



GOVERNMENT GAZETTE

OF THE

REPUBLIC OF NAMIBIA

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General Notices

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 388

2024

NOTICE OF INTENTION TO AMEND REGULATIONS PRESCRIBING THE NATIONAL NUMBERING PLAN FOR USE IN THE PROVISION OF TELECOMMUNICATIONS SERVICES IN THE REPUBLIC OF NAMIBIA, NUMBERING LICENCE FEES AND PROCEDURES FOR NUMBER LICENCES: COMMUNICATIONS ACT, 2009

In terms of sections 81(5) and 129 of the Communications Act, 2009 (Act No. 8 of 2009), and in terms of regulation 4(3) of the Regulations regarding Rule-Making Procedures published under General Notice No. 334 dated 17 December 2010, the Communications Regulatory Authority of Namibia publishes this notice of intention to amend the “Regulations Prescribing the National Numbering Plan for Use in the Provision of Telecommunications Services in the Republic of Namibia, Numbering Licence Fees and Procedures for Number Licences” which contains the following –

- (a) a concise statement of the reasons and purpose for the proposed amendment as set out in Schedule 1; and

- (b) a draft of the proposed amended regulations as set out in Schedule 2.

The Authority invites the licensees and the public to submit comments in writing to the Authority within 30 days from the date of publication of this notice in the *Gazette*, and a written comment must –

- (a) contain the name and contact details of the person making the written submissions and the name and contact details of the person or entity on whose behalf the written submissions are made, if different;
- (b) be clear and concise; and
- (c) be sent or delivered by –
- (i) hand to the head offices of the Authority, namely CRAN, Courtside Building, 3rd Floor, Freedom Plaza, c/o Fidel Castro Street and Rev. Michael Scott Streets, Windhoek;
- (ii) post to the head offices of the Authority, namely Private Bag 13309, Windhoek, 9000; or
- (iii) electronic mail to the following address: legal@cran.na.

DR. T. MUFETI
CHAIRPERSON OF THE BOARD OF DIRECTORS
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

SCHEDULE 1

CONCISE STATEMENT OF PURPOSE

The purpose of the proposed amendment to the regulations is to review and set the reference value for chargeable quantity of numbers in order to reflect the value of numbers allocated in terms of these Regulations.

SCHEDULE 2

PROPOSED AMENDMENT OF THE REGULATIONS PRESCRIBING THE NATIONAL NUMBERING PLAN FOR USE IN THE PROVISION OF TELECOMMUNICATIONS SERVICES IN THE REPUBLIC OF NAMIBIA, NUMBERING LICENCE FEES AND PROCEDURES FOR NUMBER LICENCES: COMMUNICATIONS ACT, 2009

In terms of section 81(5) read with Section 129 of the Communications Act, 2009 (Act No. 8 of 2009), the Communications Regulatory Authority of Namibia amends the Regulations Prescribing the National Numbering Plan for Use in the Provision of Telecommunications Services in the Republic of Namibia, Numbering Licence Fees and Procedures for Number Licences published under General Notice No. 97 of 1 April 2016 as set out in the Schedule.

SCHEDULE

Definition

1. In these Regulations “the Regulations” means the Regulations Prescribing the National Numbering Plan for Use in the Provision of Telecommunications Services in the Republic of Namibia, Numbering Licence Fees and Procedures for Number Licences published under General Notice No. 97 of 1 April 2016 as amended by General Notice No. 500 of 30 August 2018, General Notice No. 445 of 30 August 2021 and General Notice No. 675 of 22 November 2022.

Amendment of Annexure D

2. The Regulations are amended by the substitution for Annexure D of the following Annexure:

ANNEXURE D
Regulation 39 (e)
CHARGEABLE FEE

In terms of regulation 39(e) the Authority hereby determine the reference value. The reference value is set at One Namibian Dollar and Seventy Two Three Cents (**NS 1.7023**).

Number	Weight	NS (Fees Payable)
3 Digit Numbers	= 1000,000	= 1,702,300.00
4 Digit Numbers	= 100,000	= 170,230.00
5 Digit Numbers	= 10,000	=17,023.00
6 Digit Numbers	= 1,000	=1.702.30
7 Digit Numbers	= 100	=170.23
8 Digit Numbers	= 10	=17.023
9 Digit Numbers	= 1	= 1.7023

Annual Number Fee = number x weight x reference value

ANNEXURE E
DISCUSSION PAPER ON NUMBERING FEES FOR CRAN

1. INTRODUCTION

In 2016, CRAN set out *Regulations prescribing the National Numbering Plan for use in the Provision of Telecommunications Services in the Republic of Namibia, Numbering Licence Fees and Procedures for Number Licences*. The fees prescribed in these regulations were charged for the first time in 2018 and then subsequent years. In 2021, the regulations were revised in line with section 81(5) of the Communications Act, 2009 (Act No. 8 of 2009) which provides that “*the Authority must allocate numbers in return for a fee that is no greater than necessary to compensate for the management costs of the numbering plan and control of its use.*” The essence of the review was to ensure that the fees charged are no greater than necessary to compensate for the management costs of the numbering plan and the control of its use.

The objectives of the Act guide all CRAN’s actions: The fees CRAN collects are subject to the objectives of the Act, which fit in with the general trend towards liberalisation, privatisation and increased competition in order to meet the objectives of affordability and increased penetration.

Regulation 39(1)(f) of the said regulations provides for the review of numbering fees. In 2021 CRAN allocated the costs as prescribed in the Act to the numbering to determine the numbering fees for 2021. The same methodology was followed in 2022.

2. ECONOMICS OF NUMBERING

The rise of new services and the advent of competition have given to telecommunication numbers a significant economic dimension. Any economic considerations around numbers arise for two main reasons:

- a) Firstly, a fairly administered numbering plan can facilitate competition in service provision and thus bring benefits to users by reducing tariffs and by increasing the quality standards in services provided. In order for competition to flourish, however, operators and service providers should be treated on an equal basis regarding access to number resources.

- b) Secondly, numbers become important tools in the hands of value-added service providers. Given that most of these services are highly profitable for operators, the allocation of specific number ranges to provide exclusive access to services such as mobile telephony, personal communication and premium rate services increases the value of numbers. Moreover, it is recognised that a limited range of numbers contain “higher” value than others, because their memorable structure brings benefits to the called party. (OECD/GD (95)117)

As competition increases and new numbering requirements emerge, it becomes universally recognised that “*telephone numbers are a national resource and should be for the customer -- not for the operators to brand*” (OFTEL, 1993a). New operators and service providers need to have access to numbers and have the right to utilise them in a way that best suits their needs and can facilitate service provision.

Not all number ranges have the same value to users. Different users may attribute more value to a number than others based on how easy it is to remember and what it might be utilised for. Numbers are therefore, a scarce resource that should be managed and paid for taking the economic value of the number into consideration.

3. CURRENT NUMBERING FEES

The current numbering fees, as set in 2022, are as follows in Table 1:

Table 1: Current numbering fees

3 Digit Numbers	= 410,000
4 Digit Numbers	= 41,000
5 Digit Numbers	=4,100
6 Digit Numbers	=410.00
7 Digit Numbers	=41.00
8 Digit Numbers	=4.100
9 Digit Numbers	= 0.4100

4. CRAN MANAGEMENT COSTS OF NUMBERING PLAN

The total cost of managing the numbering plan and the control of its use includes cost for the numbering audit, legal fees, calculation of fees and compliance management. The costs from 2022/2023 to 2023/2024 and projected costs for 2024/2025 are as follows:

Table 2: Costing	2022/2023	2023/2024	2024/2025
Management costs per financial year (N\$)	(1,848,967)	(2,230,960)	(3,034,167)
Revenue	1,335,843	1,157,059	
Profit/Loss	(513,124)	(1,073,901)	(3,034,167)
Numbers	3,452,638	2,413,180	2,413,180
Source:	AFS	Projected	Projected

CRAN collected total revenue from numbering in 2022/2023 in the amount of N\$1,335,843. The fee was therefore not cost reflective due to the decline in numbers utilised which only became apparent with the numbering audit in October 2022. The 2023 audit once again showed a significant decline in the amount of numbers used. This resulted in an under recovery of N\$ 1,073,901 from the budgeted amount of N\$ 2,230,960. CRAN did not prescribe fees in 2023.

The methodology used allows for any over or under recovery to be subtracted or added in the following year to ensure that the numbering fees collected by CRAN only pay for the management of the

numbering plan as envisaged in the Act. Therefore, an amount of N\$ 1,073,901.00 must be added to the 2024/2025 budgeted amount to ensure cost recovery. The reason for the under-recovery was due to less numbers being utilised by the licensees holding number licenses, as provided during the number audit.

This resulted in less revenue than what was budgeted for. It is therefore, necessary to add the under recovery amount as calculated in Table 3 below.

Table 3: Reconciliation of Numbering Cost and Revenue	
2024/2025	
Total Budgeted Cost	N\$ 3,034,167
Plus: under-recovery	N\$ 1,073,901
Total Revenue required	N\$ 4,108,086
Total Numbers	2,413,180
Cost per number	N\$ 1.7023

5. CONCLUSION

Considering the above and pursuant to section 81(5) of the Communications Act, the new fee for numbering for 2024/2025 shall be set at N\$ 1.7023.

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 389

2024

NOTICE OF INTENTION TO MAKE REGULATIONS PRESCRIBING LIMITS ON TARIFFS FOR TELECOMMUNICATIONS SERVICES: COMMUNICATIONS ACT, 2009

The Communications Regulatory Authority of Namibia under sections 129(1)(e) and 53(20)(9) and regulation 4(3) of the Regulations regarding Rule-Making Procedures published under General Notice No. 334 of 17 December 2010, publishes this notice of intention to make Regulations Prescribing Limits on Tariffs for Telecommunications Services which contains the following –

- (a) a concise statement of the purpose for the proposed Regulations set out in Schedule 1; and
- (b) a draft of the proposed Regulations as set out in Schedule 2.

Members of the public are invited to make written submissions to the Authority no later than 30 calendar days from the date of publication of this notice in the *Gazette* in the manner set out below.

All written submissions must –

- (a) contain the name and full contact details (physical and postal address, email address and telephone or cell phone number) of the person making the written submissions and the name and similar contact details of the person for whom the written submission is made, if different; and
- (b) be clear and concise.

In the event that a person making a written submission wishes to designate any information contained therein as confidential, the submission must be clearly marked as “CONFIDENTIAL”.

Where the Authority is of the opinion that information is not confidential it must inform the person making the written submission thereof and may –

- (a) allow the person to withdraw the information from the rule-making proceedings;
- (b) agree with the person that the submission will not be treated as confidential information; or
- (c) request a hearing on the issue of confidentiality to be conducted in accordance with section 28 of the Communications Act, 2009.

All written submissions must be sent or submitted to be received by the Authority on or prior to the due date either by –

- (a) hand to the head offices of the Authority, namely CRAN, Courtside Building 3rd Floor, Freedom Plaza, c/o Fidel Castro Street and Rev. Michael Scott Streets, Windhoek;
- (b) post to the head office of the Authority, namely Private Bag 13309, Windhoek, 9000; or
- (c) electronic mail to the following address: legal@cran.na.

DR. T. MUFETI
CHAIRPERSON OF THE BOARD OF DIRECTORS
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

SCHEDULE 1

CONCISE STATEMENT OF PURPOSE

The Regulations are intended to –

- (a) prescribe limits on tariffs which licensees must comply with in charging for a defined telecommunications service;
- (b) protect consumers by ensuring that the costs to customers for telecommunications services are just, reasonable and affordable;
- (c) encourage competition among licensees by preventing the abuse of market power to set prices;
- (d) incentivise licensees to reduce their costs and invest in new telecommunication technologies to remain competitive and profitable under the limit on tariffs; and
- (e) ensure that licensees do not compromise service quality in order to cut costs by linking tariff adjustments to quality-of-service metrics to encourage productivity in service delivery.

SCHEDULE 2

PROPOSED REGULATIONS PRESCRIBING LIMITS ON TARIFFS FOR TELECOMMUNICATIONS SERVICES

The Communications Regulatory Authority of Namibia under section 129(1)(e) read with section 53(20)(a) of the Communications Act, 2009 (Act No. 8 of 2009) has made the Regulations set out in the Schedule.

DR. T. MUFETI
CHAIRPERSON OF THE BOARD OF DIRECTORS
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

SCHEDULE

Definitions

1. In these Regulations, any word or expression to which a meaning is assigned in the Act has that meaning, and –

“commencement date” means 1 October 2024;

“consumer” includes individuals, families and business entities of all sizes that require mobile broadband services for various purposes such as communication, entertainment, work and education;

“eSIM” means a SIM embedded directly into a mobile device which can be reprogrammed by consumers to switch operators without needing the physical swap of a SIM card.

“licensee” means a mobile network operator or a mobile service provider;

“limit on tariffs” means the limit on the tariffs that a licensee may charge for the rendering of a telecommunications service;

“mobile broadband services” means the provision of mobile data services in the retail market by a mobile service provider by means of a fibre optic cable, an integrated services digital network, referred to as LSDN, a long term evolution wireless data transmission, referred to as 4G LTE or a long term evolution-advanced, referred to as 4G LTE-A, a digital subscriber line, referred to as DSL, or similar wireless mobile telecommunications technology at bandwidth speeds that are higher than 2 megabits per second;

“mobile data” means digital information transmitted to or received over cellular networks;

“mobile data service” refers to provision of mobile data by a mobile service provider that allows a consumer to access the internet on his or her mobile device;

“mobile device” means a portable electronic device that allows consumers to access a variety of communication services through wireless connectivity provided that such device must have the following capabilities –

- (a) the ability to use cellular networks for communication;
- (b) the capability to perform telecommunication functions over these networks;
- (c) portability, which allows the device to be used while in motion or during travel;
- (d) compatibility with various communication protocols necessary to render mobile broadband services;

“mobile network operator” means the holder of an Electronic Communications Network Service License or a Network Facilities License issued in terms of the Act, which enables that person to sell wholesale services to a mobile service provider;

“mobile service provider” means the holder of an Electronic Communications Service License issued in terms of the Act which enables that person to sell mobile broadband services in the retail market;

“out-of-bundle voice and short message service”, for purposes of these Regulations means any voice and short message service that a consumer uses beyond the scope of his or her pre-agreed mobile service plan with a mobile service provider;

“retail market” means the segment of the telecommunications industry where mobile broadband services are sold directly to end-consumers, referred to as the wireless end-user access market;

“SIM” means subscriber identity module;

“SIM card” means a removable module that securely stores the international mobile subscriber identity and the related key used to identify and authenticate subscribers on mobile devices;

“telecommunications service” for purposes of these Regulations, means a mobile broadband service, an out-of-bundle voice and short message service or a wholesale service;

“tariff guidelines” means the Guidelines on the General Interpretation and the applicability of section 53 and the regulations regarding the submission of interconnection agreements and tariffs published under General Notice No.455 of 1 August 2018;

“the Act” means the Communications Act, 2009 (Act No. 8 of 2009);

“website” means the official website of the Authority with URL <https://www.cran.na>;

“wholesale market” means the segment of the telecommunications industry where mobile network operators sell wholesale services to mobile service providers, instead of directly to consumers; and

“wholesale service” means the selling of mobile data to mobile service providers.

Objects of Regulations

2. The objects of these Regulations are to –
 - (a) prescribe cost-oriented limits on tariffs that licensees may charge for the rendering of telecommunications services;
 - (b) protect consumers by ensuring that the costs to customers for telecommunications services are just, reasonable and affordable;
 - (c) encourage competition among licensees by preventing the abuse of market power to set prices;
 - (d) encourage licensees to reduce their costs and invest in new telecommunication technologies to become productive, competitive and profitable; and
 - (e) link tariff adjustments to quality-of-service metrics to ensure that licensees do not compromise service quality thereby enhancing fair competition and consumer protection in the telecommunications sector.

Application of Regulations

3. These Regulations apply to –
 - (a) mobile network operators; and
 - (b) mobile service providers.

Submission of documents to Authority

4. In these Regulations, when persons are permitted or called upon to submit information

to the Authority in writing, they may do so either physically or electronically –

- (a) by hand to the head office of the Authority, namely Communications House, 56 Robert Mugabe Avenue, Windhoek;
- (b) by post to the head office of the Authority, namely Private Bag 13309, Windhoek 9000;
- (c) by electronic mail to economics@cran.na;
- (d) on the Authority's data portal as found on its website; or
- (e) in any other manner or at alternative addresses set out by the Authority from time to time.

Limit on tariffs for wholesale service prices

5. (1) With effect from the commencement date, a mobile service provider who offers wholesale services must not charge a rate exceeding N\$6 per gigabyte of mobile data provided to a reseller, regardless of whether the gigabyte of data is –

- (a) calculated on an implied or actual basis; or
- (b) of a bundled or an unbundled mobile broadband service.

(2) The Authority must within 12 months after the lapse of Year 3 referred to in the Table above review the limit on the tariffs referred to in subregulation (1) to determine its impact on –

- (a) competition between mobile network operators;
- (b) each mobile network operator;
- (c) competition between mobile service providers; and
- (d) consumers.

Limit on tariffs for out-of-bundle voice and short message services

6. (1) Every mobile service provider must, with effect from the commencement date, implement a limit on its tariffs for its out-of-bundle voice and short message services, to be phased in over a period of three years, in accordance with the Table hereunder.

	Current Prepaid (N\$)	Year 1 (N\$)	Year 2 (N\$)	Year 3 (N\$)	Full Cost (N\$)	Year 3 mark-up per unit
National voice	0.99	0.75	0.50	0.25	0.0582	330%
Short message service	0.40	0.30	0.20	0.10	0.0091	999%

(2) The Authority must within 12 months after the lapse of Year 3 referred to in the Table above review the limit on the tariffs referred to in subregulation (1) to determine its impact on –

- (a) competition between mobile service providers;

- (b) each mobile service provider; and
- (c) consumers.

