source: operators' AD (online/offline).

2. Wireless Market Analysis

2.1. 2C Subscribers (Wireless Market)

Due to South Africa's economic status, the number of small to middle enterprises (SMEs) is much larger than the number of big enterprises. Our research has shown that some SMEs use consumers' packages with WIFI routers, sharing data services among staff to reduce costs. This means that our 2C subscribers' analysis also includes some demands/subscribers from SME.

When we investigated the wireless 2C market, we found that the numbers of prepaid subscribers is considerably larger than the number of postpaid subscribers (in **Table 3**), likely because of South Africa's current economic situation in SA, in which many lower-income people can only afford prepaid services, as the postpaid service package is often more expensive and needs to be paid monthly. Although postpaid subscribers produce more profit, the large number of prepaid subscriber forces operators to focus on this market segment.

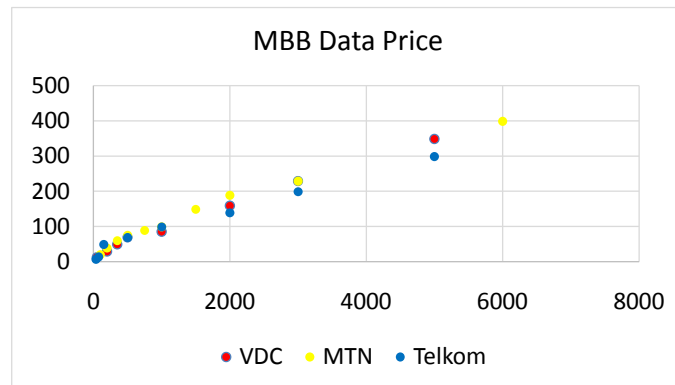
The operators have to drop unit/package prices to keep their market share and number of subscribers. Their price changes are listed as below for reference (in **Figures 3(a)-(c)**).

Table 3. Prepaid subscribers vs postpaid subscribers in SA.

Subscribers (Thousand)	2020		
	VDC	MTN	Telkom
Total	41,312	28,890	11,995
Prepaid	35,231	22,804	9432
Postpaid	6081	6086	2563

Vodacom prepaid data price cuts since 2019 (30-day bundles)				MTN prepaid data price cuts since 2019			
Bundle size	Current price	Old price	Change	Bundle size	Current price	2019 price	Change
30MB	–	R12	Removed	100MB	R20	R29	-31.0%
50MB	R12	R25 for 55MB	-47.2%	150MB	R29	R39	-25.6%
200MB	R29	R29 for 100MB	-50.0%	200MB	R39	–	New
350MB	R49	R63 for 250MB	-44.4%	350MB	R60	300MB for R60	-14.3%
500MB	R69	R99	-30.3%	500MB	R75	600MB for R99	-9.1%
1GB	R85	R149	-43.0%	750MB	R89	R120	-25.8%
2GB	R159	R249	-36.1%	1GB	R99	R149	-33.6%
3GB	R229	R299	-23.4%	1.5GB	R149	R189	-21.2%
5GB	R349	R399	-12.5%	2GB	R189	–	New
				3GB	R229	–	New
				6GB	R399	–	New

(a) 12.5% and 50% decrease (b) 6% and 33.6% decrease



(c)

Figure 3. (a) VDC prepaid data price; (b) MTN prepaid data price; (c) MBB data price. * Data source: finance statement of operators and their online/offline advertisement.

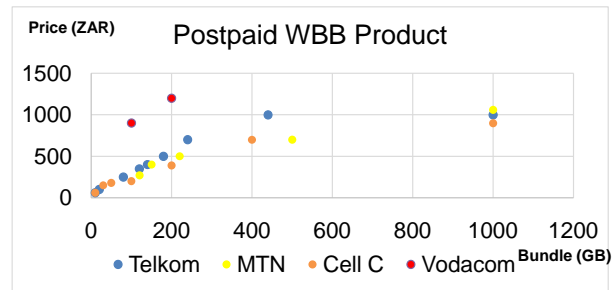
2.2. 2B Customers (Wireless Market)

2B customers normally take advantage of MIFI routers (inserting a sim card as uplink) to provide data services for their staff. The substantial difference in size between 2B and 2C comes from the data package policy.

