

SA broadband quality drops but prices remain high

South Africa remains one of the most expensive countries in the African Broadband Price Index. But in the Broadband Value for Money Index, which measures price in relation to quality, South African operators perform better, with investment in high-speed 3G and LTE infrastructure seemingly paying off. The rapidly increasing number of broadband users and their increasing consumption of data as a result of data-focused business growth strategies are taking their toll on the average overall broadband speed in the country. In order to prevent any further degradation of broadband quality, it is imperative that the high-demand spectrum required for LTE services is urgently assigned to operators.

RIA Broadband Policy Brief No 3

June, 2014

SA's ranks poorly in RIA's Broadband Price Index

A pure price comparison shows South Africa is one of the most expensive countries amongst the 17 African countries included in the African Broadband Price Index with the prepaid 1GB basket costing R149 (USD14.1).

Vodacom performs best of SA operators in the Broadband Value for Money Index

Although Vodacom SA's prices are high, so are their average speeds, pushing them up to 9th rank on the Broadband Value for Money Index, but down from 2nd in the first quarter of 2014.

The average mobile broadband speed in South Africa is slowing down

Despite positive rankings on the first African Broadband Value for Money Index in April 2014, broadband speeds, for Vodacom SA (and Cell C) have reduced significantly.

LTE spectrum needs to be assigned to avoid network congestion

With the dependence of South Africans on mobile broadband to access the internet, the long-awaited policy directive that has delayed the assignment of LTE spectrum must urgently be issued.

Introduction

After considerable jostling for data customers by operators in the first quarter of 2014, which resulted in pricing dynamism in the broadband market, the second quarter of 2014 has seen South African mobile broadband prices settle around the prices set by the dominant mobile operators.

In the African Broadband Price Index, constructed by Research ICT Africa (RIA), the 1GB basket price ranked South Africa as one of the most expensive countries on the Broadband Price Transparency Index. Yet the significant investments in 3G and LTE infrastructure as well as the re-farming of spectrum by operators resulted in a better performance of South African operators in the Broadband Value for Money Index, which measures both price and quality. Vodacom SA is the best performing South African mobile operator in terms of mobile broadband price and average speed.

Despite this, the increase in broadband users and data bandwidth resulted in a substantial reduction of average broadband speeds in the second quarter of 2014 in comparison to first quarter. Also, with ISPs transiting through the major hubs in the UK and Europe as well as poor regional interconnectivity, latency levels remain high, reducing the quality of users' internet experiences in South Africa.

Africa's prepaid mobile broadband prices

RIA's prepaid 1GB baskets are constructed in order to compare mobile broadband prices across operators in 12 African countries.

1GB basket comparison

The 1GB baskets reflect users' demand for prepaid data services as the primary form of internet access, which are available from almost every data operator on the continent. With the pricing complexity that has arisen from bundled, time-based and dynamically priced products, this measure allows for simple price comparison across multiple markets as illustrated in Figure 1 and Table 1 below.

Namibia, Botswana and Ethiopia are the most expensive countries of those analysed in the 1GB baskets. Although there have been significant infrastructure (including 4G) investments in Namibia it is a highly concentrated market dominated by MTC and Telecom Namibia; and without effective competition in the market, prices remain high. In Botswana the market remains structured around vertically integrated operators with the incumbent BTC dominating internet access, international data provision and the leased-line market.

Ethiopia, with a state-owned monopoly operator of fixed and mobile services, is characterised by very poor internet penetration preventing the country from reaching the critical mass necessary for positive network effects on the economy, currently being enjoyed in the leading African markets.

Cameroon's rankings shifted in the second quarter the second quarter of 2014 from the fourth most expensive among the countries analysed to the cheapest country, with the cheapest 1GB basket reduced 10-fold (see Table 1 below). This is a result