Limit on tariffs for mobile broadband services

7. (1) With effect from the commencement date, a mobile service provider must not charge a rate exceeding N\$15 per gigabyte of mobile data provided to an end-consumer, regardless of whether the gigabyte of data is –

- (a) calculated on an implied or actual basis; or
- (b) part of a bundled or an unbundled mobile broadband service.

(2) The Authority must at least 12 months after the commencement date review the limit on the tariff referred to in subregulation (1) to determine its impact on –

- (a) competition between mobile service providers;
 - (b) consumers; and
 - (c) national data connectivity.
- (3) For purposes of this regulation –
- (a) “bundled mobile broadband service” refers to the practice of combining various telecommunications offerings into a single package, typically including mobile broadband services along with other services such as voice calls, text messaging, and additional features; and
 - (b) “unbundled mobile broadband service” refers to the practice of offering mobile broadband services as a standalone service, separate from other telecommunications offerings such as voice calls or text messaging.

Tariff review application

8. (1) A mobile network operator or a mobile service provider may after the three-year period referred to in subregulation (1) of respectively regulation 5 and 6 file with the Authority a written application for a tariff adjustment.

(2) A mobile service provider may after the lapse of the 12-month period referred to in regulation 7(2) file with the Authority a written application for a tariff adjustment.

(3) An application referred to in subregulation (1) or (2) must contain relevant documentation, including all calculations and other information in support of the application.

Notice of application for tariff adjustment

9. (1) The Authority must, at least 60 days before approving any application submitted to it under regulation 8, give notice in the *Gazette* and in such other manner as it considers necessary –

- (a) specifying the name and particulars of the licensee or class of licensees providing the telecommunications service in respect of which a limit on tariffs applies;

- (b) stating the reasons for the proposed tariff adjustment and the new tariffs; and
- (c) specifying the time within which representation or objections may be made to the proposed new tariffs.

(2) The Authority must in considering an application for a tariff adjustment take into account such written representations or objections received under subregulation (1)(c).

Decision on tariff adjustment

10. (1) The Authority may reject an application submitted to it under regulation 8 if the Authority considers the proposed tariff adjustment to be unjustifiable.

(2) A decision of the Authority rejecting a proposed tariff adjustment must –

- (a) be in writing;
- (b) state the reasons for the rejection; and
- (c) be made available to the licensee concerned.

(3) Upon approval by the Authority of any tariffs as a result of a tariff adjustment, a licensee must notify its customers of the new tariffs through publication in such manner as the Authority may determine and must in such notice provide for a grace period of not less than 14 days before implementing the new tariffs.

(4) Any application for a tariff adjustment referred to in regulation 8 is deemed approved if the Authority does not communicate its disapproval thereof to the applicant –

- (a) within 60 days after receipt of the application; or
- (b) within 15 days after the applicant has furnished the Authority with any information sought by the Authority.

Granting of extension

11. (1) If a licensee, on reasonable grounds, is unable to reduce its tariffs in accordance with regulations 5, 6 and 7, whether with regard to a single person or a category of persons or with regard to all its tariffs, in accordance with an applicable limit on tariffs at the relevant time frames stipulated in those regulations, such licensee may, at least seven days prior to such limit on tariffs becoming effective, request the Authority for an extension of time to allow that licensee reasonable opportunity to ensure that its tariffs comply with these Regulations.

(2) Upon receipt of a request for extension, the Authority must –

- (a) consider such request taking into consideration, without any limitation, the nature of the proceedings and the reasons for the inability of the licensee to comply with an applicable limit on tariffs; and
- (b) as soon as is practical inform the licensee concerned whether or not the Authority grants an extension and of the period of the extension if it decides to grant the extension.

Duty to provide separate accounting records

12. Each licensee must within 60 days of the commencement date provide the Authority with separate accounts for its telecommunications activities, which are compliant with the International Financial Reporting Standards and ISO 550, and in accordance with section 54(1) of the Act and the Regulations setting out Cost Accounting Procedures and Reporting Requirements published in terms of General Notice No.159 of 29 April 2020.

Penalties

13. (1) If a licensee fails to comply with, or contravenes, any provision of these Regulations, except regulation 5(1), 6(1), 7(1) or 12, the Authority may –

- (a) issue to the licensee a written warning indicating in such warning the date upon which the licensee must comply with or desist from contravening such provision;
- (b) request such licensee to implement a remedial plan to ensure compliance with such provision within the time frames determined by the Authority;
- (c) issue an enforcement order as contemplated in section 116, read with section 129(3), of the Act; and
- (d) take any such other measures as the Authority may deem appropriate under the circumstances.

(2) Except in the event of an urgency, before taking any measure set out in subregulation (1), the Authority must give the affected licensee the opportunity to be heard in accordance with the rules of natural justice whereafter the Authority may –

- (a) decide not to impose the relevant measure; or
- (b) impose such measure as the Authority considers fit.

(3) A licensee that contravenes the provisions of regulation 5(1), 6(1), 7(1) or 12 commits an offence and is liable on conviction to a fine not exceeding N\$1 000 000.

Transitional provision

14. A mobile service provider or mobile network provider whose rate and tariff has been approved by the Authority under section 53(1) and (7) and in accordance with the Tariff Guidelines before the date of commencement of these regulations at the rate greater than the current maximum limit of tariff is given three months grace period from the date of commencement after which to comply with regulations 5, 6 and 7.

Price Study for Data, Voice and SMS Updated: November 2023

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1. Introduction

This Price Study¹ is an update to the Data Price study of 2022, which investigated the affordability of mobile broadband prices in Namibia. International benchmarking showed that Namibia was no longer a price leader in Africa in 2022. A concern was that insufficient competition led to higher prices and insufficient investment for fast and affordable Internet for all segments of society. The Authority commenced with consultations on price reduction in 2023 and since the consultations at the beginning of 2023, Telecom Namibia reduced its data prices and MTC introduced new products. In Africa, Telecom Namibia is ranked 13th cheapest mobile operator as of Q1 2023 according to Research ICT Solutions.

The first section of this study describes the general background for the evolving Internet value chain and data-centric business models. This is followed by an analysis of the connectivity segment of the Internet value chain for Namibia, namely first, middle and last mile. Namibia's prices are then benchmarked against selected African countries. Prices are benchmarked on country, operator and product level. This followed an analysis of the cost of national connectivity to establish whether high backhaul prices are a limiting factor for retail prices. Chapter six estimates the implied cost for providing broadband services. Chapter 7 discusses remedies, chapter 8 provides conclusions and chapter 9 lists the comments received and CRAN's reply comments.

2. The Internet Value Chain

The Internet value chain is driving the fourth industrial revolution (4IR). The term "industrial revolution" refers to leaps forward in productivity. The first industrial revolution used steam power, the second, electric power, and the third, electronic and information technologies to boost productivity.

The fourth industrial revolution is an amplification of the third one, connecting more people and more objects and utilising advances in big data analytics and artificial intelligence to refine business processes and develop new products and services. The third and fourth industrial revolutions mark productivity gains leading to the digital economy and to digital trade. The Internet is at the centre of this global digitalisation. The more people that are connected, the more people that can participate in the digital economy.

¹ https://www.cran.na/yglilidy/2022/11/CRAN_Data_Study-2022-Final.pdf

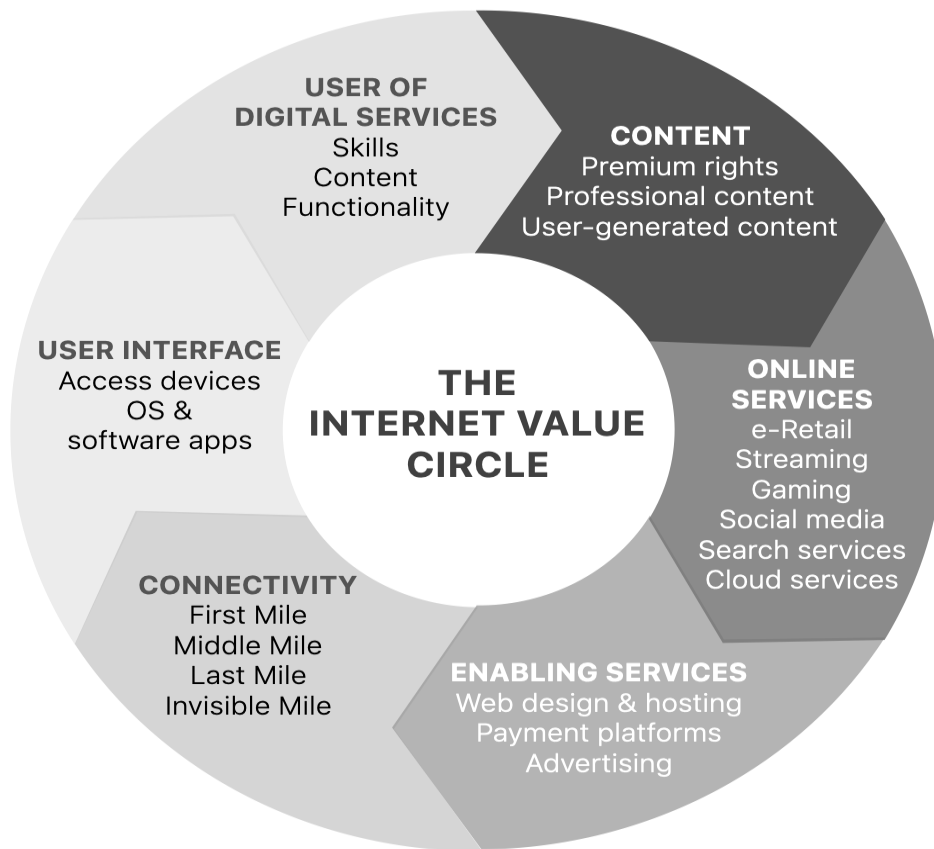


Figure 1: Internet Value Circle

Data prices and data quality are at the heart of wider broadband adoption and thus the potential for efficiency gains through digitalisation. In the past, the data flow was from content owners to the end-user via the radio, TV and the public Internet. Today, users create content through social media applications and other ways of uploading data, contributing to the content that is consumed. Figure 1 displays the Internet value chain, not as a traditional set of sequential components, but as a self-reinforcing circle. The wider the use of the Internet, the wider is the scope for digitalisation of economic activities. e-Commerce, e-gov, e-health, e-education all rely on connectivity of citizens to the Internet.

The increasing digitalisation of the way we work and live also impacts the way we communicate. Instead of making traditional voice calls and sending 160 character SMS', people can communicate more conveniently, with full video and in groups using social media applications. Services that were previously provided by mobile network operators (MNOs) are seeing competition from the public Internet. Voice calls and SMS have to compete with Over the Top (OTT) applications, such as Skype, WhatsApp and Facebook Messenger. Competition, as a result, has moved from voice and SMS to mobile data prices and speeds. The dominant business model going forward will be data-centric and eventually entirely digital.

Table 1: The digital business model

	Analogue Mobile	Digital Mobile
Business model	Service	Connectivity
Metric	Minutes and SMS	Bandwidth or throughput
Cost sensitivity	Distance, duration and location matter	Time, distance and location insensitive
Billing	Access and usage billing Detailed billing systems for voice and SMS - off-net / on-net, peak / off-peak	Simple access billing

	Analogue Mobile	Digital Mobile
Traffic Monitoring	Detailed traffic monitoring as part of the billing system	Usage monitoring limited to data use
Postpaid subscribers	Detailed vetting to reduce risk or revenue loss and expenses that arise from call termination and subsidised handsets	<ul style="list-style-type: none"> • Postpaid risk limited to revenue of one billing cycle • No external expense risks • Prepaid and postpaid do not need to be distinguished by pricing • Postpaid may be extended without significant vetting
Network infrastructure	GSM 1G and 2G	2.5G, 3G, 4G, 5G

Fast, high-quality and affordable broadband internet is the foundation of the digital economy. It contributes to enhancing productivity, facilitating information exchange, and improving service delivery across the economy. The effect of increased broadband access on economic growth and employment has been well documented. Table 2 lists a range of studies that measure the macroeconomic effects of mobile broadband penetration. The effects vary for sets of countries and time periods and range from 0.8% to 2.46% of additional GDP growth for an increase of 10% in mobile broadband penetration. The estimates for Africa are at the higher end, with 2.46% of additional GDP growth per 10% higher broadband penetration.

Table 2: Impact of a 10% increase in broadband penetration on GDP growth

Authors	Countries	GDP growth
Czernich et al. 2009	OECD, 1996-2007	0.9-1.5%
Koutroumpis 2018	OECD, 2002-2016	0.82-1.40%
OECD 2011	EU countries, 1980-2009	1.1%
Qiang et al. 2009	Low income countries 1980-2006	1.4%
Scott 2012	Low income countries 1980-2011	1.35%
Endquist et al. 2018	Global 2000-2015	0.6–2.8 %
ITU 2020	World	1.5%
	Africa	2.46%

Lower prices and subsequently higher broadband penetration would translate into productivity gains and economic growth. An additional 10% broadband penetration is likely to increase GDP by an additional NAD 8.6 billion and taxes by NAD 2.6 billion over a five-year period.

Table 3: Impact of 10% higher broadband penetration - ITU 2020 effect size of 2.46%

	GDP NAD million	Additional GDP	Additional Tax
2023	71,522	1,717	520
2024	73,239	1,717	520
2025	74,957	1,717	520
2026	76,674	1,717	520
2027	78,391	1,717	520
5 Year Effect		8,586	2,601
Parameters	GDP 2020: NAD 69,805 million (NSA) and Tax to GDP ratio: 30.3% in 2019 (World Bank)		

3. Namibia's data connectivity

The digital infrastructure value chain is used as the conceptual framework for this chapter. It is based on the World Development Report from 2016, which analyses the digital infrastructure value chain in four segments: first, middle, last and invisible mile. The Internet enters a country (first mile), passes through that country (middle mile), to reach the end user (last mile) wirelessly or via fibre and copper connections. The invisible mile includes the policy and regulatory factors that impact on the performance of the first, middle and last mile.

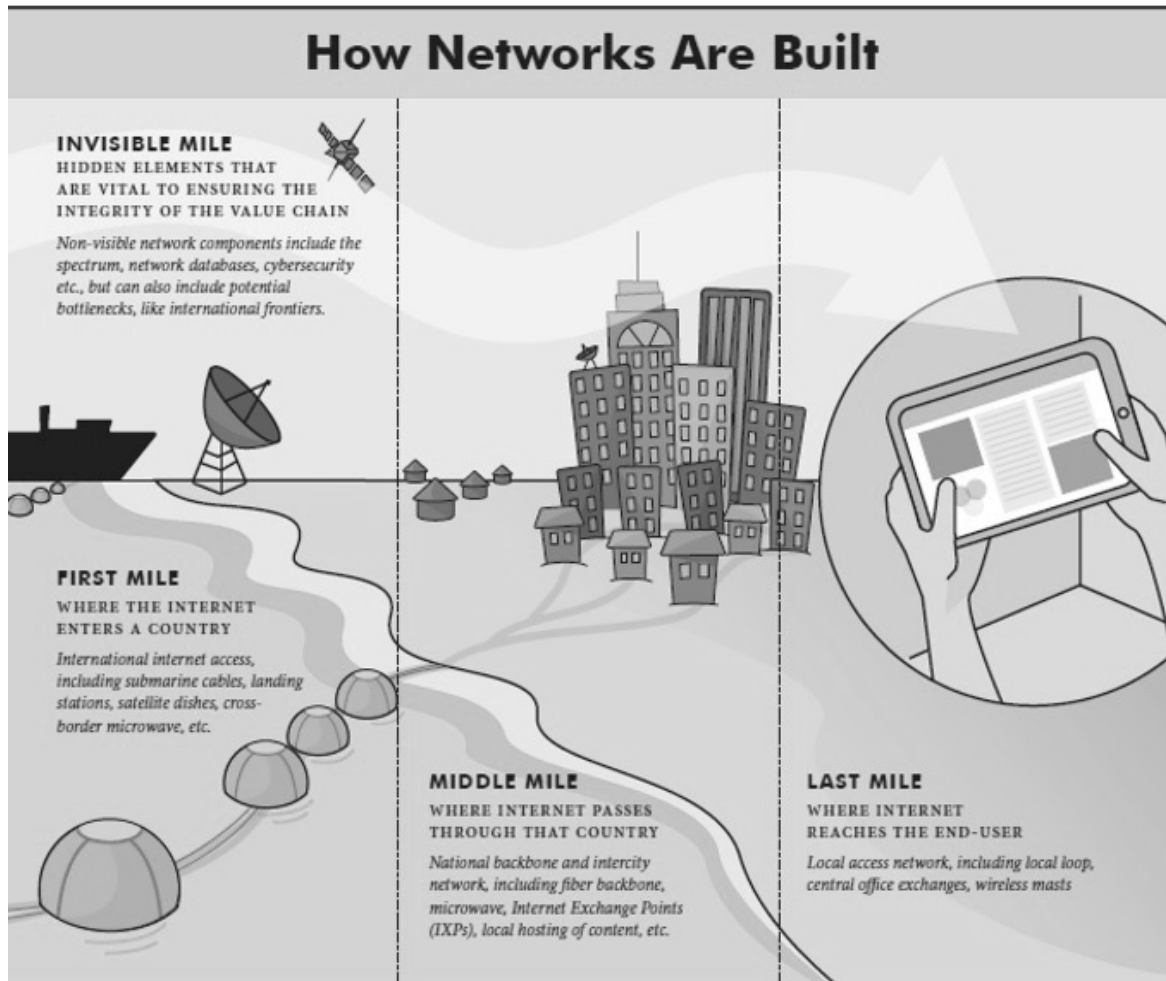


Figure 2: World Bank policy framework for ICT Sector²

First Mile

Namibia's first mile connectivity is sufficient and may be expanded with increasing demand. Namibia's current per capita international bandwidth usage is half that of South Africa and Mauritius and like Botswana's. While Namibia has two submarine cables landing at its shores, capacity utilised by Namibian operators for their customers falls short of its Southern African neighbours. Botswana does not have a submarine landing station and still has similar connectivity to Namibia, as per Table 4 below.