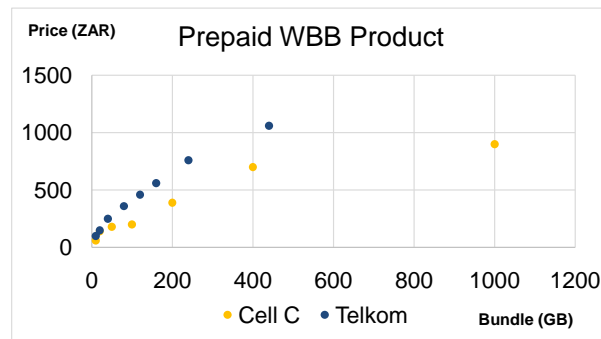
All of the operators are becoming more aggressive in their advertising strategies, launching many attractive Wireless Home broadband offers in an attempt to gain more market share in the South African Telecom market (in **Figures 4(a)-(d)**).



(a) (b) (c)



(d)



(e)

Figure 4. (a) MTN offers; (b) Telkom offers; (c) CellC offers; (d) Postpaid WBB products; (e) Prepaid WBB products. *Data source: online/offline advertisement of operators.

2.3. Operators' Competition (Wireless Market)

As previously mentioned in Background Introduction, each person in South Africa has an average of 1.7 SIM cards, so operators compete vigorously in the sector that generates high and stable profits: the 2C postpaid subscribers. After CellC sold their postpaid subscribers to VDC, the competition of postpaid subscribers is now between VDC and MTN, as other operators have only won a small number of postpaid subscribers. Most of the competition occurred in the prepaid subscriber market due to the current postpaid market situation in SA.

➤ Online market competition:

Due to COVID-19, online sales channels now play an important role; consequently, nearly all of the operators have invested money and labor to develop their online market (in **Figures 5(a)-(d)**).



Figure 5. (a) VDC offer; (b) VDC offer; (c) MTN offer; (d) CellC offer.

➤ Price competition:

Our investigation shows that CellC has recently started a price war (in **Table 4**), which we believe will increase the number of requirements from subscribers.

A comparison of the trends our market research has identified in South Africa to those in Europe and East Asia shows that operators have tried to decrease the unit price per Giga in order to enlarge the consumer market. The price war will enlarge the demand pipeline and concurrently benefit both operators and subscribers.

2.4. New Services Drivers (Wireless Market)

The demand for wireless data services is growing in both the 2B and 2C markets. In Europe and East Asia, Artificial Intelligence (AI), Internet of Things (IoT) and other new services are placing new demands on the big data pipeline (in **Figure 6(a)**, **Figure 6(b)**). AI will be a revolutionary feat of computer science, and is likely to become a core component of all modern software over the coming years. The strengthening link between AI and Big Data will produce a huge demand on data services when it becomes more developed in the Ecosystem/Industry. This trend will be also layer apply in South Africa as SMEs and big companies continue to grow.

Data bundle services in the wireless market, such as online shopping and online education, have grown explosively in Europe, the USA, and East Asia.

My research suggests that almost all operators have benefited from the impact of COVID-19; the only difference will be the percentage in which the use of airtime/data services will grow among the different countries and operators.

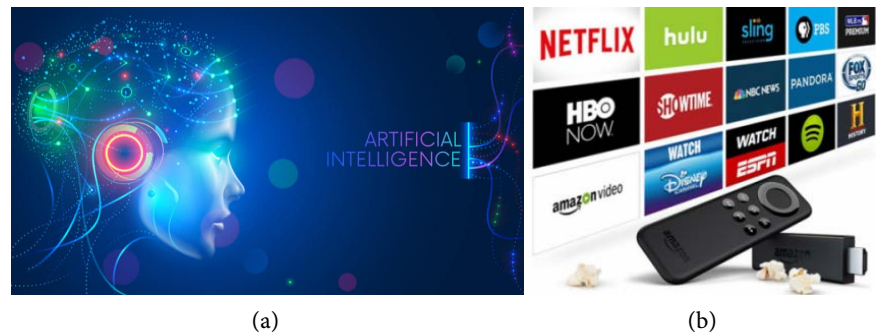


Figure 6. (a) AI; (b) Video service.

Table 4. Price war analysis.