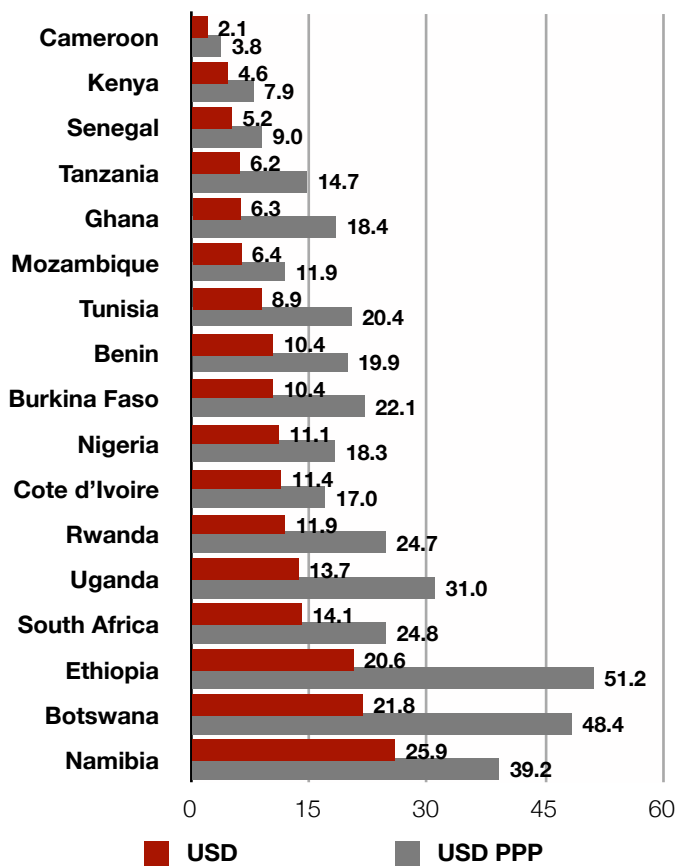


Figure 1: Cheapest 1GB basket per country

of the price war between Orange Cameroon and MTN Cameroon as they try to build a broadband customer base under highly constraining policy and regulatory conditions that have prevented the operators from evolving their business to 3G service provision. A monopoly licence granted to Viettel two years ago is still not operational which has prevented the incumbents from entering into agreements with it to access 3G spectrum. So while mobile broadband connectivity has been stimulated by a significant reduction in MTN Cameroon's broadband prices, only 2.5G and EDGE broadband speeds are supplied, which is way below other African broadband market standards¹ (e.g. the operation of 4G/ LTE networks).

Figure 1 and Table 1 show that South Africa is one of the most expensive countries in the comparison of select African countries.

Table 1: 1GB baskets price				
Operator name	Q2 2014 1GB baskets			
	USD	Rank	USD PPP	Rank
MTN Cameroon	2.1	1	3.8	1
Yu Kenya	4.6	2	7.9	2
Tigo Telecom Senegal	5.2	3	9.0	3
Zantel	6.2	4	14.7	5
MTN Ghana	6.3	5	18.4	11
Movitel	6.4	6	11.9	4
TTCL Mobile	7.7	7	18.4	10

Table 1: 1GB baskets price				
Operator name	Q2 2014 1GB baskets			
	USD	Rank	USD PPP	Rank
Orange Kenya	8.7	8	14.9	6
Orange Tunisia	8.9	9	20.4	14
Virgin mobile	9.2	10	16.3	7
Tigo Tanzania	9.3	11	22.1	17
Vodacom Tanzania	9.3	12	22.1	18
Airtel Ghana	9.4	13	27.6	28
Vodafone Ghana	9.4	14	27.6	29
Glo Mobile Benin	10.4	15	19.9	13
Airtel Burkina Faso	10.4	16	22.1	15
Telmob (Onatel)	10.4	17	22.1	16
Smile Tanzania	10.8	18	25.8	26
Airtel Tanzania	10.9	19	25.9	27
Smile Nigeria	11.1	20	18.3	9
Moov Cote d'Ivoire	11.4	21	17.0	8
Safaricom	11.6	22	19.8	12
MTN Rwanda	11.9	23	24.7	22
Moov Benin	12.5	24	23.8	20
Vodacom Mozambique	12.8	25	23.9	21
Orange Uganda	13.7	26	31.0	36
Airtel Kenya	13.9	27	23.8	19
CellC	14.1	28	24.8	23
MTN South Africa	14.1	29	24.8	24
Vodacom South Africa	14.1	30	24.8	25
MTN Uganda	14.6	31	33.2	37
Smile Uganda	14.6	32	33.2	38
Airtel Rwanda	14.9	33	30.9	34
Mcel	16.0	34	29.8	30
Telkom Mobile	17.0	35	29.9	31
Airtel Uganda	17.6	36	39.9	43
Airtel Nigeria	18.6	37	30.5	32
Glo Mobile Nigeria	18.6	38	30.5	33
Ethio	20.6	39	51.2	47
MTN Cote d'Ivoire	20.8	40	31.0	35
Orange Cameroon	20.9	41	38.4	40
MTN Nigeria	21.7	42	35.6	39
Mascom	21.8	43	48.4	46
Etisalat Nigeria	24.8	44	40.7	44
Glo Mobile Ghana	25.1	45	73.7	49
MTC	25.9	46	39.2	41
TN Mobile	25.9	47	39.2	42
YooMee Cote d'Ivoire	31.2	48	46.5	45
Tigo Rwanda	31.3	49	64.9	48
Orange Botswana	69.2	50	153.6	50
beMobile	86.5	51	192.0	51
MTN Benin	122.8	52	234.3	52