Table 4: Used international bandwidth (Gbps)

	2015	2016	2017	2018	2019	2020	Population million	2020 kbps per capita
Malaysia	2,025	3,386	4,957	8,878	11,320	14,865	31.5	359

² <https://blogs.worldbank.org/digital-development/how-wdr16-policy-framework-applied-union-comoros>

	2015	2016	2017	2018	2019	2020	Population million	2020 kbps per capita
Source	Telegeography, 2020, Population data for 2018 from WDI							
Mozambique	62	85	132	150	165	189	29.5	6.4
Tanzania	98	134	198	251	336	376	56.3	6
Zambia	33	42	86	125	182	394	17.4	10.5
Botswana	15	23	60	54	69	100	2.3	30.6
Namibia	19	27	42	61	84	115	2.5	34.3
South Africa	541	816	1,777	3,187	4,142	7,944	57.8	71.7
Mauritius			41	85	109	163	1.3	86.1
			53					
			68					

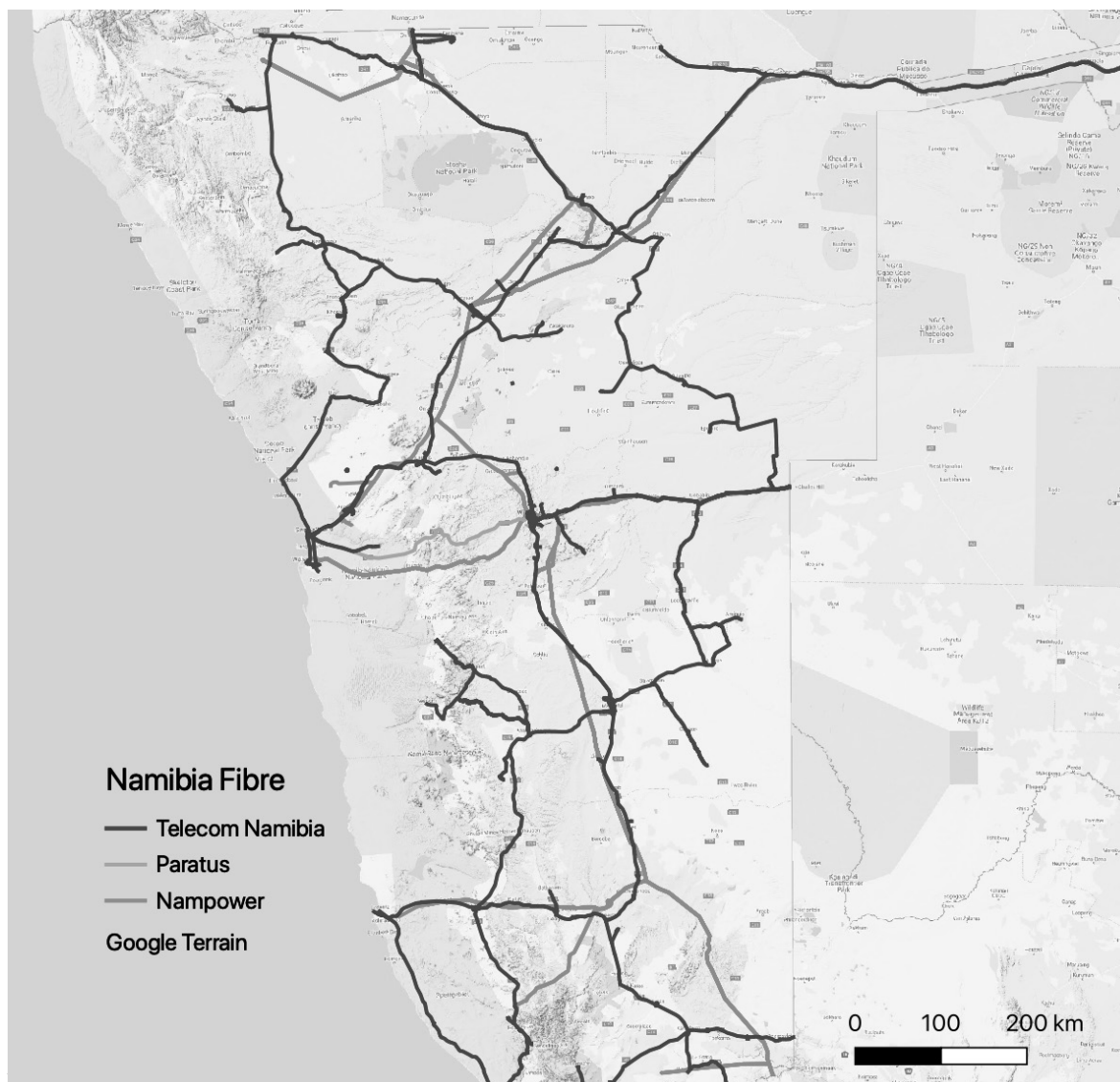
Middle Mile

Namibia's middle mile connectivity is well developed. Namibia has two Google caches and Facebook nodes which is appropriate for the size of its population. Its national fibre transmission network in kilometres per square kilometre is more extensive than Egypt's network, but less than the one of Kenya, Nigeria and South Africa, as indicated in Table 5 below.

Table 5. National transmission networks and Content Delivery Networks

	Egypt	Kenya	Nigeria	South Africa	Namibia
Length of national transmission network (km)	4,533	13,917	26,252	41,769	16,373
Geographical area (sq. km)	1,002,450	580,367	923,768	1,219,602	825,419
Population density (sq. km)	84.00	94.00	212.00	127.00	2.97
National transmission network (km) per sq.km	0.005	0.024	0.028	0.034	0.020
Google Edge Points of Presence (POPs)	0	1	1	1	0
Google Global Cache	6	2	3	4	2
Facebook Nodes	7	4	4	8	2
Sources	https://peering.google.com/#/infrastructure , https://bit.ly/2y9AYJu , NSRC 2020, CRAN				

NamPower and Telecom Namibia own more than 94% of Namibia's fibre routes. Both are 100% state-owned. NamPower has 30% and TN 65% of fibre routes. Paratus Telecommunications (Pty) Ltd (Paratus) only owns 5.5% of Namibia's fibre routes and this in only four regions: Erongo, Khomas, Otjozondjupa and Omaheke. Figure 2 below displays the fibre map for Namibia. There is a replication of fibre routes between Paratus, Telecom Namibia and Nampower from the coast to Botswana, providing double redundancy. There is also a replication of fiber routes from the south to the north of Namibia by Telecom Namibia and NamPower.



MTC and Telecom Namibia have extensive network coverage in all of Namibia's regions. Both MTC and TN are national mobile broadband operators, covering Namibia's 14 regions. Population coverage for Namibia is 85% for 4G (Table 6), which is low compared to South Africa and even the Southern African averages.

Table 6: Population Coverage in 2022

Region	Population	4G Population Coverage			Policy Objective of minimum of 80%	People not covered by 4G
		MTC	TN	Namibia		
!Karas	88,477	80%	52%	81%	Above	17,194
Erongo	216,727	94%	89%	94%	Above	12,630
Hardap	96,016	76%	59%	77%	Below	22,157
Kavango East	163,061	82%	52%	83%	Above	28,330
Kavango West	91,834	57%	14%	59%	Below	38,005
Khomas	472,107	97%	95%	97%	Above	12,346
Ohangwena	273,209	92%	41%	93%	Above	20,378
Kunene	109,021	41%	20%	41%	Below	64,320
Omaheke	79,370	57%	0%	57%	Below	34,020
Omusati	268,337	95%	24%	95%	Above	12,964

Region	Population	4G Population Coverage			Policy Objective of minimum of 80%	People not covered by 4G
		MTC	TN	Namibia		
Oshana	200,565	98%	83%	98%	Above	3,468
Oshikoto	214,012	80%	24%	80%	Above	42,687
Otjozondjupa	163,536	75%	44%	75%	Below	41,515
Zambezi	107,692	78%	40%	78%	Below	23,508
Namibia	2,543,965	85%	54%	85%	Above	373,524

South Africa accomplished universal broadband coverage across urban and rural South Africa. ICASA published the 2022 State of the ICT sector in March 2023 which displays population coverage for rural and urban areas by province (Table 7). 4G population coverage in rural coverage is above 84% and for urban areas 99% or higher.

Table 7: Population Coverage in South Africa (March 2022)

	Rural				Urban			
	2G	3G	4G/LTE	5G	2G	3G	4G/LTE	5G
Eastern Cape	100%	100%	92%	1%	100%	100%	100%	27%
Free State	100%	100%	95%	0%	100%	100%	100%	8%
Gauteng	100%	100%	100%	6%	100%	100%	100%	35%
KwaZulu-Natal	100%	100%	93%	1%	100%	100%	100%	43%
Limpopo	100%	100%	98%	0%	100%	100%	100%	19%
Mpumalanga	100%	100%	99%	0%	100%	100%	100%	36%
North West	100%	100%	100%	1%	100%	100%	99%	15%
Northern Cape	94%	94%	84%	0%	100%	100%	99%	12%
Western Cape	96%	96%	87%	2%	100%	100%	100%	27%
Source	ICASA's Report on The State of the ICT sector in SA - March 2023							

MTC's mobile market share dropped to 92% in FY2021. Telecom Namibia's market share increased to 8% but it is still only half of the market share that Leo had when Telecom Namibia acquired it.

Table 9: Mobile revenues in NAD million: Mobile voice, SMS, data, handset

s

	FY 2017		FY 2018		FY 2019		FY 2020		FY 2021	
	TN	105	4.2%	138	5.2%	241	8.4%	221	7.6%	243
MTC	2,421	95.8%	2,498	94.8%	2,614	91.6%	2,683	92.4%	2,799	92.0%
Total	2,526		2,636		2,855		2,904		3,042	
Source	MTC and Telecom Namibia Audited financial statements									

State-owned MTC is hugely profitable. Figures 4 and 5 below show that EBITDA margins are above 50% and return on equity between 28% and 47% making it a very profitable operator. This means that the shareholders of MTC get their money back every two to three years.

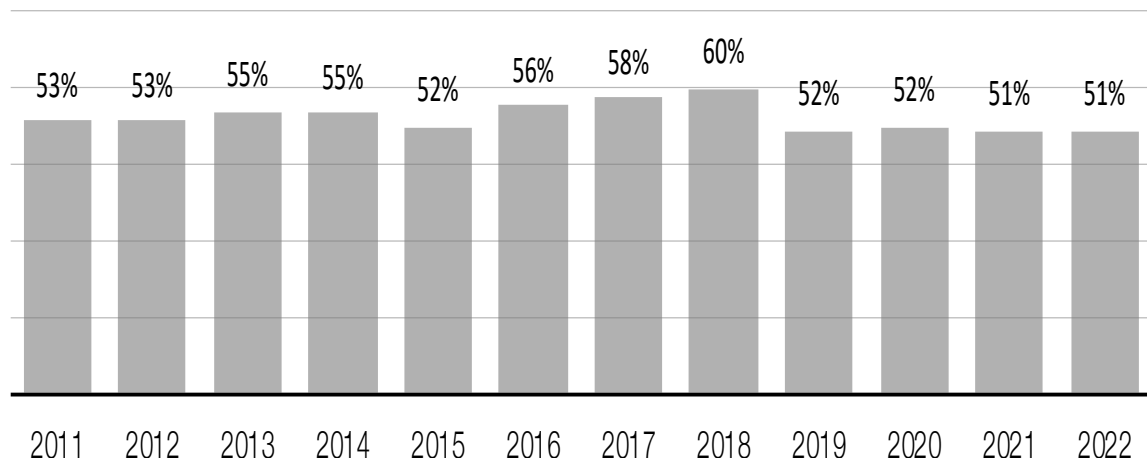


Figure 4: MTC's EBITDA Margin (Source: MTC AFS)

The above-normal market returns and lagging network investment is the result of a lack of competition. In competitive markets, mobile operators have to either compete on price or on the quality of service in order to gain market share or defend their market position. A lack of competition means that operators can get away with a poor quality of service and high prices, allowing them to extract high profits. This is reflected in above average EBITDA margins and returns on equity.

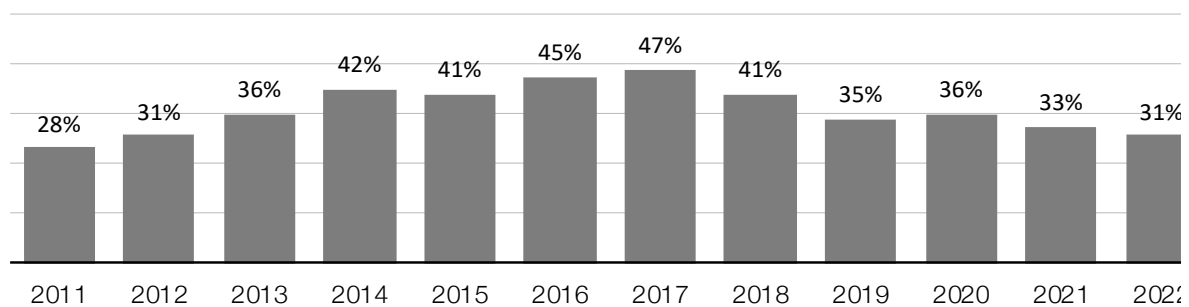


Figure 5: MTC's Return on Equity (Source: MTC AFS)

Sixteen (16) countries in Africa had faster average broadband speeds than Namibia in 2022. The average download speed in South Africa is three times the speed of Namibia. In SADC, Botswana, South Africa, Lesotho, Seychelles, Tanzania, Madagascar and Mauritius all had faster broadband services than Namibia.

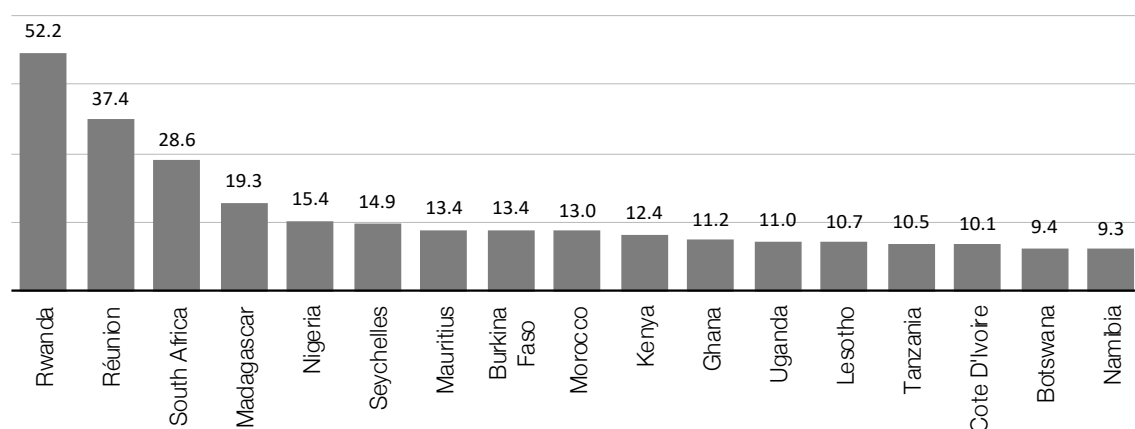


Figure 6: Speed ranking in Mbps 2022³

³ <https://www.cable.co.uk/broadband/speed/worldwide-speed-league/> 30 June 2022

Namibia's ICT sector is characterised by state ownership and insufficient competition. This has resulted in insufficient investment in last-mile connectivity, most notably mobile 4G broadband, low quality of service and high end-user prices. Prices will be analysed in the next section.

4. Comparing Data Prices

The price analysis is mostly based on prepaid prices because the majority of Namibians use prepaid products. Prepaid products with varying validities are made comparable by calculating the monthly cost. Unlimited data packages are capped at 200GB per month.⁴ Three different methods are used to benchmark Namibia's broadband prices against other African countries

- Ranking countries based on monthly usage baskets: This metric is used to analyse price developments to compare the cheapest products available for a 1GB usage over the period of 30 days. All products for an operator are priced for monthly usage. A product with 7 days validity is divided by seven and multiplied by 30 to get to a monthly price and monthly bundled SMS, minutes and data. The product with the cheapest monthly cost for a given usage, 1GB in this case, is used for the comparison.
- Ranking Namibia's mobile operators: The 1GB and the 20GB per month usage baskets are used to rank all mobile operators in Africa. The cheapest product from an operator for the respective baskets are used for this comparison.
- Ranking Namibia's products: The ranking by product is not based on usage baskets but on the implied price per GB. The product price is converted into US Dollar and then divided by the bundled unconditional GBs. Conditional data dedicated for specific applications such as WhatsApp or streaming was included in a separate calculation, where the product price is converted into US Dollar and then divided by the combined bundled conditional and unconditional GBs.

Ranking countries based on monthly usage baskets

After being static and even increasing, Namibia's broadband prices have finally come down in the first quarter of 2023. Figure 7 displays the price of the cheapest product for 1GB data per month from MTC and TN Mobile. MTC and Telecom Namibia released new products and promotions dropping the lowest price for a 1GB monthly usage basket considerably.