Operator	Anytime (GB)	Night Data (GB)	Application (GB)	Total Data (GB)	Package Price ZAR	Unit Price ZAR/GB
SA Cell C	50	50	0	100	199	1.99
MTN SA	50	50	20	120	269	2.24
Vodacom SA	50	50	0	100	899	8.99
SA Telkom	40	40	0	80	248	3.10

* Data source: online/offline advertisement of operators.

3. Fixed Network Market

3.1. 2C Subscribers (Fixed Network Market)

Our research into the data services of the South African telecommunication market report (IDC*) shows that the percentage of data kept increasing while the percentage of airtime kept decreasing. In particular, between 2014 and 2016, fixed networks (FTTx) connections grew at a compound annual growth rate (CAGR) of 70%, albeit from a low base. We predict that FTTx connections will continue to grow, while xDSL connections will experience a sharp decline.

Open Access policy has created a new market opportunity, which has eroded the value of traditional operators. Investing in open access fiber not only delivers macroeconomic benefits to this country but also provides better customer experiences to end-users. The South African Telecom ecosystem has experienced investment from several multi-party entities including energy companies, municipalities, real estate companies, and infrastructure investors. Cost synergies of up to 25% were created by using the existing utilities' infrastructure. Since retail operators have access to the same underlying wholesale fiber infrastructure, the take-up rate and overall operational economics have improved.

As open-access fiber gains acceptance, traditional fixed network operators need to adjust their fixed broadband strategies accordingly. Traditionally, incumbents resisted partnering with open access fiber entities by accelerating their fiber rollout, whether fiber to the home (FTTH) or fiber to the curb (FTTC). Recently, however, some incumbents are trying to gain higher market shares by

acquiring open-access fiber or finding partners through wholesale and whole-buy agreements. Challenger operators are proactively forging partnerships with open access fiber entities, whilst aggressively trying to expand their fixed broadband offerings to gain market share in what was traditionally the incumbents’ turf. Non-telcos, especially energy and utility companies, are seeing new business opportunities in operating open access fiber in selected markets as well as fiber infrastructure.

According to our research, South Africa’s fixed broadband speeds are on average 85% lower than global players (in **Figure 7(a)**, **Figure 7(b)**).

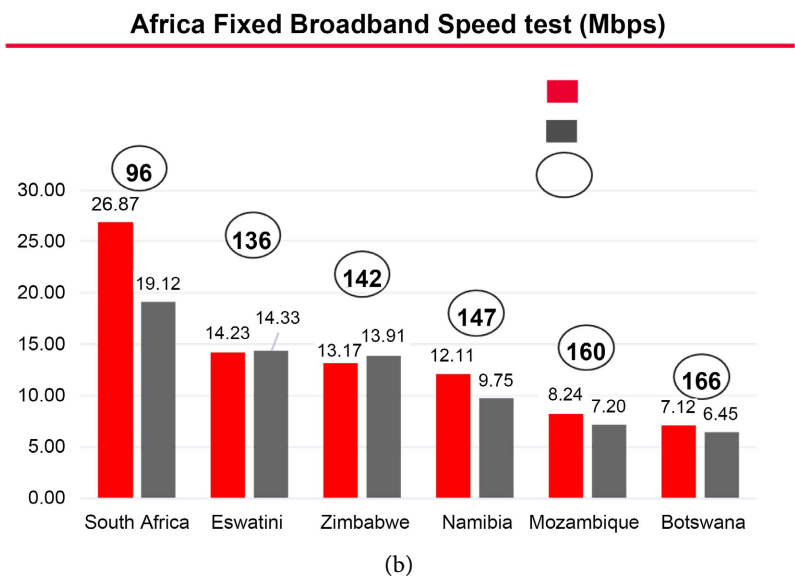
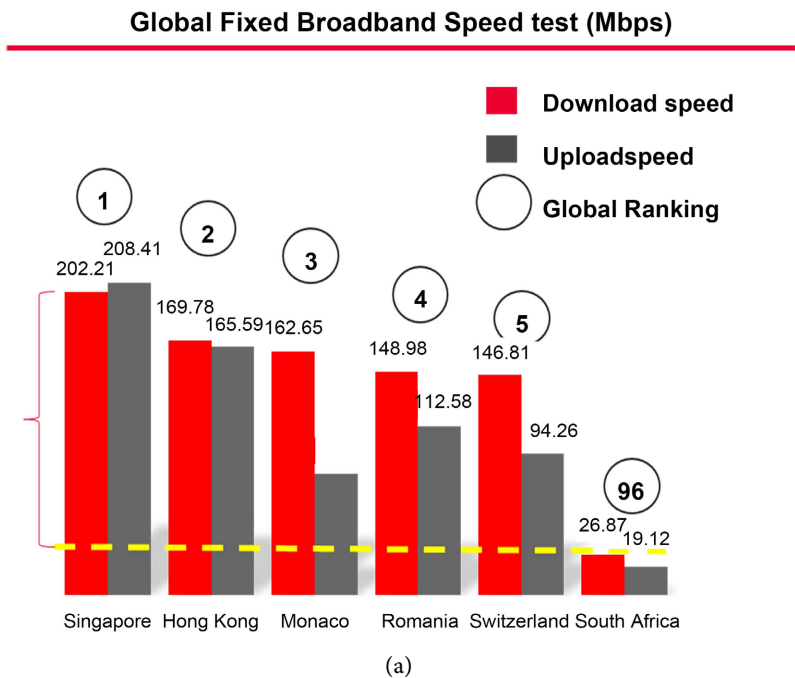