¹ The reason Cameroonian operators are not included in the Value for Money Index is that Ookla does not have any measurements for Cameroon.

Cell C, MTN SA and Vodacom SA match their prices for the 1GB basket (USD14.1) and they are ranked in the second half of the index. In South Africa, Virgin mobile is the cheapest operator in the mobile broadband 1GB basket ranking. However, Virgin is a mobile virtual network operator (MVNO) and has barely any market share in South Africa, which means few South Africans are actually enjoying this price. It has, therefore, not been included in Figure 1. The South African market is an oligopoly, but it functions more as a duopoly with the market dominated by two vertically integrated incumbents Vodacom SA and MTN SA, who tend to be the price setters. The late entrants Cell C and Telkom Mobile have been able to put pricing pressure on them, which resulted in considerable reductions in data prices earlier in the year, though these appear now to have settled around prices set by the incumbents

Telkom Mobile is the most expensive operator in South Africa in the 1GB baskets with a cost of USD17 and a resultant ranking of 35th. Telkom Mobile is the most expensive operator in South Africa in the mobile broadband 1GB broadband index. Telkom Mobile 1GB basket costs USD17 and it ranks 35th.

African Broadband Value for Money Index

With average download and upload internet speeds data from Ookla (www.speedtest.net), the price rankings can be given an additional dimension - linking what operators are charging with what they are charging for. From Figure 2 is possible to see how Vodacom SA's high prices shown in Table 1 is accompanied by higher internet speeds compared to MTN SA and Cell C, which are placed in the second half of the Value for Money Index based on average download/upload speed (in kbps) divided by 1GB basket costs.

Vodacom SA's first quarter 2014 results for this year show that the operator grew its South African customer base by 11% and reduced overall voice prices, due a cut in mobile termination rates, were offset by increased traffic volumes. However, voice and overall service revenues declined. This elasticity effect was even greater in data with a 30.3% reduction in the average effective price per megabyte offset by a 70.1% increase in data traffic.

Figure 3 below is based on Ookla Speedtest data from first quarter and the second quarter of 2014 and depicts speed differences between Cell C, Vodacom SA and MTN SA. Vodacom SA continues to have the fastest speeds in South Africa both in first quarter and in the second quarter of 2014, although its broadband performance deteriorated significantly in the second quarter of 2014 as a result of the massive increase in data traffic. Also although it moves up the Value for Money Index from its poor pricing position, there are still many operators, including Vodafone in other markets such as Mozambique, Kenya, Ghana and other operators in Nigeria, Kenya and Uganda that are offering considerably better value for money.

Both Cell C and Vodacom SA's average broadband speeds declined significantly in Q2 the second quarter of 2014, although Cell C was never near the top of the rankings.



Figure 2: African Broadband Value for Money Index (average speed kbps/1GB cost in USD)

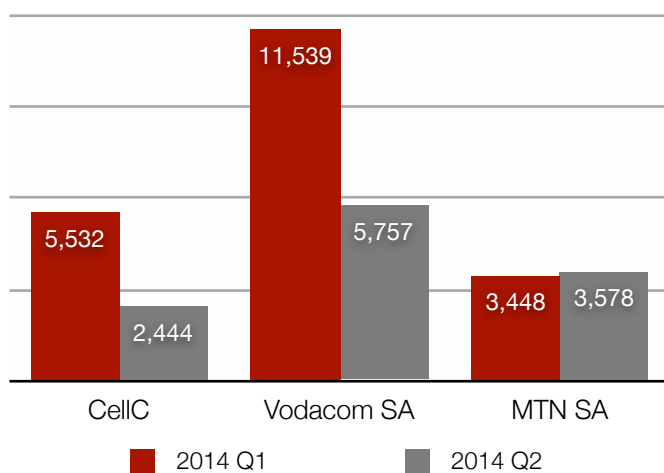


Figure 3: Average download and upload speeds (in kbps)