MTC's cheapest product for the 1GB basket is now the Yo Data S, which costs NAD 15 per week and comes with 500MB. Per month, users get 2GB for about NAD 74 including VAT.

Telecom Namibia reduced its prepaid top-up rates. 1GB per month costs now NAD 15 excluding VAT, or NAD 17.25 including VAT. The price drop was a result of the public consultation held by CRAN at the beginning of 2023. This was similar to the price consultations in South Africa that led to voluntarily lower prices by the big mobile operators Vodacom and MTN in 2019.

⁴ For the cost calculations the caps are 3GB per day, 21GB per week and 90GB per month.

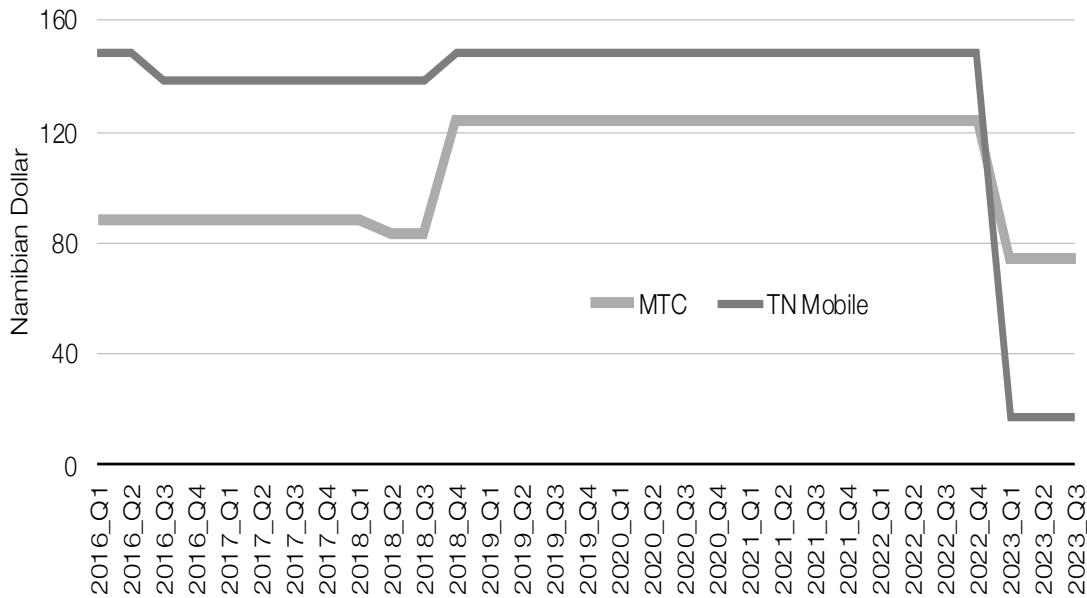


Figure 7: Lowest price for 1GB prepaid per month prepaid in NAD

Insufficient competition is not an absolute number of mobile operators in a market. A country with two mobile operators (duopoly) may have a higher level of competition than a country with four or more operators (oligopoly), depending entirely on the market conduct of the operators in the market. When both mobile operators are owned by the same shareholder, it is unlikely to result in a competitive outcome. In Namibia that is the case, the state is owning and or controlling both. While it may appear at times that MTC and TN are competing fiercely, at other times they work together. An example for this is when MTC and TN excluded third parties from dark fibre access from Nampower for a period of two years. Also political pressure has been documented, for example, in the case of matching each others marketing campaigns.

South Africa has insufficient competition despite four national mobile operators. Vodacom and MTN are the largest MNOs. The South African Competition Commission found that price-based competition in the data-services market was inadequate and that Telkom and Cell C “are unable to effectively constrain the two first-movers (MTN and Vodacom)”⁵. ICASA’s inquiry into mobile broadband services found that data prices are too high. Also, the Competition Commission of South Africa found that data prices are excessive and forced Vodacom and MTN to lower their prices in 2019.

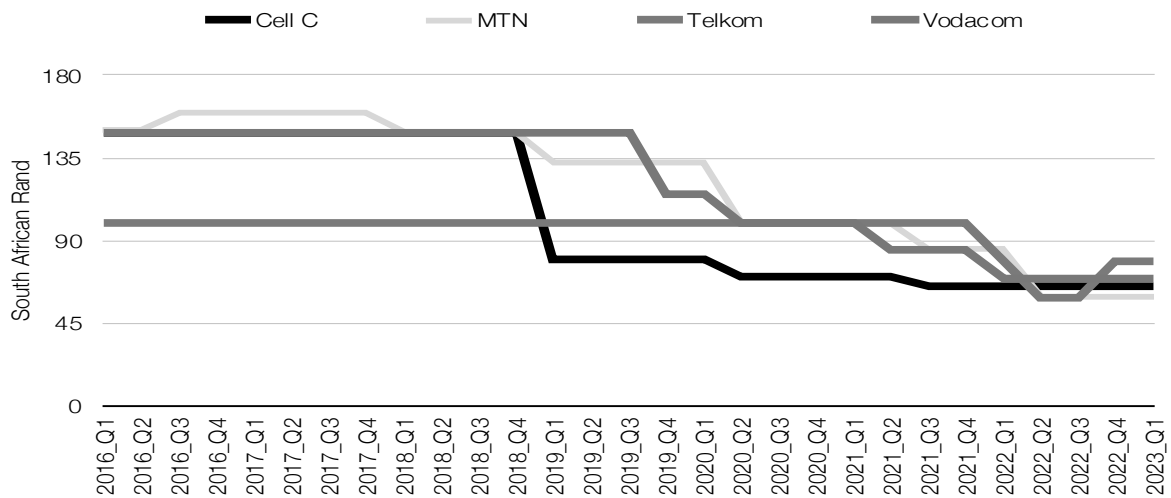


Figure 8: Lowest price for 1GB per month prepaid in ZAR

⁵ Competition Commission, 2019. Data Services Market Inquiry Final Report, section 19.

The lack of competitive pressure in Namibia led to higher, not lower broadband prices until 2023 Q1, contrary to global trends. MTC's price of 1GB prepaid data per month increased by 41% between Q1 2016 and 2022 Q3 while operators in Botswana, Zambia, Mozambique and even South Africa decreased their prices significantly during the same period (as shown in Figure 9 below). The price reductions in 2023 Q1 changed that picture drastically and TN mobile is now one of the operators with the largest price reductions since 2016 Q1 (Figure 10).

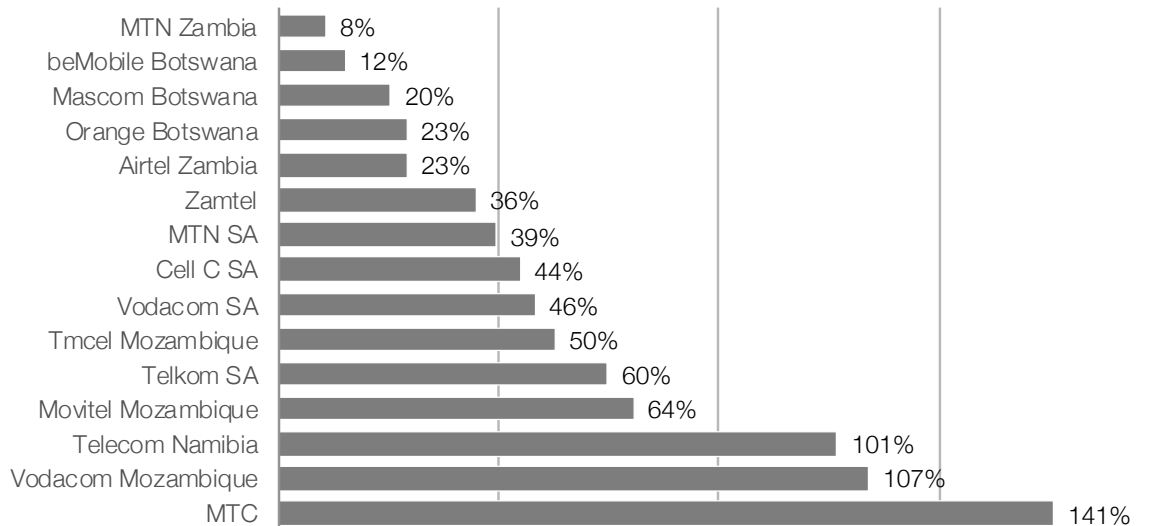


Figure 9: Lowest price in local currency in 2022 Q3 expressed as % of 2016 Q1 price for 1GB per month prepaid (Source: RIS)

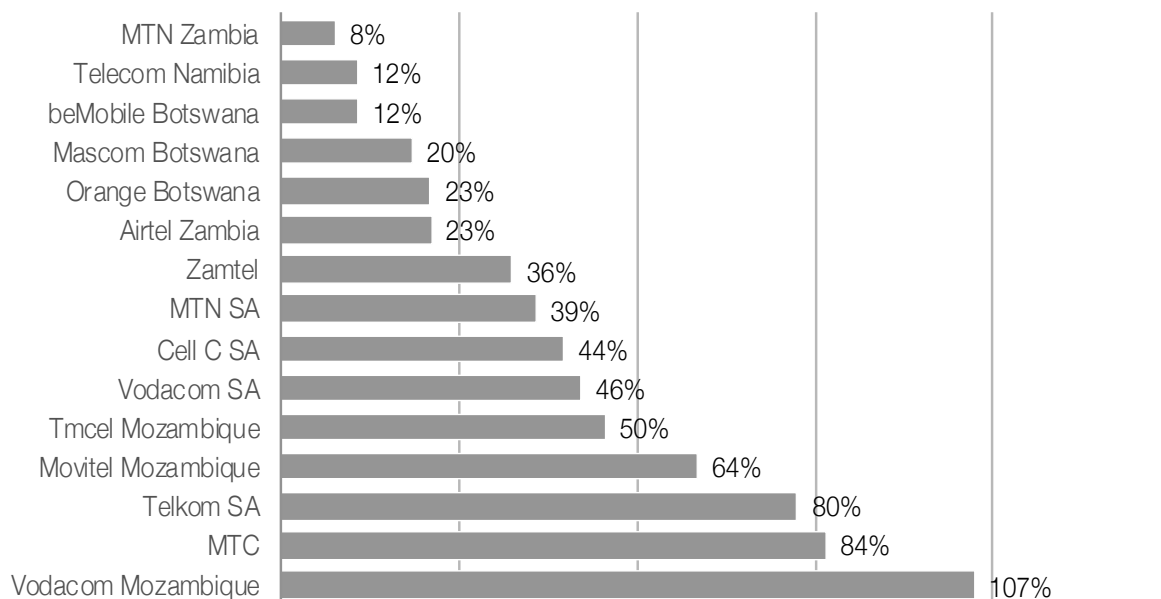


Figure 10: Lowest price in local currency in 2023 Q1 expressed as % of 2016 Q1 price for 1GB per month prepaid (Source: RIS)

Namibia jumped in the African Affordability ranking from 46th cheapest in Q1 2022 to the 8th cheapest country in Q1 2023 for 1GB per month. Namibia is again in the competitive field, the top one third of African countries.

Table 10: Namibia's Ranking for cheapest mobile prepaid data product in Africa

	100MB	500MB	1GB	2GB	5GB	10GB	20GB
2016_Q1	8	16	14	8	4	6	6
2017_Q1	15	24	23	18	14	15	16
2018_Q1	20	37	31	26	19	23	25
2019_Q1	24	44	44	34	24	28	32
2020_Q1	26	44	45	37	27	21	17
2021_Q1	29	44	47	41	33	27	20
2022_Q1	31	47	46	43	34	26	18
2023_Q1	20	11	8	14	20	24	15

Fourteen countries were cheaper in Africa than Namibia for the 20GB months usage and 23 countries for the 10GB basket. Namibia ranked 11th for the 500MB per month in Africa. **Ranking Namibia's mobile operators**

TN Mobile's rank in Africa has improved considerably as of Q1 2023 for a 1GB basket. In comparison, in Q2 2022, TN Mobile ranked 145th and MTC was ranked 136th in Africa. By Q1 2023, MTC was 97th and TN Mobile was 12th. For the 20GB basket, MTC ranked 97th in Q2 2022 and 91st in Q1 2023. TN Mobile's ranking for the 20GB monthly usage improved from 46 to 28th position in Q1 2023 (Table 11).

The price ranking data is from Research ICT Solutions, which only tracks national mobile operators. UCOM and Paratus are not offering national mobile services yet. Local operators may be cheaper than national operators since they can simply pick the most profitable areas for their services and do not need to provide road coverage, for example. To allow for a fair comparison, the ranking thus only includes national operators.

Table 11: Ranking of MTC and TN mobile out of 160 Mobile operators for cheapest product

Usage Basket USD		2022 Q2		2023 Q1	
		MNO Ranking	USD	MNO Ranking	
MTC	1GB per month	7.95	136	4.17	97
	20 GB per month	22.65	97	19.88	91
TN Mobile	1GB per month	9.64	145	0.97	13
	20 GB per month	13.25	46	9.02	28

Ghana and Nigeria are useful countries to compare to Namibia because they have two very different business models, even though both are run by MTN. MTN Ghana runs a high-volume, low-price business model. MTN Ghana is particularly cheap for lower usage per month. Its 100MB and 500MB baskets are the cheapest in the comparison in Table 12. MTN Ghana has a respectable EBITDA margin of 55%, even higher than that of MTC. Its average monthly data use for active data users is also high at 7.7GB. MTN Nigeria has a lower usage of just 6.5GB per active user and a slightly lower EBITDA margin of 53%. MTC is at the opposite end of the affordability spectrum and is the most expensive operator in this comparison, and also the one with the third highest EBITDA margin. This shows that both the low-end and the high-end business models can be successful, only that the high-price business model comes at a cost to the consumers and the economy.

Table 12: MTC compared to selected MTN operations in Africa for Q1 2023 in USD

Operator	100MB	500MB	1GB	2GB	5GB	10GB	20GB	EBITDA Margin	MB per active user
Ghana MTN	0.17	0.41	0.75	1.24	2.99	5.97	11.95	56%	7,733
Rwanda MTN	1.85	1.85	1.85	1.85	4.61	7.91	9.23	50%	2,737
Zambia MTN	0.44	0.44	0.44	0.66	1.30	2.63	5.15	26%	4,332
Nigeria MTN	1.12	1.12	2.18	2.62	5.45	6.54	10.90	53%	6,500
South Africa MTN	1.13	3.33	3.33	3.33	8.40	8.40	11.22	39%	4,009
Namibia MTC			4.35					51%	10,475
Sources	Research ICT Solutions							AFS 2022 MTN & MTC CRAN Portal	

Ranking Namibia's products

Ranking Namibia's prepaid and postpaid products in Africa is another way to understand how Namibia compares. Table 13 examines prices of MTC based on the price per GB for each of its products and the ranking of MTC's products among 2,975 products that Research ICT Solutions tracks for Africa. MTC's cheapest product in terms of USD per GB is the postpaid 125GB per month. At a cost of USD 0.43 per GB it was ranked at the 297th cheapest product in Africa as of Q1 2023. In terms of prepaid, 2,461 products were cheaper than MTC's Aweh Oka. The ranking changes slightly when bundled conditional data such as social media data are taken into account.

Table 13: MTC Prices divided by bundled GB - Ranking out of 2975 products for Q1 2023

Products	Bundled unconditional data in GB per month	Bundled conditional data (social media eg) in GB per month	Unconditional data		All data (incl. SM)	
			Cost per GB in USD	African Ranking	Cost per GB in USD	African Ranking
125GB per month	125.0	-	0.43	297	0.43	366
Aweh YoData 30	18.0	-	0.78	654	0.78	757
Aweh o Yeah	12.9	-	0.79	660	0.79	764
Aweh o Yeah	12.9	4.3	0.88	770	0.66	649
Aweh YoData L	21.4	-	0.89	773	0.89	862
Aweh YoData ultra	15.0	-	0.94	833	0.94	919
Aweh Super	12.9	3.0	1.00	899	0.81	787
Aweh o Yeah	12.9	12.9	1.00	901	0.50	441
Aweh YoData M	8.6	-	1.10	998	1.10	1,066
Aweh o Yeah	4.3	-	1.42	1,243	1.42	1,307
Aweh o Yeah	12.9	-	1.49	1,301	1.49	1,362
20GB per month	20.0	-	1.49	1,302	1.49	1,363
Aweh YoData S	2.1	-	1.69	1,465	1.69	1,533
Aweh Gig	4.3	2.1	1.80	1,512	1.20	1,135
15GB per month	15.0	-	4.02	2,177	4.02	2,224
Select Premium	10.0	2.0	5.07	2,320	4.23	2,270

Products	Bundled unconditional data in GB per month	Bundled conditional data (social media eg) in GB per month	Unconditional data		All data (incl. SM)	
			Cost per GB in USD	African Ranking	Cost per GB in USD	African Ranking
3GB per month	3.0	-	6.64	2,462	6.64	2,504
Select Pro	5.0	1.0	7.88	2,569	6.57	2,502
1.5GB per month	1.5	-	8.84	2,622	8.84	2,649
Aweh Prime	0.9	0.9	9.02	2,625	4.51	2,308
Select Super	3.0	0.5	9.38	2,638	8.01	2,611
800MB per month	0.8	-	9.80	2,651	9.80	2,670
Select Go	0.5	0.1	10.91	2,688	9.12	2,654
Select Up	1.5	0.3	11.24	2,694	9.37	2,661
400MB per month	0.4	-	11.99	2,708	11.99	2,719
Aweh YoVoice L	1.5	-	12.73	2,718	12.73	2,729
Aweh YoVoice 30	1.0	-	14.04	2,741	14.04	2,752
80MB per month	0.1	-	14.10	2,743	14.10	2,754
Aweh Go	0.2	0.2	14.66	2,756	7.33	2,564
Aweh YoVoice M	0.6	-	14.66	2,757	14.66	2,765
Aweh YoVoice S	0.21	-	16.92	2,795	16.92	2,801
40MB per month	0.04	-	18.33	2,805	18.33	2,810
Aweh Oka	0.20	0.2	19.74	2,825	9.87	2,675
Note	MTC's prepaid products include five Aweh O'Yeah baskets using minimum SMS and voice allocations and vary by selected data that is being bundled.					