Figure 7. (a) Global speed test; (b) African speed test. *Data source: OOKLA, Speed test intelligence 2020.

The initial addressable market in South Africa was around 3.65 m households (in **Figures 8(a)-(d)**). Fixed Network Operators (FNOs) are moving beyond the traditional middle-income areas to more highly densely populated areas. The latter increases the addressable market size by approximately 3.5 times. FNOs have amended their business models so that their deployment cost and degree of competition are lower. Furthermore, their customer base is less complex and less demanding. Vumatel is far more aggressive than other operators, and so it has reached 1M home passes (HPs) in five years.

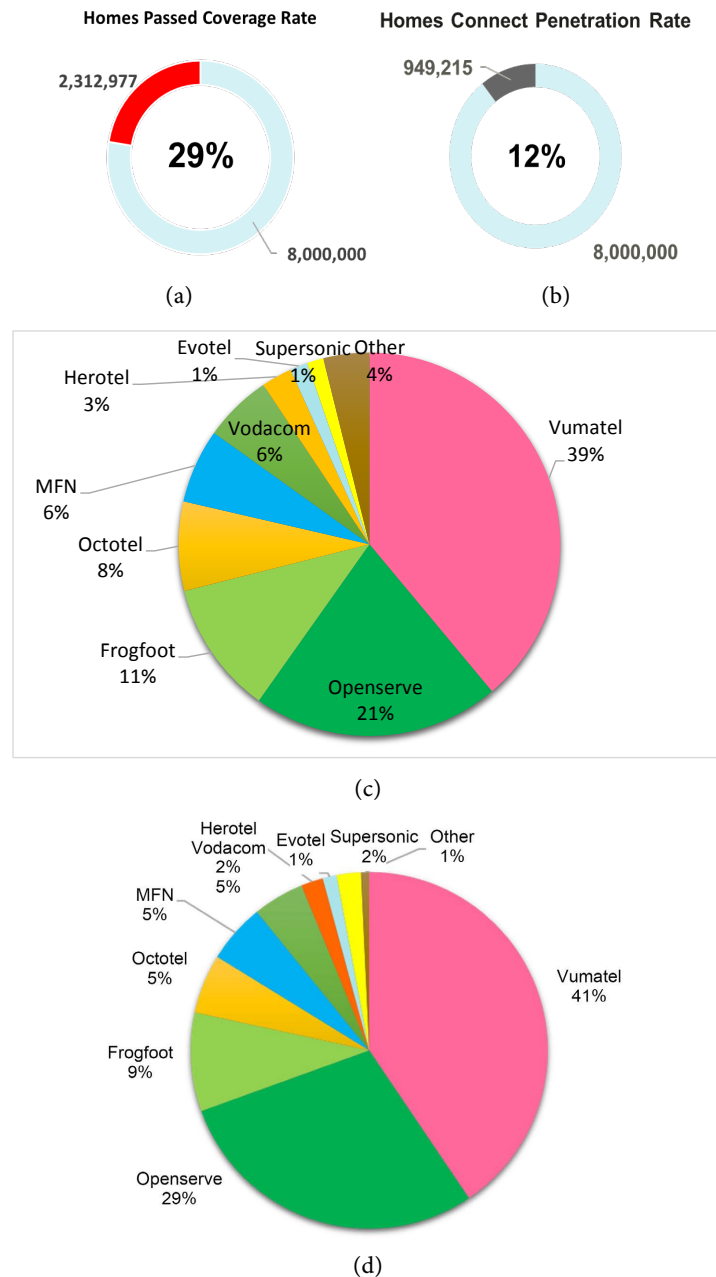


Figure 8. (a) Homes passed coverage rate; (b) Homes connect coverage rate; (c) Homes passed percentage of SA operators; (d) Homes connect percentage of SA operators. *Source: Market Insight, FNO financial statements & My Broadband 2021.

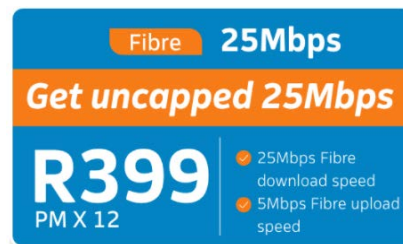
As the two major players in the South African fiber market, Vumatel and Telkom (Openserve/Consumer) will continue to compete extensively. After Vumatel passed SA Telkom to become the largest provider in the South African fiber market, SA Telkom rushed to take back the first-place ranking by competing in coverage and price wars (in **Figure 9(a)**, **Figure 9(b)**).