Source: Ookla (www.speedtest.net)

For both operators, average broadband speed declined by more than a half. Despite efforts to reform their spectrum and expand their number of LTE base stations (e.g. Vodacom went over 1,380) in order to offer high-speed broadband services, operators' inability to access high-demand spectrum to extend their LTE service is beginning to impact negatively on their quality of service. It is imperative that the Ministry of Telecommunications and Post releases the high demand spectrum so ICASA can assign it. The cost of not doing so for the country is greater than the cost of not getting the spectrum perfectly assigned, provided there are regulated trading rights to enable the efficient use of spectrum.

Another indicator that has been used to assess competitiveness within broadband markets in selected African countries is the Value for Money Index based on 1MB baskets instead of 1GB baskets. The 1MB basket provides a proxy for the competitiveness of mobile broadband markets, as mobile operators are likely to exercise price competition with promotions and high-volume bundles resulting in lower 1MB prices.

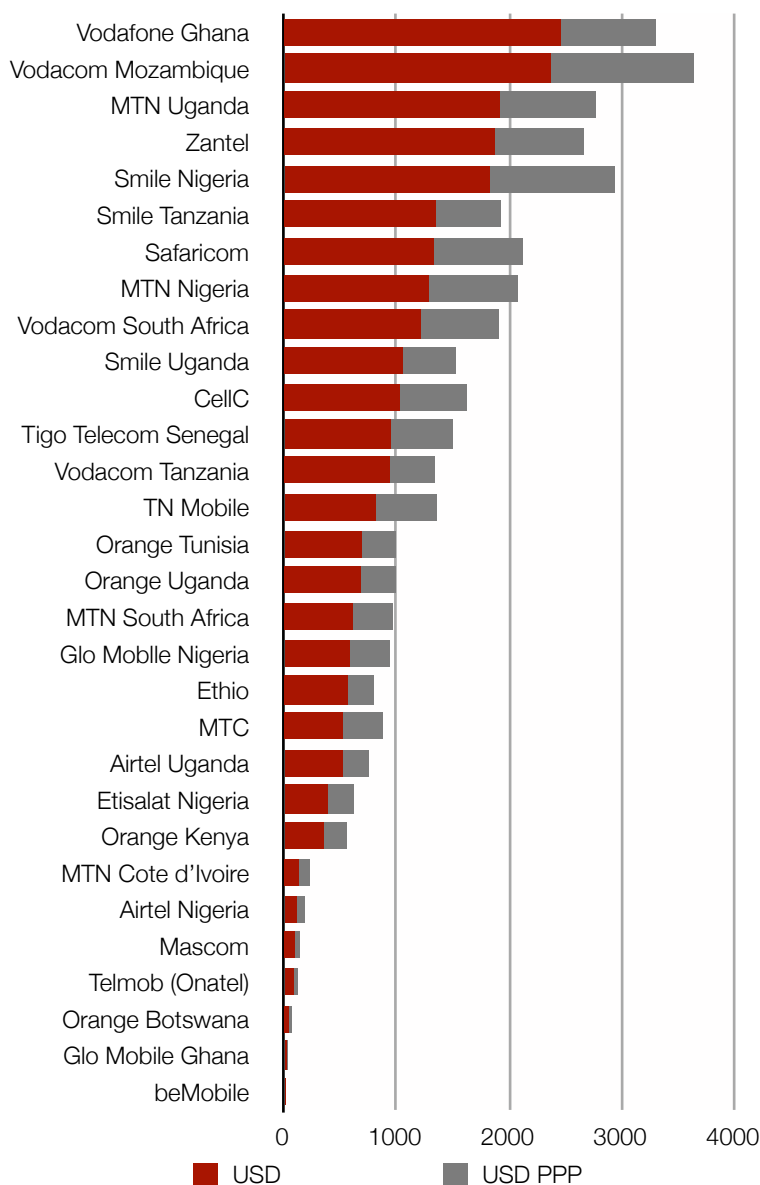


Figure 4: Value for Money Index (average speed kbps/1MB in USD and USD PPP)

Similar to the African Broadband Value for Money Index based on 1GB baskets, in the Value for Money Index is based on 1MB baskets (Figure 4)

Vodacom SA is again the best value operator in South Africa in terms of price and speed, but this time it is followed closely by Cell C which has cheaper high volume bundles, than the other dominant operator MTN SA.