Telecom Namibia prices are more competitive than MTCs in Africa. The unlimited lite postpaid product is ranked 60th in Africa. The cheapest prepaid package, unlimited data for 14 days is ranked 82nd in Africa and the 14 Day Jiva Explore is ranked 99th in Africa, as of Q1 2023.⁶

Table 14: TN Prices divided by bundled GB - Ranking out of 2975 products for Q1 2023

Products	Bundled unconditional data in GB per month	Bundled conditional data (social media eg) in GB per month	Unconditional data		All data (incl. SM)	
			Cost per GB in USD	African Ranking	Cost per GB in USD	African Ranking
Unlimited lite	200.0	-	0.15	60	0.15	116
Unlimited for 14 days	200.0	-	0.19	82	0.19	139
14 Day Jiva Explore	64.3	6.4286	0.21	99	0.19	147
80GB lite	80.0	-	0.22	108	0.22	166
Unlimited per month	200.0	-	0.23	110	0.23	168
31 Day Jiva	48.4	-	0.24	118	0.24	176
40GB lite	40.0	-	0.25	126	0.25	184
Smartphone Gold Lite	200.0	-	0.28	153	0.28	215
Unlimited per week	200.0	-	0.29	158	0.29	220
Jiva supreme	42.9	8.5714	0.33	195	0.27	203
Unlimited per day	200.0	-	0.34	209	0.34	275
20GB lite	20.0	-	0.39	254	0.39	324
Jiva plus	21.4	4.2857	0.46	324	0.39	315

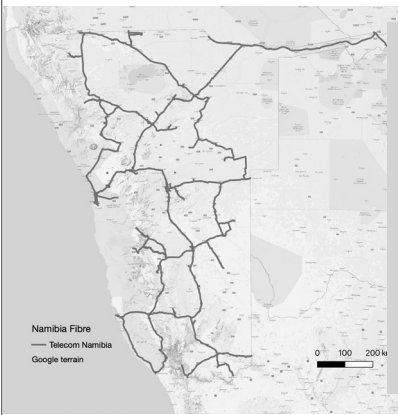
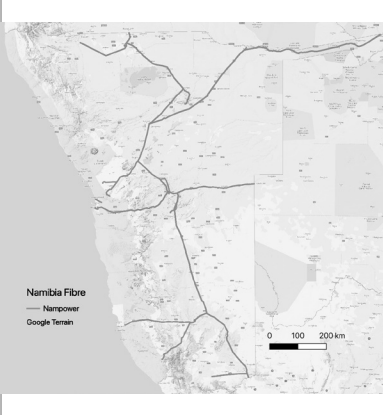
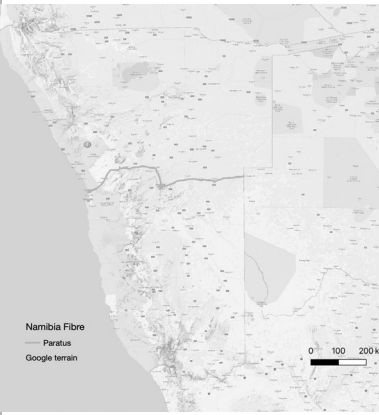
⁶ Research ICT Solution only tracks national mobile operators and did not capture the prices from Paratus or Ucom. A ranking for Paratus or UCOM for African products is thus not possible.

Products	Bundled unconditional data in GB per month	Bundled conditional data (social media eg) in GB per month	Unconditional data		All data (incl. SM)	
			Cost per GB in USD	African Ranking	Cost per GB in USD	African Ranking
100GB per month	100.0	-	0.54	394	0.54	480
Smartphone Elite Lite	50.0	-	0.67	559	0.67	661
Smartphone Plus Lite	30.0	-	0.69	570	0.69	671
30GB per month	30.0	-	0.71	591	0.71	692
20GB per month	20.0	-	0.76	637	0.76	738
Smartphone Flex Lite	20.0	-	0.78	649	0.78	751
5GB per month	5.0	-	0.78	653	0.78	755
10GB per month	10.0	-	0.78	656	0.78	759
30 Day Jiva streaming	10.0	40.0000	0.85	731	0.17	130
1GB per month	1.0	-	0.85	733	0.85	826
Jiva lite	4.3	-	1.02	919	1.02	1,001
Jiva surf	8.6	2.1429	1.30	1,136	1.04	1,009
Jiva	6.4	-	1.32	1,161	1.32	1,225
Smartphone Entry Lite	5.0	-	1.57	1,344	1.57	1,407
Note	Unlimited Night surfer (00H00-05H59) is not included in the calculation					

5. Wholesale prices for national data connectivity

One potential reason for high mobile broadband could be the high cost for national data connectivity. Telecom Namibia and NamPower have a dominant position in the market for national data transmission. Telecom Namibia has more than 65% market share and a national fibre network. NamPower was licensed in 2018 and is providing open-access services to all licensees since 2021. NamPower has a national fibre network but will only provide wholesale services to other licensees and does not provide end-user services like Telecom Namibia and Paratus. Paratus operates in four regions, and its fibre routes constitute less than 5.5% of total fibre routes.

Table 15: Fibre routes in Namibia (Source: CRAN)

Telecom Namibia	NamPower	Paratus
		
10,676 km	4,792 km	906 km
65.2%	29.3%	5.5%

The prices compared in this section are national POP to POP connectivity for carriers, mobile operators and ISPs.⁷ National Express Routes are Telecom Namibia's POP to POP connectivity services. Table 16 below displays Telecom Namibia's prices for three selected routes.

Table 16: Pricing for Telecom Namibia's National Express Routes

Routes	Features	km	STM1	Price in N\$ per Mbps per km
Windhoek - Buitepos	Unprotected	316	119,063	2.42
	Protected	316	156,906	3.19
Windhoek - Walvis Bay	Unprotected	396	114,181	1.85
	Protected	396	149,823	2.43
Windhoek - Southern Border	Unprotected	799	149,986	1.21
	Protected	799	218,752	1.76
Walvisbay to Buitepos (WACC to Eastern border)	Unprotected	709	137,536	1.25
	Protected	709	193,850	1.76

National Backhaul via the Trans-Kalahari Fibre (TKF) is also POP to POP bandwidth and excludes cross-connects and last-mile connectivity. This POP to POP service is available at the following locations: Walvis Bay, Swakopmund, Arandis, Usakos, Karibib, Brakwater (Dobra), Okahandja, Windhoek, Gobabis, Witvlei & Gobabis. A 2-year contract is discounted by 5%, a 3-year contract by 7% and a 4 to 5-year contract by 10%. Capacity on the TKF is unprotected.

Table 17: TKF pricing - STM1 national Fibre Service

From	To	Km	Price N\$ STM-1	Price in N\$ per Mbps per km
Walvis Bay	Swakopmund	37	110,000	19.12
Walvis Bay	Arandis	94.1	110,000	7.52
Walvis Bay	Usakos	181	110,000	3.91
Walvis Bay	Karibib	212	110,000	3.34
Walvis Bay	Okahandja	325	110,000	2.18
Walvis Bay	Brakwater	376	110,000	1.88
Walvis Bay	Windhoek	396	110,000	1.79
Walvis Bay	Gobabis	605	110,000	1.17
Notes:		Distances estimated based on road distance		

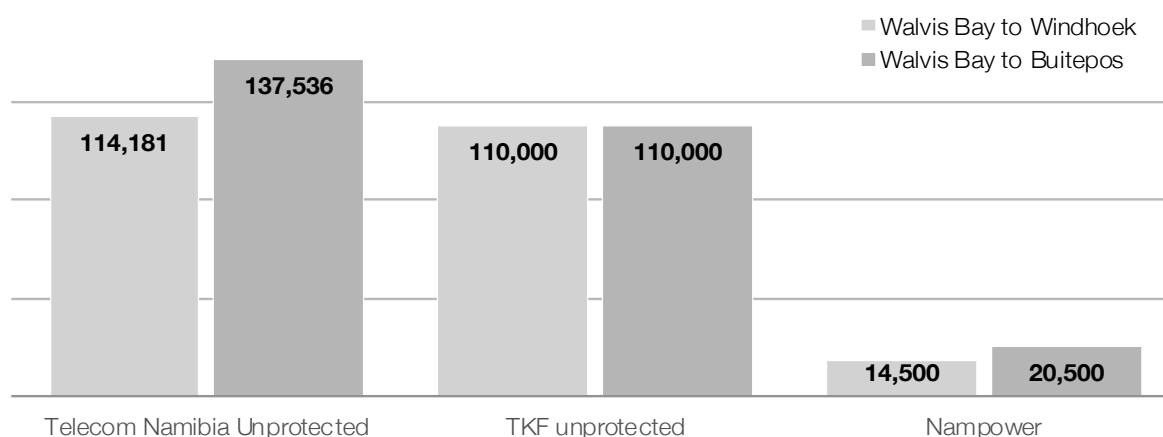
Nampower's pricing for national data connectivity is going to change the landscape for Namibia's ICT sector. Even the shortest distance for an STM-1 costs less than half of the longest distance of TKF in terms of price per Mbps per km at N\$ 0.44 compared to N\$ 1.17. The TKF is slightly cheaper than Telecom Namibia's National Express routes. Some of Telecom Namibia's largest customers are likely to switch to Nampower where possible, and thus benefit from significant cost savings. However, Nampower's fibre network is less than half of that of Telecom Namibia and a switch away from Telecom Namibia will not be possible for all routes.

⁷ POP = Point of Presence

Table 18: Nampower's national data connectivity pricing

Zone	Distance (km)			Line Rate Selling Price (NAD)				Price in N\$ per Mbps per km based on STM-1
	From	To	Mid point except for above 1500	STM-1	1 Gbps	10 Gbps	100 Gbps	
ZONE 0	0	250	125	8,500	34,000	170,000	850,000	0.44
ZONE 1	250	500	375	14,500	58,000	290,000	1,450,000	0.25
ZONE 2	500	750	625	20,500	82,000	410,000	2,050,000	0.21
ZONE 3	750	1000	875	26,000	104,000	520,000	2,600,000	0.19
ZONE 4	1000	1250	1125	32,000	128,000	640,000	3,200,000	0.18
ZONE 5	1250	1500	1375	37,500	150,000	750,000	3,750,000	0.18
ZONE 6	> 1500		1500	49,000	196,000	980,000	4,900,000	0.21
Source								CRAN 2021

Telecom Namibia could maintain its current pricing where they have a fibre monopoly but may lose all routes where they face competition. The other approach for Telecom Namibia would be to lower the cost for national data connectivity to the levels of Nampower. In that case, the quality of service would be the deciding factor for choosing the preferred supplier. Paratus would then also need to reduce pricing on the TKF to stay competitive.

**Figure 11: Cost per month of a STM-1**

For the Internet value chain it means that the national connectivity segment to the submarine cable is coming down in cost by about 83%. For the route from Walvis Bay to Windhoek for a STM-1, Nampower prices are only 12.7% of Telecom Namibia's prices. This means that mobile broadband prices will not be constraint by national data connectivity costs and should be expected to decrease.

6. Implied cost of providing mobile broadband

Whether mobile broadband prices are reasonable depends on the cost of providing mobile broadband services. This section estimates the implied mobile broadband cost. The cost per GB of mobile broadband is estimated based on MTC's audited financial statements (AFS) and information submitted by MTC to CRAN through its reporting portal. MTC is the closest to an efficient mobile operator and is also the only mobile operator in Namibia that predominantly provides mobile services. Telecom Namibia is predominantly a fixed-line and fibre backbone operator. It is, therefore, easier to allocate its expenses to mobile services.

MTC's expenses need to be allocated to service revenues for voice, SMS and data. For this purpose, the information submitted by MTC to CRAN through CRAN's reporting portal is used. The service

revenue is the sum of data, voice and SMS revenues. The share of data revenue as percent of service revenue was 60.7% for FY 2022 (Table 19). The voice revenue share was 32.7% and the SMS revenue share 6.6% for the same financial year. These revenue shares will be used to allocate MTC's expenses as recorded by its FY2022 to data, voice and SMS services. This is required to set a ceiling for mobile data prices and also to evaluate bundled SMS and minutes for Aweh and Jiva products.

Table 19: MTC's KPIs reported on CRAN Portal for financial years

	FY2020	FY2021	FY2022
Revenue mobile Data	1,340,984,654	1,446,853,461	1,465,237,890
Revenue Voice	742,426,423	800,238,832	789,670,382
Revenue SMS	189,445,024	150,752,782	158,446,045
Service Revenue	2,272,856,101	2,397,845,075	2,413,354,316
Data as % of Service revenue	59.0%	60.3%	60.7%
Voice as % of Service revenue	32.7%	33.4%	32.7%
SMS as % of Service revenue	8.3%	6.3%	6.6%
Mobile data traffic in GB	64,491,313	73,491,141	80,669,363
Voice traffic in minutes outgoing	7,080,049,559	8,039,459,198	8,404,808,009
SMS traffic outgoing	10,269,420,845	9,661,985,878	9,255,631,790
Effective GB price	20.79	19.69	18.16
Effective minute price	0.105	0.100	0.094
Effective SMS price	0.018	0.016	0.017

MTC's effective price per GB for the financial year FY2020 was NAD 20.8 and for FY2021 NAD 19.7, dropping to NAD 18.2 in FY2022. The effective price is calculated by dividing the data revenue by data traffic in GB. The price per minute was 9.4 Namibian cents and per SMS less than 2 Namibian cents for FY2022. While prices did not decline during this period, the in-bundle utilisation has likely increased.

Table 20: Allocating expenses to revenue streams based on MTC's AFS

		Unit	FY2020	FY2021	FY2022
Revenue and Profit	Total revenue	\$1000	2,683,274	2,799,135	2,893,000
	Prepaid usage revenue	\$1000	1,603,393	1,708,958	1,783,226
	Postpaid usage revenue	\$1000	167,513	139,642	123,322
	Postpaid subscription revenue	\$1000	441,171	447,058	436,770
	Service revenue (usage + subscription)	\$1000	2,212,077	2,295,658	2,343,318
		% of total		82%	82%
	Profit before taxes	\$1000	1,118,306	1,090,431	1,124,114
Full Cost Analysis	Full Cost (revenue - profit)	\$1000	1,564,968	1,708,704	1,768,886
	Attributable to service revenues	\$1000	1,290,151	1,401,361	1,432,790
	Data revenue share	%	59.0%	60.3%	60.70%
	Voice revenue share	%	32.7%	33.4%	32.70%
	SMS revenue	%	8.3%	6.3%	6.60%
	Data share of full cost	\$1000	761,189	845,021	869,704
	Voice share of full cost	\$1000	421,880	468,055	468,522
	SMS share of full cost	\$1000	107,083	88,286	94,564
	Traffic in GB	GB	64,491,313	73,491,141	80,669,363
	Traffic in minutes	minutes	7,080,049,559	8,039,459,198	8,404,808,009
	Traffic in SMS	SMS	10,269,420,845	9,661,985,878	9,255,631,790
	Full cost per GB	NAD	11.80	11.50	10.78
	Full cost per minutes	NAD cents	5.96	5.82	5.57
Full cost per SMS	NAD cents	1.04	0.91	1.02	

		Unit	FY2020	FY2021	FY2022
Direct Cost	Direct costs	\$1000	384,696	358,740	369,677
	Depreciation property, plant and equipment	\$1000	213,788	230,529	232,025
	Total direct cost	\$1000	598,484	589,269	601,702
	Attributable to service revenues (82%)	\$1000	493,387	483,278	487,376
	Data share direct expenses	\$1000	291,098	291,417	295,837
	Voice share of direct expenses	\$1000	161,338	161,415	159,372
	SMS share of direct expenses	\$1000	40,951	30,447	32,167
	Direct cost per GB	NAD	4.51	4.52	4.59
	Direct cost per minutes	NAD cents	2.28	2.28	2.25
	Direct cost per SMS	NAD cents	0.40	0.30	0.31

The next step is to link the data submitted by MTC to CRAN, via the portal, to its Audited Financial Statements (AFS), which include the expenses and revenues of MTC that enable CRAN to calculate the full costs and direct costs for MTC's operation. Full costs are derived by taking the total revenue minus profit before tax. The direct cost are estimated based on direct cost in the AFS plus depreciation of property, plant and equipment. Both cost measures are generous. The full cost includes the cost of debt and the direct cost includes many cost items that would not be recognised for a LRIC⁸ cost model.

MTC's AFS does not report on data, voice and SMS revenues separately. To check that the revenues from the CRAN portal are approximately accurate, postpaid and prepaid usage revenues are combined with postpaid subscriptions from the AFS to calculate service revenues from data, voice and SMS and compared to the figures submitted by MTC to the CRAN portal. Service revenues in the portal come to NAD 2.4 billion (Table 19), while estimated service revenues in the AFS come to NAD 2.34 billion (Table 20) for FY2022, a reasonably close approximation. The share of service revenue (around 81 - 82% for FY2020, FY2021 and FY2022) will be used to allocate expenses to services, i.e., voice, SMS and data services need to cover 81% of the total expenses of MTC.