3.2. 2B Customers (Fixed Network Market)

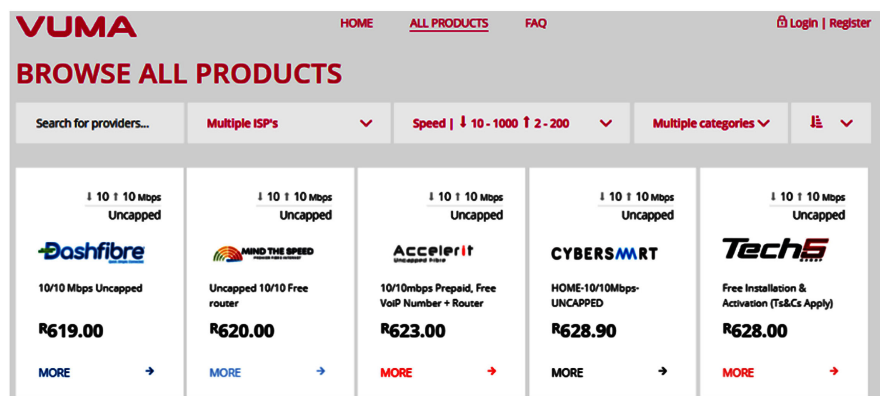
The Fiber 2B market is extremely similar to the wireless market. Many 2B customers use a 2C package, so some 2B customers have been counted as 2C subscribers. Even in townships, some people buy or rent 2C packages from operators—either fiber or wireless—over which they drive 2B services. Due to security issues in townships, we cannot collect detailed data regarding this practice.

One of COVID-19’s impacts on the economy is that more people are working from home, and this in turn has resulted in the following behavioral trends: demand symmetrical bandwidth has increased; the peak periods are no longer from 6pm to 10pm but last the entire day, beginning at 9am; and bandwidth utilization has increased from 40 GB to 400 GB in two years.

Currently, BCX and SME, subsidiaries of SA Telkom, are aimed at 2B customers. SME focuses on small to middle-companies, while BCX aims at big customers. They customized the data/airtime packages for different customers, receiving many orders from companies and South African government departments.