Speed is not the only broadband performance indicator in a country. Latency, which refers to any of several kinds of delays typically incurred in the transmitting of network data, provides a good measurement to assess the performance of broadband networks and is critical to time-sensitive services, such as voice. High latency levels are normally due to circuitous interconnection paths between the user and the hosting facility of the web resource required and to poor ISPs' interconnectivity at a regional level.

Table 2 shows that in comparison to other countries worldwide for which latency measures were available from Ookla Speedtest in the first quarter and the second quarter of 2014, South Africa is one of the worse performing countries - ranking 44th in the first quarter of 2014 and 45th in the second quarter out of 51 countries.

With most ISPs connecting to the world wide web through London, and as we move into a high bandwidth, streaming and video service environment, this will continue to be local service providers' biggest challenge.

Country	Q1 2014		Q2 2014	
	Average latency	Rank	Average latency	Rank
Bulgaria	47.3	2	42.6	1
Korea, Republic of	89.4	35	47.1	2
Denmark	57.5	5	51.2	3
Finland	53.4	4	54.6	4
Latvia	37.9	1	58.5	5
Romania	52.0	3	59.0	6
Singapore	66.3	11	61.0	7
Netherlands	132.6	46	62.4	8
Sweden			62.8	9
Hungary	72.1	19	63.4	10
Ukraine	79.4	28	65.0	11
Serbia	68.3	15	67.7	12
Russian Federation	73.6	21	69.1	13
Estonia	67.6	13	69.3	14
Czech Republic	67.6	14	70.6	15
Germany	69.6	17	70.8	16
Norway	81.7	30	71.4	17
New Zealand	67.1	12	73.0	18
United Kingdom	72.1	18	73.7	19
Slovakia	79.0	27	74.0	20
Switzerland	63.5	8	74.3	21
Macedonia	73.7	22	75.5	22
Lithuania	64.6	10	76.5	23
Poland	159.8	49	77.1	24

Table 2: Average latency Q1 2014 and Q2 014

Country	Q1 2014		Q2 2014	
	Average latency	Rank	Average latency	Rank
United States	76.7	25	77.9	25
Israel	87.8	33	79.1	26
Puerto Rico	76.9	26	81.0	27
Bosnia and Herzegovina	72.2	20	81.1	28
Vietnam	89.8	36	81.3	29
Slovenia	81.8	31	82.0	30
Croatia	88.3	34	82.9	31
Austria	74.9	24	83.0	32
Ireland	172.7	50	88.4	33
Italy	93.5	37	90.4	34
Belgium	73.7	23	91.9	35
Australia	93.5	38	93.5	36
Canada	95.1	39	95.5	37
Chile	85.6	32	96.7	38
Spain	99.9	41	99.9	39
Portugal	81.5	29	101.1	40
France	103.0	42	106.5	41
Greece	110.3	43	109.0	42
Argentina	96.8	40	109.3	43
Albania	127.3	45	110.3	44
South Africa	113.1	44	115.1	45
Malaysia	60.6	7	115.7	46
Philippines	184.7	51	143.4	47
Algeria	141.1	47	144.6	48
Tunisia	157.1	48	167.5	49
Iraq	64.1	9	179.1	50
Peru	68.9	16	208.4	51

Conclusion and recommendations

The lack of access the 2.6GHz bands for LTE is impacting negatively on the quality of the mobile broadband data networks in the country. South Africa, despite the quality of some operators remaining amongst the best of the 17 countries on the African Broadband Value for Money Index, the quality of the top performing operators is deteriorating. With mobile broadband being the primary form of access for most South Africans, and its ability up until now to offer faster and cheaper connectivity than ADSL, it is imperative the Ministry of Telecommunications and Post issues directives for the regulator to assign this high-demand spectrum to operators.

To prevent similar congestion and constraint on broadband diffusion and business evolution further down the line with the so-called digital dividend spectrum (700 -800 bands) the unnecessary delays in migrating from terrestrial analogue broadcasting to digital must be fast-tracked and resolved to align with global standards and timelines.

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