Table 21: Full Cost per GB calculation for MTC

	FY2020	FY2021	FY2022
Full Cost Cost per GB	11.80	11.50	10.78
Cost + Profit margin of 25%	14.75	14.38	13.48
Potential retail price	15.00	15.00	15.00
Implied profit margin based on retail price	27.1%	30.4%	39.1%
MTC Implied price per GB for	20.79	19.69	18.16
Price reduction if potential retail price would be set as price ceiling	27.8%	23.8%	17.4%

Attributable expenses to services need to be further split and allocated to SMS, minutes and data services. This is done based on the information provided by MTC to CRAN through the portal. For the FY2022, data services are allocated 60.7%, voice services 32.7% and SMS services 6.6% of the attributable expenses. The assumption is thus that the expenses would be allocated as per the revenue allocation.

The calculations in Table 21 show that a reasonable price ceiling per GB would be NAD 15. It is a conservative price ceiling based on full-cost and an added 39.1% profit margin. This profit margin is well above the Weighted Average Cost of Capital (WACC), which would be an appropriate return. The price ceiling would be a 17.4% reduction over MTC's effective price per GB for the FY2022 of NAD 18.16 (from Table 19). A profit margin higher than WACC for a sector with high market

⁸ LRIC = long run incremental cost

⁹ The WACC for Namibian Breweries in comparison is below 15%: <https://finbox.com/NMSE:NBS/models/wacc/>

concentration is a red flag for a regulator.

Table 22: Direct Cost per GB calculation for MTC

	FY2020	FY2021	FY2022
Direct Cost per GB	4.51	4.52	4.59
Cost + Profit margin of 25%	5.64	5.65	5.74
Potential wholesale price	6.00	6.00	6.00
Implied profit margin based on wholesale price	33.0%	32.7%	30.7%
MTC Implied price per GB	20.79	19.69	18.16
Price reduction if potential retail price would be set as price ceiling	71.1%	69.5%	67.0%

The direct cost estimate may guide wholesale price regulation. It includes the direct costs and the depreciation of property, plant and equipment from MTC's audited financial statements. The implied cost per GB based on direct costs is NAD 4.59 for FY2022 (Table 22). A wholesale price cap of NAD6 would thus imply a profit margin of 30.7%.

Implications for Voice and SMS cost and prices

Namibia's ranking in Africa for voice and SMS usage declined from 15th in 2016 to 25th cheapest country in 2022. Figure 13 displays Namibia's ranking for the 30 call and 100 SMS OECD basket.⁹ MTC's out-of-bundle rates have not changed in the last decade.

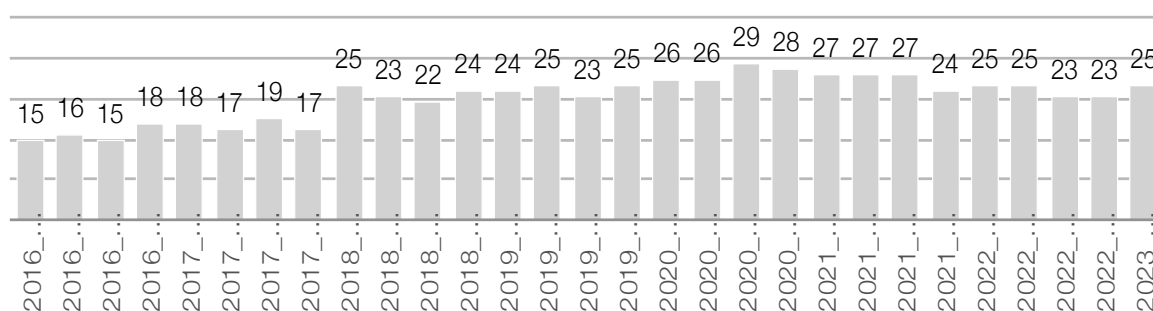


Figure 12: Namibia's African ranking for the cheapest product for the OECD Basket 30 calls 100 SMS

Table 23: MTC's OoB rates compared to implied cost

		OoB rate	Full cost FY2022	% of OoB rate
Prepaid	Data per GB (0.5 NAD per MB)	512	10.78	2.1%
	Voice per minute	0.99	0.0557	5.6%
	SMS	0.4	0.0102	2.6%
Postpaid	Data per GB (0.9 NAD per MB)	921.6	11.5	1.2%
	Voice per minute peak	1.2	0.0557	4.6%
	Voice per minute off peak	0.75	0.0557	7.4%
	SMS	0.4	0.0102	2.6%
Sources		https://www.mtc.com.na/prepaid/prepaidtariffs https://www.mtc.com.na/contract/tariffs/select		

MTC's out-of-bundle (OoB) rates can be dropped by 90% or more and MTC would still make a profit for each SMS, minute and MB. The results from Table 20 can also be used to assess out-of-bundle (OoB) rates for data, voice and SMS, which is captured in Table 23. The OoB rate per GB is NAD

⁹ The latest OECD basket definitions can be found here: https://www.oecd-ilibrary.org/docserver/64e4c18a-en.pdf?expire_s=1666195323&id=id&accname=guest&checksum=8F549BE298D081B30C0C4CB90353C501

512 compared to an implied full cost of NAD 10.78. The OoB rate per national minute is NAD 0.99 compared to an implied rate of NAD 0.06, for SMS it is NAD 0.4 to NAD 0.01.

7. Remedies

Namibia is falling behind in investment and affordability due to the lack of effective competition. The lack of competition is reflected in the increase in prices for the past 5 years by MTC (see Figure 7), when prices in all neighbouring countries have declined. While the public consultation process has already resulted in new products and lower prices, more may need to be done for long-term sustainable growth. There are two main approaches how competition can be increased; increase the number of private sector operators that compete based on their own infrastructure or regulate wholesale and or retail prices to protect consumers.

Option 1: A third national mobile broadband operator

CRAN's main challenge is to increase competition in the sector. It can do this by issuing a new license coupled with 5G spectrum and a national rollout obligation. This is the only intervention that would lead to a competitive sector in the medium - to long term. The aim here is to attract a foreign direct investment capable of investing N\$ 3 billion to be able to compete with MTC and Telecom Namibia. N\$ 3 billion is needed to establish 1,000 RAN sites to have a similar foot print that MTC currently has. For the private sector to be able to raise such fund domestically is unlikely and foreign direct investment may thus be the best option.

Option 2: Privatisation of Telecom Namibia and MTC

The Government of Namibia could privatize Telecom Namibia or MTC or both. What is more important than the share of private ownership is the private sector management control. Telecom Namibia and MTC were competing effectively during the time that MTC was under private-sector management. The competition was even more intense during the time when Telecom Namibia and MTC were competing with the privately-owned Leo¹⁰. With the state owning and controlling both, Telecom Namibia and MTC, competition will always be just muted. Effective competition requires different management styles and different ownership. Namibia can rekindle the previous success through two approaches, which can be pursued as alternatives or simultaneously:

- Selling a share of MTC and management control to a private investor: An Initial Private Offering (IPO) was completed in 2021 but MTC was not able to sell the 49% of their shares and the state has not given up management control of MTC. Currently, NPTH owns 60% of MTC's shares. These 60% could be sold to a private investor or operator group.
- Sell the mobile business of Telecom Namibia to a private investor, preferably an international operator group. A larger operator group would have the capital to modernise Telecom Namibia's mobile broadband network, expand its reach and compete with MTC by utilising economies of scale in access of international telecommunication equipment markets.

Option 3: Regulatory wholesale price ceiling

It is international best practice to priorities wholesale prices over retail prices for regulatory interventions.

Regulated wholesale prices may stimulate competition in various ways. Cost-based termination rates enable new entrants to compete with their off-net prices with the on-net prices of incumbent operators, for example.

¹⁰ See discussion in the last mile sector on who Namibia is falling further behind in broadband pricing and broadband network coverage. From one of the cheapest and best coverage to the lower half of African countries.

Regulated wholesale prices for mobile broadband could introduce competition in the retail broadband market through virtual mobile network operators and national roaming. Wholesale price caps may set the ceiling for active infrastructure sharing, for example. The wholesale price cap allows resellers to offer their clients broadband services using MTC's and TN Mobile's networks. They would be able to charge the wholesale price cap plus a mark-up.

Table 31: Glide path for a wholesale price ceiling

	Direct cost NAD	Year 1	year 2	year 3	Year 3 mark up per unit
Data per MB	0.00448	0.0132	0.0088	0.0059	31%
Data per GB	4.58998	13.50	9.00	6.0000	31%
National Voice	0.02250	0.0675	0.0450	0.0300	33%
SMS	0.00310	0.0090	0.0060	0.0040	29%

CRAN could enforce glide path for the wholesale price cap or decrease the wholesale price with immediate effect. The glide path has the advantage that CRAN can monitor the impact on the sector. The immediate enforcement allows competition to arise sooner.

While this does not increase infrastructure competition, it may make it easier for new entrants to enter into the market. Retail prices will naturally decline without any specific retail price enforcement through competition through resellers.

Option 4: Out of Bundles (OoB) Retail Prices

CRAN could also prescribe lower voice and SMS prices especially since many Namibians do not have access to smart devices to enable them to utilise broadband services. At the same time the Universal Access and Gap Analysis Study of 2021 indicated that the consumer spending in many of the country's rural areas are very low. Reducing voice and SMS tariffs should allow all Namibians to have access to telecommunication services at more affordable prices. Price ceilings for both voice and SMS can be on a 3-year glide path to allow operators to adjust product pricing.

Table 30: Glide path for an out-of-bundle price ceiling

	Current prepaid	Year 1	year 2	year 3	Full Cost NAD	Year 3 mark up per unit
Data per MB	0.50	0.10	0.05	0.0150	0.011	34%
Data per GB	512.00	102.40	51.20	15.36	11.50	34%
National Voice	0.99	0.75	0.50	0.25	0.0582	330%
SMS	0.40	0.30	0.20	0.10	0.0091	999%

Option 5: Regulatory retail price ceiling on data

A remedy that would not increase competition but reduce the negative impacts are retail price controls. Retail price controls are generally seen as a measure of last resort, as it limits mobile operators in the way they design their products. A price ceiling for mobile broadband data could be considered as a last resort to lower consumer prices and drive economic growth. A price ceiling of NAD 15 per GB exceeds the full cost of MTC by 39%. This would allow mobile operators enough room for validity and volume price discounts.

Lower prices may lead to increased usage and even increased revenues. A recent GSMA¹¹ study for Kenya estimated the demand elasticity to be -1.2, which implies that if prices drop by 10% that demand will increase by 12%. The exact demand elasticity for Namibia is not known but is likely to be even more elastic given the high prices and gross national income in Namibia compared to Kenya. A step by step approach with regulatory impact assessment is advisable for any retail price intervention.

¹¹ https://www.gsma.com/publicpolicy/wp-content/uploads/2020/03/GSMA_Mobile_taxation_in_Kenya_2020.pdf

It is important for a regulator such as CRAN to be conservative with its regulatory interventions to safeguard that the benefits outweigh the cost.

Using price ceilings to lower retail prices could be done in two stages and after each stage a regulatory impact assessment (RIA) is done. CRAN could first implement the full cost plus 39% mark-up ceiling and after a year of monitoring the impacts consider the full cost plus a mark-up for the Weighted Cost of Capital (WACC) as a ceiling. This would be a ceiling below NAD 15.

The next sections evaluates the impact of such a retail price ceiling for MTC, TN and Paratus.

Impact of NAD 15 Price Ceiling on products from MTC

All of MTC's data only products would need to be revised to comply with a NAD 15 per GB price ceiling. Price per GB varies from NAD 16 to NAD 325. The price at the higher end would only need to be reduced by 6% while others, such as the 40MB per month would need to be reduced by 95%. The price reduction for data products may mean that some will shift from Aweh bundles to monthly data packages.

Table 24 : MTC's data products

Product	Billing	Validity days	Bundled unconditional data GB	Price NAD excl. VAT	Price per GB in NAD	Above GB price ceiling?
Mobiz900	Postpaid	30	12	199.00	16.58	Yes
Mobiz1500	Postpaid	30	12	199.00	16.58	Yes
Mobiz900 Duet	Postpaid	30	12	199.00	16.58	Yes
Select XL	Postpaid	30	12	199.00	16.58	Yes
Duet L	Postpaid	30	12	199.00	16.58	Yes
Smartshare 600	Postpaid	30	12	199.00	16.58	Yes
Mobiz600	Postpaid	30	5	159.00	31.80	Yes
Mobiz600 Duet	Postpaid	30	5	159.00	31.80	Yes
Select L	Postpaid	30	5	159.00	31.80	Yes
Duet M	Postpaid	30	5	159.00	31.80	Yes
SmartShare 300	Postpaid	30	5	159.00	31.80	Yes
Mobiz300	Postpaid	30	3	119.00	39.67	Yes
Select M	Postpaid	30	3	119.00	39.67	Yes
SmartShare 200	Postpaid	30	3	119.00	39.67	Yes
Mobiz200	Postpaid	30	2	99.00	49.50	Yes
Select S	Postpaid	30	2	99.00	49.50	Yes
SmartShare 100	Postpaid	30	2	99.00	49.50	Yes
Mobiz100	Postpaid	30	1	50.00	50.00	Yes
15GB per month	Prepaid	30	15	1,069.00	71.27	Yes
3GB per month	Prepaid	30	3	353.00	117.67	Yes
1.5GB per month	Prepaid	30	1.5	235.00	156.67	Yes
800MB per month	Prepaid	30	0.8	139.00	173.75	Yes
400MB per month	Prepaid	30	0.4	85.00	212.50	Yes
80MB per month	Prepaid	30	0.08	20.00	250.00	Yes
40MB per month	Prepaid	30	0.04	13.00	325.00	Yes

Bundled products are a bit more complex to analyse due to the bundled minutes and SMS as well as bundled regular and social media data. The full cost per minute and SMS derived in Table 18 are used to give a value to bundled minutes and SMS. The price minus the bundled minute and SMS value is

calculated, which is then divided by the bundled GB, to derive the implied price per GB. Only two bundled products, Aweh Oka and Aweh Go, had implied GB prices above the NAD 15 per GB ceiling of the initial Aweh line-up.

Table 25: Impact of full cost price ceiling on Aweh products of MTC

	Oka	Go	Prime	Gig	Super
Bundled Data MB	20	50	200	1,000	3,000
Bundled Social media MB	20	50	200	500	700
Total GB	0.04	0.10	0.40	1.50	3.70
Bundled Minutes	20	50	350	100	700
Full cost per minutes	0.0582	0.0582	0.0582	0.0582	0.0582
Value of bundled minutes at full cost	1.19	2.98	20.86	5.96	41.71
Bundled SMS	50	150	700	700	1,500
Full cost per SMS	0.0091	0.0091	0.0091	0.0091	0.0091
Value of bundled SMS at full cost	0.52	1.56	7.30	7.30	15.64
Price excl VAT	7.0	13.0	32.0	32.0	53.0
Price minus minute and SMS value	5.3	8.5	3.8	18.7	-4.4
Implied GB price	132.17	84.57	9.61	12.49	-1.18

MTC recently introduced two bundle families, the Aweh YoVoice and the Aweh YoData. The voice bundles also include data and are all above the price ceiling of NAD 15. The YoData products the L, 30 and Ultra have an implied price per GB below the proposed price ceiling.

Table 26: Impact of full cost price ceiling on Aweh Yo products of MTC

	YoVoice				YoData				Ultra
	S	M	L	30	S	M	L	30	
Bundled Data MB	50	150	350	1,000	500	2,000	5,000	18,000	15,000
Total GB	0.05	0.15	0.35	1.00	0.50	2.00	5.00	18.00	15.00
Bundled Minutes	150	450	1,000	3,000	30	60	100	300	1,500
Full cost per minutes	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582
Value of bundled minutes at full cost	8.73	26.19	58.20	174.60	1.75	3.49	5.82	17.46	87.30
Bundled SMS	250	750	1,100	4,100	40	70	120	250	1,100
Full cost per SMS	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Value of bundled SMS at full cost	2.28	6.83	10.01	37.31	0.36	0.64	1.09	2.28	10.01
Price excl VAT	15.0	39.0	79.0	249.0	15.0	39.0	79.0	249.0	249
Price minus minute and SMS value	4.0	6.0	10.8	37.1	12.9	34.9	72.1	229.3	151.7
Implied GB price	79.90	39.90	30.83	37.09	25.78	17.44	14.42	12.74	10.11

MTC's Aweh O'Yeah is the most complex bundle to analyse in terms of the impact of the price ceiling. It allows a user to combine their own selection of data, SMS and voice to make up an individualised bundle that must cost at least NAD 25. The choices a consumer has are listed in Table 27. The data choices would be subject to the price ceiling and would need to be revised downward for most unrestricted data allocations and five WhatsApp data allocations.

Table 27: Aweh oYeah Consumer choices, with a minimum of NAD25 recharge required

VOICE		SMS		DATA			
Minutes	N\$	SMS	N\$	MB	N\$	Fair price based on NAD 15 per GB	Price reduction
30	4.50	500	1.77	100	2.60	1.5	42%
60	8.70	1000	2.90	200	5.00	3	40%
90	12.60	1500	3.60	300	7.30	4.5	38%
120	16.20	2000	4.10	400	9.30	6	35%
150	19.50			500	11.30	7.5	34%
180	22.60			600	13.10	9	31%
210	25.40			700	14.70	10.5	29%
240	28.10			800	16.20	12	26%
270	30.50			900	17.60	13.5	23%
300	32.70			1,000	18.90	15	21%
720	47.60			1,200	21.10	18	15%
				1,300	22.00	19.5	11%
				1,500	23.70	22.5	5%
				2,000	26.40	NA	NA
				2,500	27.64	NA	NA
				3,000	27.76	NA	NA

A blanket ceiling of NAD 15 per GB would mean that MTC would need to lower prices for most of its products.