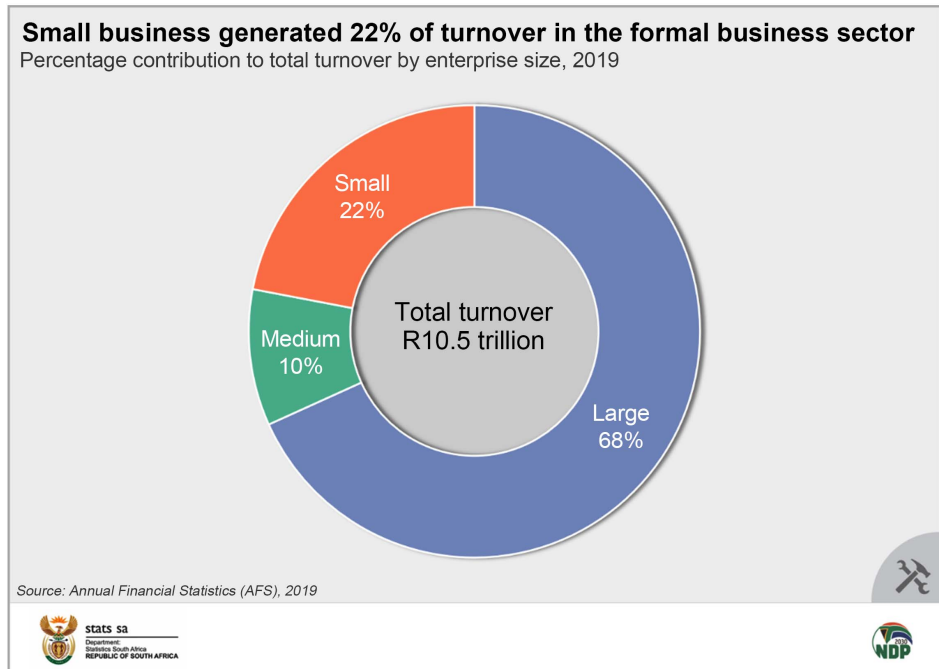
(a)



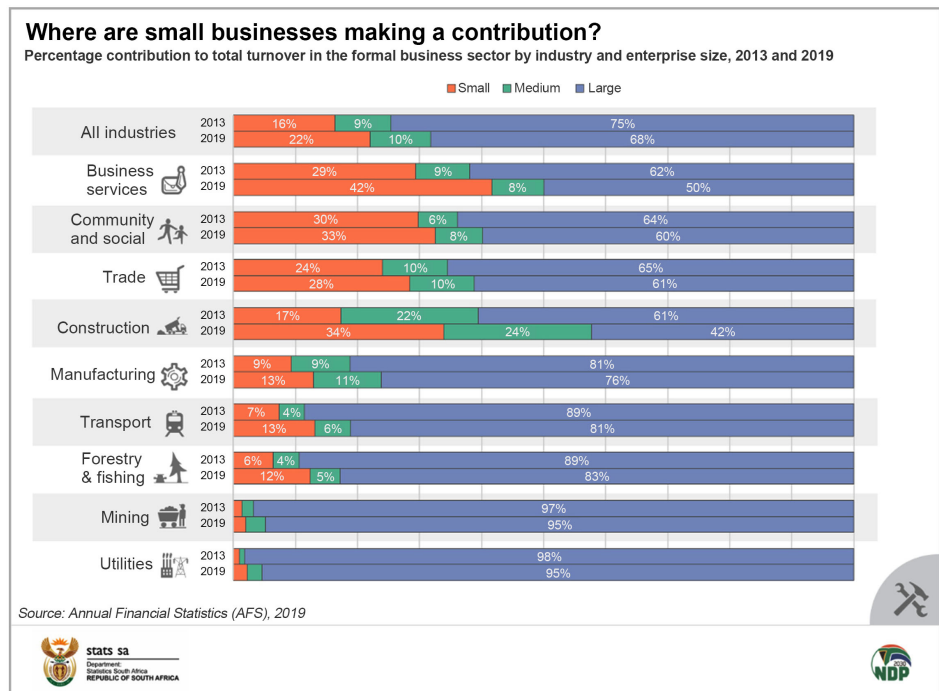
(b)

Figure 9. (a) Telkom offer; (b) Vuma offer. *Data source: online/offline advertisement of operators.

From 2013 to 2019, the formal business sector increased turnover from R7.0 trillion to R10.5 trillion (average annual growth rate: 7.0%) (in **Figure 10(a)**, **Figure 10(b)**). Medium business increased turnover by 8.4% per year, and large business by 5.4%.