Impact of NAD 15 Price Ceiling on products from TN mobile

Telecom Namibia adjusted its products in Q1 2023 to comply with the proposed price ceiling of NAD 15 per GB. The Smart Tablet Lite is the only data only product with a higher implied GB price. Among the postpaid products the Smartphone Lite Entry has a higher implied price per GB than the ceiling. The Java products are all within the ceiling.

Table 28: TN Mobile's data products

Product	Billing	Validity days	Bundled unconditional data GB	Price NAD excl. VAT	Price per GB in NAD	Above GB price ceiling?
100GB per month	Prepaid	30	100	949.00	9.49	No
30GB per month	Prepaid	30	30	379.00	12.63	No
20GB per month	Prepaid	30	20	269.00	13.45	No
5GB per month	Prepaid	30	5	69.00	13.80	No
10GB per month	Prepaid	30	10	139.00	13.90	No
1GB per month	Prepaid	30	1	15.00	15.00	No
Unlimited per day*	Prepaid	1	3	35.00	11.67	No
Unlimited per week*	Prepaid	7	21	205.00	9.76	No
Unlimited for 14 days*	Prepaid	14	42	269.00	6.40	No
Unlimited per month*	Prepaid	30	90	705.00	7.83	No
20GB lite	Postpaid	30	20	139.00	6.95	No
40GB lite	Postpaid	30	40	179.00	4.48	No
80GB lite	Postpaid	30	80	319.00	3.99	No
Unlimited lite*	Postpaid	30	90	549.00	6.10	No
Smart Tablet Lite	Postpaid	30	20	499.00	24.95	Yes

Product	Billing	Validity days	Bundled unconditional data GB	Price NAD excl. VAT	Price per GB in NAD	Above GB price ceiling?
Smart Tablet unlimited Lite*	Postpaid	30	90	549.00	6.10	No
Notes	**** 3GB per day assumed					

Table 29: Implied price per GB for TN Mobile Smartphone Lite products

	Entry	Flex	Plus	Elite	Gold
Bundled GB	5	20	30	50	90
Bundled Minutes	300	300	600	1,300	1,600
Full cost per minutes	0.0582	0.0582	0.0582	0.0582	0.0582
Value of bundled minutes at full cost	17.88	17.88	35.75	77.46	95.34
Bundled SMS	300	300	600	1,300	1,600
Full cost per SMS	0.0091	0.0091	0.0091	0.0091	0.0091
Value of bundled SMS at full cost	3.13	3.13	6.26	13.56	16.68
Price excl VAT	139.0	275.0	365.0	595.0	999.0
Price minus minute and SMS value	118.0	254.0	323.0	504.0	887.0
Implied GB price	23.60	12.70	10.77	10.08	9.86

Table 29: Implied price per GB for Jiva products of TN Mobile

	Jiva lite	Jiva	Jiva weekend	Jiva plus	Jiva surf	Jiva supreme	14 Day Jiva Explore	Jiva streaming	31 Day Jiva
Validity	7	7	3	7	7	7	14	31	31
Bundled data GB	1.0	1.5	5.0	2.0	2.0	10.0	30.0	10.0	50.0
Bundled social media GB		0.5		0.5	0.5	2.0	3.0	40.0	
Total GB	1.0	2.0	5.0	2.5	2.5	12.0	33.0	50.0	50.0
Bundled Minutes	100	130	200	250	200	200	300	50	1,000
Full cost per minutes	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582	0.0582
Value of bundled minutes at full cost	5.96	7.75	11.92	14.90	11.92	11.92	17.88	2.98	59.59
Bundled SMS	600	700	155	1,200	1,000	1,000	300	100	500
Full cost per SMS	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Value of bundled SMS at full cost	6.26	7.30	1.62	12.51	10.43	10.43	3.13	1.04	5.21
Price excl VAT	15.0	30.0	30.0	35.0	40.0	50.0	99.0	130.0	185.0
Price minus minute and SMS value	2.8	15.0	16.5	7.6	17.7	27.7	78.0	126.0	120.2
Implied GB price	2.79	7.48	3.29	3.04	7.06	2.30	2.36	2.52	2.40

Impact of NAD 15 Price Ceiling on products from Paratus

The data products of Paratus all have a per GB price that is equal or lower than the NAD 15 price ceiling.

Table 25: Paratus' data products Q2 2023

Product	Billing	Validity days	Bundled unconditional data GB	Price NAD excl. VAT***	Price per GB in NAD	Above GB price ceiling?
Twist Easy	Postpaid	30	30	300.00	10.00	No
Twist Delux	Postpaid	30	90	600.00	6.67	No
Limitless Lite*	Postpaid	30	70	399.00	5.70	No
Limitless extreme*	Postpaid	30	200	999.00	5.00	No
Infinity Lite 30 uncapped	Postpaid	30	90	599.00	6.66	No
Top up 1GB **	Postpaid	30	1	15.00	15.00	No
Geronimo 7	Prepaid	7	5	49.00	9.80	No
Infinity Lite 7****	Prepaid	7	21	249.00	11.86	No
Infinity Lite 14****	Prepaid	14	42	399.00	9.50	No
Infinity Lite 30****	Prepaid	30	90	749.00	8.32	No
Notes	* Once the FUP has been reached, speeds are throttled to 2 Mbps. **Higher top-ups have lower per GB rates. *** no VAT for residential subscribers **** 3GB per day assumed					

Summary

Option 1 is the most effective intervention to safeguard fair prices, optimal investment and quality broadband services. A third national operator would build out its own network, increasing last mile and middle mile capacity through Namibia. This will increase GDP growth, tax revenues for the state and bring new jobs for the ICT sector and the wider economy

Option 2 is the second most effective approach and increases private sector investment by replacing public investment. This means that the state receives a once-off lump sum instead of dividends. At the same time, a private sector driven ICT sector will grow faster and thus accelerate economic growth, job creation and tax revenues for the state. Option 2 can be combined with Option 1.

Both Option 1 and Option 2 are compliant with the explicit objectives of the Act No. 8 of 2009, section 2(i), to encourage private investment in the telecommunications sector.

Options 3, 4 and 5 mitigate the lack of competition by prescribing price ceilings. Option 3 is the international best practice choice in this regard. The principle is to intervene as little as possible and as much as necessary. Wholesale prices ceilings interfere less with an operator's ability to set retail prices than retail price ceilings. An example for mandated retail prices are electricity and water prices, where there is only one supplier.

Mandated wholesale prices are common throughout the world for termination rates, for example. Namibia recently reduced its voice termination rates to 5 Namibian cents per minute and SMS to 1 Namibia cent. Focusing on wholesale prices would increase competitive price pressure on dominant operators and likely lead to more cost based retail prices as well. A glide path for the wholesale data, SMS and minutes will allow CRAN to monitor and evaluate the impacts of the wholesale price ceiling.

Table 32: Summary

	Option 1	Option 2	Option 3	Option 4	Option 5
Intervention	3rd national operator	Privatisation on TN and MTC	Wholesale price ceiling through glide path	Retail price ceiling through glide path for out of bundle rates	Retail price ceiling through glide path for all products with data
Increased Infrastructure based competition?	Yes	Yes	No	No	No
Increased retail prices competition?	Yes	Yes	Yes	No	No
Mechanism	Infrastructure investment	Private sector efficiency	Price ceiling for infrastructure sharing and national roaming	Out of bundle rates are similar to in bundle rates and the poor are not required to buy time limited bundles.	Abuse of market power through high retail prices is curtailed.
Evaluation		2nd most effective and can be combined with Option 1	3rd most effective and can be combined with Options 1 and 2	Similar to Option 5 but less intrusive	Least effective and most intrusive

Option 4, a retail price ceiling for out-of-bundle rates (OoB) only, would yield the outcomes that CRAN is seeking with fewer limitations on the product design by mobile operators compared to a general price ceiling on all products containing data. OoB rates at NAD 15 a GB would allow consumers affordable broadband access without having to load any bundles. It would naturally lead to bundle prices that are cheaper than the OoB rates. Using a glide path for lower OoB rates would also safeguard that CRAN can monitor the market developments and adjust the price ceiling if necessary. A regulatory Impact assessment can be undertaken after each year.

Option 5, a retail price ceiling for all products with bundled data would limit the ability of operators to design products and is the most intrusive intervention. It should only be considered as measure of last resort.

8. Conclusions

This study demonstrated how competitive pressure within the national broadband sector was successively lowered by the takeover of LEO by Telecom Namibia and then the take-over of ownership and management by the state of MTC. The reduction in competition led to Namibia falling behind in African rankings. It also meant that Namibia fell behind its peers in terms of mobile broadband coverage, download speeds and mobile broadband prices. Voice and SMS prices are also still too high. Namibia used to be leading in Africa on all three aspects and was trailing behind in the lower half or even worst, until TN Mobile dropped its rates. Now Namibia is among the leading countries in terms of broadband affordability again.

Namibia's economic growth and job creation is held back by the lack of competition in the national mobile broadband market, the resulting higher usage prices and subsequently lower broadband use. The state owns and manages all national operators. A private sector operator typically reacts quicker to market trends, and when linked to international operator groups has access to human resources, capital and global equipment markets. MTC gave up these benefits when it was fully taken over by NPTH, which it turn belongs entirely to the state.

The best approach is to incentivise a 3rd national mobile operator owned and managed by the private sector. An incentive could be to tender a license internationally with attractive 4G and 5G spectrum

and a national rollout obligation.

The privatisation of Telecom Namibia and MTC should be perused at the same time.

In the short term, given the recent drop in retail prices from MTC, TN and Paratus, the best approach would be a glide path for wholesale prices. Should that not lead to lower retail prices a retail price ceiling should be considered for out-of-bundle rates. A retail price ceiling for all data products should only be considered as a measure of last result. A glide path may be used for the introduction of wholesale and retail price caps. This would allow CRAN also to monitor the impact of the price ceiling on the industry.

At the same time Namibia needs more infrastructure based competition and more private sector investment. Options 1 and 2 should be persuaded in parallel.

9. Comments and Reply Comments

Telecom Namibia 10 March 2023

Comment	Reply Comment
<p>We would like to know if the Regulator is relying on this provision for purposes of these engagements and if so, we request the regulator to advise on what the Regulator's intentions are in as far as the process at hand and regulations contemplated by section 53(20) are concerned. Is it the Regulator's intention to first obtain input into the study through these engagements and thereafter embark upon rule-making processes to consult all stakeholders? Is the input to be provided during this price expected to result in a binding regulation?</p>	<p>The input is to inform the study document, which will culminate a regulation in terms of section 53(20). Operators will still be afforded an opportunity to give written input to the draft regulations as part of the rule-making process.</p>
<p>TN is of the opinion that comparisons disclosed thus far, are not comparable, for example, Telecom Namibia is offering 1GB at N\$139 whilst MTC offers 800MB at N\$139, but CRAN accordingly ranked MTC as the cheapest operator for 1GB prepaid offer. The regulator should clarify this and also indicate what exchange rate was used in their study, as the tariffs are expressed in USS, which makes it difficult to verify the correctness of the data provided.</p>	<ul style="list-style-type: none"> • This is because the cheapest product per operator does not only include data top ups but it also includes bundles such as Jiva and Aweh. The average price per 1GB for Java and Aweh bundles is way below N\$139. • Recharging Java supreme four times, costs only NAD200 excluding VAT and gives 40GB.
<p>For the prepaid 20GB, Telecom's standard tariff is N\$1,049.00 expressed as US\$13.25, while MT's offering is limited to 15GB at N\$1,069, which is not accurate. However, TN was ranked as the cheapest, although not clear on what basis the comparison was concluded. The regulator is therefore requested to clarify how this comparison was done.</p>	
<p>We also request the regulator to provide more information on the benchmarking model applied. Were certain price basket standards used to determine the blended price levels for comparison purposes or did the Regulator compare packages and bundles on offer? Assumptions behind the analysis should therefore be shared with operators to validate the conclusions made. It is therefore important that a comprehensive view is established that considers or accounts for other markets that are being compared to the Namibian market.</p>	<p>Three measures were used to rank Namibia</p> <ol style="list-style-type: none"> 1. Cheapest product in country was used to rank Namibia within Africa. 2. Cheapest product per operator was used to rank Namibia's operators against African Operators. 3. Tables 14 and 15 rank each product 4. separately in terms of prepaid products in Africa. <p>Subheadings were added to the report to make this distinction more clear. Also explanatory paragraphs were added for each methodology.</p>

Comment	Reply Comment
<p>The regulator should consider the population density of Namibian markets and that distribution poses unique challenges for network rollouts. We are of the view that such non-consideration of the vastness and the population density of Namibia in the cost study also ignores the fact that distribution poses unique challenges for network rollouts. Having stated the aforesaid we remain of the opinion and highlight that the pricing structure should account for the low volumes in the Namibian market.</p>	<p>This is considered indirectly by comparing prices to expenses of operators, see table 20.</p>
<p>We differ from the Regulator's view that reduced price points will automatically lead to increased volumes because it is not always the case. If customers perceive voice minutes as an inelastic service, the demand will not necessarily increase, which will result in less overall revenue due to the lower price and no change in demand. The demand for a service increases or decreases depending on several factors, such as price, perceived quality, advertising spending, consumer income, consumer confidence, and changes towards substitute products or services. As it is, currently voice minutes are generally decreasing.</p>	<p>CRAN acknowledges that demand elasticities varies by product and also other factors such as income and age groups. Empirical evidence however show that lower prices tend to lead to an increase in usage.</p>
<p>Telecom Namibia would also like to highlight to the Regulator that the methodology of using MTC's data as a dominant operator with more coverage than anyone else in the market to calculate implied prices is unjust. The approach of using MTC's expenses and in turn allocating such expenses to data and voice services by using revenue as an allocation basis is flawed and will not yield accurate results given the circumstance of our Namibian markets. Each operator has its expenses, and it would be recommended that a formal and thorough study be conducted before such a ceiling could be set while taking the impact on each operator's revenue into consideration.</p>	<p>CRAN does not agree with this statement. Price regulation is to be based on the cost of an efficient operator. CRAN is of the view that MTC is the most efficient national mobile operator in Namibia.</p>
<p>The model proposed by CAN does not appear to be aligned with ITU standards. A proper cost study based on best practices for all operators should therefore be carried out for this important study.</p>	<p>CRAN does not agree. A top down approach based on audited financial statements is sufficient for this purpose.</p>
<p>It is therefore imperative in our view that the Regulator and the industry should first agree on the costing methodology and model to be used to conduct a comprehensive costing study that will inform price points for the price development glide path or to test if the proposed price points in the glide path are cost-oriented. The cost study should ideally be aligned with ITU cost allocation principles. The high-level approach used by the regulator on MTC data to define the current price points has not demonstrated the comprehensive and required cost allocation principles prescribed by ITU. A comprehensive cost study should be done taking into account data from all operators.</p>	<p>CRAN does not agree. It is international best practice to model the cost of an efficient operator, this includes ITU recommendations.</p>
<p>Lastly, we highlight to the regulator that TN has a business plan to realise for the next few years which is funded by external funds, and the proposed tariffs will be impacting TN's business plan for the financial years to come. Reducing TN revenues tariffs and revenues at this stage will limit the opportunity to re-invest back into the network.</p>	<p>This is noted. CRAN would like to invite Telecom Namibia to submit a detail impact assessment of the proposed price caps on its revenues and expenses.</p>

Paratus 28 February 2023

Comment	Reply Comment
<ol style="list-style-type: none"> 1. Paratus notes that based on the calculations set out in the price study the Authority concludes that a reasonable price ceiling per GB would be NAD 15. 2. In general Paratus submits that setting a price ceiling would not stimulate competition. 3. Below follow our comments relating to the calculation and the regulatory framework which must be considered when proposing price fixing. 	<p>The price ceiling aims to mitigate to some extent the negative impacts of a lack of competition.</p>

Comment	Reply Comment
<p>a. Analysis was done on MTC only. This skews the figures because MTC has an already established network that is installed and depreciated to a large extent. MTC has been dominant for the majority of its existence.</p> <p>b. A new network operator or developing operator expenses will have higher direct costs due to higher depreciation.</p> <p>c. Using a dominant operator's revenue skews the calculation and revenue is not an effective method for calculating a price if the operator has the majority of the market share without any relevant competition.</p> <p>d. A new network operator will need to buy spectrum on an auction basis which increases costs for at least 10 years. The high spectrum costs proposed by CRAN will not drive the Universal Access Fund.</p> <p>e. MTC and Telecom Namibia have enjoyed free backhaul on Nampower's network for many years on an exclusivity basis whilst a new operator must construct or rent backhaul from third parties which increases costs tremendously.</p> <p>f. Further to point e above, the costs for the majority of the backhaul used by MTC for over at least the past 10 years do not reflect in the financials and therefore also has an impact on the calculation.</p> <p>g. A new network operator will have to have a more aggressive marketing budget.</p> <p>h. Human resource costs are higher for new entrants that need to source skilled employees in a small market.</p> <p>i. MTC has had 20 years to roll out the network piece meal whilst generating revenue -resulting in a lower cost and the opportunity to build the network in areas that are not as lucrative as the ones they already dominate. A new operator will have much higher costs to roll out the network in one go to attempt to compete with the existing operators.</p>	<ul style="list-style-type: none"> • International best practice is to establish cost of an efficient operator. MTC is seen by CRAN as the most efficient national operator in Namibia. • CRAN agrees with Paratus that new entrants have higher costs and considers to enforce the price cap only for licensees that are dominant for the Wireless End-User Access market.
<p>j. Paratus urges the Authority to consult the Competition Commission to determine whether the proposed ceiling amounts to price fixing and anti-competitive behaviour.</p>	<p>A price ceiling does not constitute anti-competitive behaviour since licensees are still expected to compete on prices below the ceiling. It just does not allow any price to be above the ceiling. It is also not something a licensee does but the CRAN, hence it is not price fixing.</p>
<p>k. In terms of section 53 of the Communications Act, 2009, the Authority is empowered to accept or reject tariffs submitted by the operators. The Act does not empower the Authority to set tariffs.</p>	<p>Section 53(20) allow the Authority to prescribe limits on tariffs after rule-making</p>
<p>4. If the Authority is authorised to fix a price, Paratus suggests setting a minimum price to ensure that dominance is not used to undercut pricing and create price wars.</p>	<p>A price ceiling is set because prices for some products are higher than they would be in a competitive environment. The price ceiling aims to mitigate the impact of insufficient competition for the consumer.</p>
<p>5. The Authority would better address the pricing concerns by making it more viable for a 3rd independent non-state owned operator to enter the market. If the dominant players had proper competition, market forces would have driven the pricing down automatically. By setting a maximum price ceiling it will do exactly the opposite and pose a barrier to a new entrant and the current dominant player will retain its position.</p>	<p>CRAN agrees that actual competition is the preferred outcome, as stated in the report.</p>
<p>6. New entrants rely on CRAN to ensure that there are limited barriers to entry and that beneficial competition is created, not price fixing.</p>	<p>CRAN would like to encourage Paratus to heighten barriers to market entry that can be lowered by CRAN.</p>

The comments made by MTC at the stakeholder engagement held on 18 November 2022 were incorporated in the document.