(a)



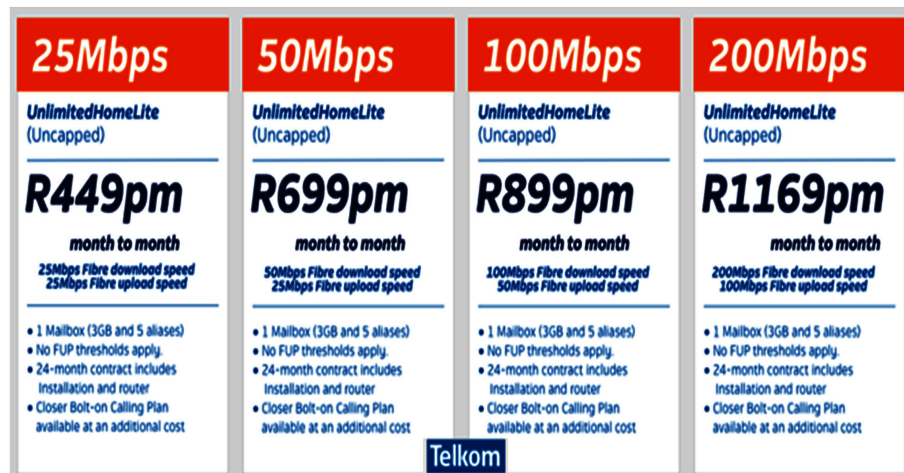
(b)

Figure 10. (a) Small business turnover; (b) Small business contribution. *Data source: SA Annual financial statistics (AFS) 2019.

All fixed network operators are still focused on the 2B market due to its market growth (in **Figure 11(a)**, **Figure 11(b)**). Now as a trend, however, the main players of the fiber market are interested in increasing the percentage of pre-paid customers in order to improve revenue and profit.

3.3. Operators Competition (Fixed Network Market)

As all operators have felt that the market is transforming, they have begun to aggressively roll out fiber. For example, Vumatel delivered 500 k within a year. Vumatel further grew by acquiring companies such as SADV and Fibrehoods. Vumatel not only used DFA vast network coverage but also rolled out services in territories beyond traditional middle-class neighborhoods. They have expanded into high-density lower-income areas by deploying O/H fiber to reduce costs and shorter TTMs. They offer simple prepaid packages to lower-income areas with a limited number of ISPs and monthly top-up options.



(a)



(b)

Figure 11. (a) Products of Telkom; (b) Products of VUMA. *Data source: online/offline advertisement of operators.



Figure 12. (a) Products of China Telecom; (b) IPTV; (c) Products of SA Telkom; (d) OTT.

While the ROI of the fiber market is not as good as the wireless market, all fixed network operators have to face issues that stem from heavy asset operation. Thus, the competition in the fiber market is not as tough as the competition in the wireless market. In some European countries (e.g., Romania), wireless operators are required to pay license fees while fixed network operators in those countries do not need to pay for fixed network licenses. For fiber market operators, fiercer competition comes from wireless network operators as opposed to other fixed network operators.

3.4. New Services Drivers (Fixed Network Market)

As in the wireless market, video/picture services drive the demand for broadband services (in **Figure 12(a)-(d)**). For a family subscriber, children typically like cartoons, youth prefer networked games, and adults work from home. Operators are all following the trends that changes in the 21st century bring.

4. Summary

- In developed European and East Asia countries, strong demand for AI and video streaming services drives the growth of the data market. Both the competition among operators and demands from customers/subscribers reduce the unit prices for airtime and data service even faster. The digital revolution is coming, which will replace traditional services like airtime and data.
- In developing countries such as South Africa, Nigeria, and Kenya, local subscribers enjoy short form videos from Tiktok, YouTube and so on. These videos require an expanded broadband pipeline.
- Many governments of both developed and developing nations have invested

in building fixed and wireless networks that cover entire countries, including the suburbs and rural areas. These new networks enable more people to have to share data for online education and online business (sale and shopping), and so on. The South African government launched *South Africa's Broadband Policy on 20th Nov 2013: South Africa Connect, the national broadband policy, and the associated strategy and plan give expression to South Africa's vision in the National Development (NDP) of "a seamless information infrastructure by 2030 that will underpin a dynamic and connected vibrant information society and a knowledge economy that is more inclusive, equitable and prosperous"*. As envisaged in the NDP, at the core of this will be "a widespread communication system that will be universally accessible across the country at a cost and quality that meets the communication of citizens, business and the public sector and provides access to the creation and consumption of a wide range of converged applications and services required for effective economic and social participation".

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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