MTC Response 5 October 2023

Comment	Reply Comment
MTC does not agree with the Regulator’s approach that operators must “demonstrate why the N\$15 per GB is not reasonable”, as MTC is of the view that there shouldn’t be a retail price cap set at all. A regulator conducts a price study for one of two reasons; either to foster competition within the market or to lower prices.	The price cap discussed in the CRAN study aim at lowering prices.
The International Telecommunications Union (ITU) Costing Methodology referred to by the Regulator, does not consider retail price regulation but rather wholesale price regulation. Retail price regulation is simply not mentioned, because it is not best practice.	It is not clear what ITU study MTC is referring to. The ITU 2020 paper measure the impact of ICT sector growth: <ul style="list-style-type: none"> • https://www.itu.int/en/ITU-D/Conferences/GSR/2020/Documents/ITU_Global_Econometric_Modeling_GSR-DiscussionPaper.pdf ITU retail price baskets can be found here: • https://www.itu.int/en/ITU-D/Statistics/Pages/definitions/pricemethodology.aspx ITU publication on retail prices include: • https://www.itu.int/ITU-D/projects/ITU_EC_ACP/hips-sa/docs/118_Pricing_Policy_Guidelines_Ax.3.pdf • https://www.itu.int/ITU-D/treg/Documentation/Infodev_handbook/4_price.pdf On cost accounting models including top-down models: <ul style="list-style-type: none"> • https://www.itu.int/ITU-D/finance/Studies/Regulatory_accounting_guide-final1.1.pdf
It is industry best practice for licensees to have low-data volume and high-data volume bundles. Low-data volume packages are often taken up by consumers that have basic phones or feature phones, that often connect to the internet via 2G or 3G networks (if at all). By setting a maximum charge and eliminating low-volume, higher priced products, the Regulator risks low-data-volume subscribers disconnecting from mobile services due to affordability constraints, since they would not be able to afford the higher volume, lower price per unit products. The Regulator’s approach thus stifles innovation in price and package design and limits the ability of consumers to purchase services they can afford	The price cap leads to the lower segment of usage to pay less not more. Mobile operators can still offer low volume baskets below the price cap. See eg the prices of Telecom Namibia (https://www.telecom.na/tn-mobile/prepaid-plans/149-prepaid-data-bundles).
The proposed retail price cap will not promote competition as intended by the Regulator and will instead have the opposite effect of stifling competition and innovation within the industry.	The intent of lowering prices is to mitigate the impact of the limited competition in the telecommunications sector.
MTC approached an economics analyst firm by the name of Acacia Economics Pty (Ltd). A reputable firm that has done extensive work with the Independent Communications Authority of South Africa (ICASA), whose full opinion is hereto attached. Kindly receive this as MTC’s submission to the Price Study.	The Acacia response does not raise any new issue which has not already been discussed in the price study and lacks in understanding of what price baskets are and how they are used for regulatory purposes. The lack of necessary economic or accounting expertise together with wrong-premises and calculation mistakes renders the Acacia opinion as not credible.

Acacia report 3 October 2023

MTC submitted on 5 October 2023 a report titled: “Comments on CRAN’s costing study on mobile data”, compiled by Ryan Hawthorne, Sha’ista Goga, Rahma Leuner, Megan Friday, Zubair Patel.

The Acacia response does not raise any new issue which has not already been discussed in the price study and lacks in understanding of what price baskets are and how they are used for regulatory purposes. The lack of necessary economic or accounting expertise together with wrong premises and calculation mistakes renders the submission as not credible.

CRAN reiterates what it has written in the report, that it sees retail price caps as a measure of last resort and that all options remain on the table and that all options will be analysed in great detail before a decision will be reached.

Reply comments for the Introduction

Paragraphs 1 - 2: The study released by CRAN has the title: “Price Study for Data, Voice and SMS”. This is important since this study is a price not a cost study. The top-down cost evaluation is only used to estimate the aggregated impact of price caps on the profitability of licensees.

Paragraph 3: The CRAN study finds that a price cap of NAD 15 per GB would not adversely affect licensees financially. If licensees do not agree with this assessment they are being afforded the opportunity to provide cost data to demonstrate that the price cap is below cost. Affording licenses to contest findings of the Authority should not be surprising but expected as best practice.

Reply comments to section 2 - Comments on CRAN’s cost model

Paragraphs 5 - 6: The CRAN study considers WACC: “This profit margin is well above the Weighted Average Cost of Capital (WACC),” The 39.1% mark-up over costs is not arbitrary but the result of the price cap of NAD 15 per GB. MTC’s implied WACC is 6.7%, based on audited financial statements for 2022. The resulting profit margin of 39.1% is a very conservative allowance, accounting for the limitations that come from only having used to Top Down model to analyse the impacts of a price cap. A bottom up LRIC model would be more precise of course, however CRAN did not issue a cost study but a price study. Licensees are invited to submit any Bottom up LIRIC studies that they may have conducted to CRAN and CRAN will take them into consideration. The return of equity, asset turnover, profit margin and financial leverage are assessed in each of the CRAN Market Reports, available on its website.

Paragraph 7: CRAN disagrees on the comment. All calculations are transparent and can be replicated by licensees. It is important to keep the reason for the calculations in mind. This is not a cost study. Also WACC is not difficult to determine.

Paragraph 8: CRAN disagrees on the comment. Cost models in the telecommunication sector are based on the most efficient operator not the most expensive one.

Paragraph 9: CRAN views MTC as the most efficient national mobile operator in Namibia.

Paragraph 10: CRAN responded to the comments of Paratus separately which is available as part of the study.

Paragraph 11: Enforcing the price cap for dominant operators only was discussed in the report. The CRAN study was released and hearings held to solicit feedback from licensees. The final regulation will take comments and submitted data and analysis into account.

Paragraph 12: The study will inform a decision, it is not yet a decision. No draft or final regulations have been published.

Paragraph 12.1: Acacia ought to consider the context of the Namibia ICT sector and not argue from a theoretical perspective. Retail price regulation is a last resort, and regulating wholesale prices would be always first considered as mentioned in the study. The chances of seeing MTC and Telecom Namibia majority owned and managed by the private sector in the short to medium term is low. Acacia is also undoubtedly aware of the litigation regarding infrastructure sharing that is on going.

Paragraph 12.2: The Acacia report should have taken consideration of the prices on the websites of Paratus. Their products are below the NAD 15 per GB price cap. Same for Telecom Namibia.

Paragraph 12.3: The Acacia report should have considered CRAN’s latest market report and dominance declaration: *Government Gazette*, 2 February 2021, No 7447. Both MTC and Telecom Namibia are dominant for the market of wireless end-user access.

Paragraph 13: CRAN responded to Telecom Namibia's response separately which is available as part of the study.

Paragraph 14: Telecom Namibia's and Paratus' prices are already compliant with the price cap.

Paragraph 15: MTC is seen by CRAN as the most efficient operator. All licensees are invited to submit cost information to CRAN if it is deemed that the price cap is too low. This was agreed at the meeting held on 5 September 2023 at CRAN where the licensees were invited to submit their costing information. Telecom Namibia's and Paratus' retail prices are already compliant with the price cap.

Paragraph 16 - 18: The study is a price study not a cost study. Using revenues as a key to allocate cost is not uncommon for top down cost calculations. Licensees are welcome to submit their LIRC cost results to CRAN for consideration.

Paragraph 19: The difference between Group and Company financials is very small for MTC. CRAN typically uses Company. CRAN welcomes any licensees to share their cost calculations. USSD traffic is indeed not captured by the CRAN portal, while zero rated SMS are supposed to be reported by licensees.

Paragraph 20: CRAN is glad to hear that its calculations are similar to the internal calculations of MTC.

Paragraph 21: The study is a price study not a cost study. The implied profit margin is above WACC. CRAN is thus confident that the price cap is conservative. A LRIC cost study at WACC would likely lead to a lower price cap. The "marginal operators" are already in compliance with a price cap that has not been enforced. MTC is the only licensee whose products would be affected by price cap. MTC confirmed that its internal calculations are in line with the calculations done by CRAN.

Paragraph 22: CRAN disagrees based on the comments above.

Reply comments to section 3 - Relevant costs to consider

Paragraph 23 - 24: The study is a price study not a cost study.

Paragraph 25: No evidence was presented in the Acacia report to warrant a conclusion that the model utilised by CRAN is not best practice.

Paragraph 26: Acacia submitted two expert affidavits to the High court of Namibia and cannot claim ignorance or insufficient time for a thoughtful assessment of Namibia's ICT sector. It knows the litigations of its client well, including the one on infrastructure sharing. These comments thus strike as frivolous.

Paragraph 27: Many cases of retail price caps and their impacts have been documented. The CRAN study points out that retail price caps should be considered as a measure of last resort. CRAN sees this measure of last resort as necessary to protect consumers and stimulate economic growth.

Paragraph 28 - 30: The study is a price study not a cost study. For the purpose of this study, the cost difference between 2G, 3G and 4G is not of relevance but the ROE and profit margins are.

Paragraph 31: There is no geographical retail price differentials in Namibia, prices are the same throughout Namibia.

Paragraph 32 - 38: CRAN is looking into these and more issues currently. A tax study is ongoing, for example.

Paragraph 39: The study is a price study not a cost study. CRAN does not agree with the conclusions as discussed above.

Reply comments to section 4 - Reasonable data prices

Paragraph 40 - 42: The CRAN opinion on retail price regulation has not changed, it remains a measure of last resort. The ongoing consultation process will guide CRAN's decision.

Paragraph 43: Heighten regulatory obligations for dominant operators are the reason why markets are defined and dominant operators are being declared. It remains as one of the available options to CRAN. As noted before, the Report assessment ignores that MTC is the only licensees with products that are not compliant with the proposed retail price cap.

Paragraph 44: That would be a separate study.

Paragraph 45: CRAN will certainly do so.

Paragraph 46: CRAN has proposed a price cap, ie a maximum price and demonstrated that MTC would make on average a profit exceeding WACC.

Paragraph 47: There are several options for retail price regulations available to CRAN and CRAN will choose the one most suitable for the case at hand.

Paragraph 48: The CRAN study referred to here is not a cost but a price study.

Paragraph 49: CRAN appreciates the feedback on demand elasticities and will consider it.

Paragraph 50: For a business, making a profit on average, is making a profit overall. CRAN acknowledges that investment decisions of mobile operators take many factors into account.

Paragraph 51: There are several options for retail price regulations available to CRAN and CRAN will choose the one most suitable for the case at hand.

Paragraph 52: The CRAN comparisons is applying the same methodology to all operators and all countries. No price basket is perfect. CRAN uses a mobile data only usage baskets and all products are priced for it and the cheapest is chosen.

Paragraph 53: All products of MTC were considered and the usage calculated for a 30 period. A 7-day bundle is divided by 7 and multiplied by 30 to bring all products to 30 days validity. The Report does not seem to understand how price baskets. Below some literature on usage baskets for telecommunication sector:

- OECD(2017), Revised OECD Telecommunication Baskets, [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CDEP/CISP\(2017\)4/FINAL&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CDEP/CISP(2017)4/FINAL&docLanguage=En)
- OECD (2009), Revision of the Methodology for Constructing Telecommunication Price Baskets, [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=dsti/iccp/cisp\(2009\)14/final](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=dsti/iccp/cisp(2009)14/final)
- <https://www.oecd.org/sti/broadband/price-baskets.htm>
- <https://www.itu.int/en/ITU-D/Statistics/Pages/definitions/pricemethodology.aspx>

Paragraph 54: Other than usage baskets, the price study also used implied prices per GB.

Paragraph 55: CRAN uses multiples approaches and the price data presented in the study needs to be interpreted together.

Paragraph 56 - 57: Attaching out of bundle prices to bundled minutes, SMS and data yields a much higher price than the actual price. The table below demonstrates how unsuitable the suggested methodology is, using MTC's Aweh products. The out of bundle value of the Aweh Ultra is NAD 9,605 compared to the actual price of NAD 249.

Aweh	Validity Days	Out of bundles rates			Bundled			Price	Implied value of product	Implied price per GB
		Minutes	SMS	MB	Minutes	SMS	data MB			
YoVoice S	7	0.99	0.40	0.50	150	250	50	15.00	273.50	-2,181.50
YoVoice M	7	0.99	0.40	0.50	450	750	150	39.00	820.50	-2,454.50
YoVoice L	7	0.99	0.40	0.50	1000	1100	350	79.00	1,605.00	-2,198.31
YoVoice 30	30	0.99	0.40	0.50	3000	4100	1024	249.00	5,122.00	-4,361.00
YoData S	7	0.99	0.40	0.50	30	40	500	15.00	295.70	-47.47
YoData M	7	0.99	0.40	0.50	60	70	2048	39.00	1,111.40	-34.40
YoData L	7	0.99	0.40	0.50	100	120	5120	79.00	2,707.00	-29.60
YoData 30	30	0.99	0.40	0.50	300	250	18432	249.00	9,613.00	-53.56
Ultra 30	30	0.99	0.40	0.50	1500	1100	15360	249.00	9,605.00	-1,265.33
Super	7	0.99	0.40	0.50	700	1500	3072	53.00	2,829.00	-840.00
Prime	7	0.99	0.40	0.50	350	700	200	32.00	726.50	-1,748.10
Gig	7	0.99	0.40	0.50	100	700	1024	32.00	891.00	-347.00
Go	7	0.99	0.40	0.50	50	150	50	13.00	134.50	-1,265.30
Oka	3	0.99	0.40	0.50	20	50	20	7.00	49.80	-1,036.80
Source	https://www.mtc.com.na/prepaid/prepaidtariffs							Calculation		

Paragraph 58: Applying out of bundle prices to bundled minutes, SMS and data for Yodata S, gives an implied price of NAD 295.70 while the actual price is NAD 15 excl VAT. One cannot apply a methodology selectively. Out of bundle rates are set by licensees and approved by CRAN.

Paragraph 59 - 61:

- If a customer would like to use YoData S for a month he or she would have to recharge more than four times. Mathematically it is $15 / 7 * 30 = 64.29$ excluding VAT or 73.93 including VAT. A customer cannot choose to buy YoData S without the bundled SMS and minutes, a 1GB per month usage basket using YouData S will cost the customer thus NAD 74.
- The CRAN calculation is correct: NAD 25.78 excl.VAT per GB or NAD 12.89 per 500 MB (15-1.75-0.36). Please note that it is 40 SMS not 30 <https://www.mtc.com.na/prepaid/prepaidtariffs>. There is no need to aggregate to 30 days for the top-down cost consideration.
- If CRAN would use out of bundle rates as suggested by Acacia then the calculations become quickly meaningless. YoData S comes bundled with 30 minutes and 40 SMS. The out of bundles rate per minute is NAD 0.99 and per SMS is 0.40. This means the implied value per GB of the Acacia approach would be: $(15 - (30*0.99) - (40 *0.40)) / 500*1014 = - 47.47$.
- For international comparison cost and traffic data are not available and usage baskets are the only, and internationally accepted, way to compare countries (see OECD and ITU basket methodology referenced above.)

Paragraph 62: SMS and minutes used are based on the advertised product details form websites of licensees. The bundled SMS and minutes are obviously different from product to product.

Paragraph 63: CRAN analysed all products not just the AWEH YoData S and AWEH Oka. The Report fails to differentiate the different methodologies deployed for CRAN. Each methodology has a specific purpose. CRAN also does not have the cost data of the other mobile operators across Africa.

Paragraph 64: The statement is incorrect. The basket is for 1GB for one month duration.

Paragraph 65: A price cap can also be implemented by lowering prices, not just by dropping products.

Paragraph 66: While this may be a consequence it does not have to be. Mobile operators can still offer low volume baskets below the price cap. See eg the prices of Telecom Namibia (<https://www.telecom.na/tn-mobile/prepaid-plans/149-prepaid-data-bundles>):

Prepaid Data Bundles Matrix								
Subscription Offer	Package	Data 1GB	Data 2GB	Data 5GB	Data 10GB	Data 20GB	Data 30GB	Data 100GB
	Data	1GB	2GB	5GB	10GB	20GB	30GB	100GB
	Subscription fee (Once-Off) VAT Excl.	N\$15.00	N\$20.00	N\$69.00	N\$139.00	N\$269.00	N\$379.00	N\$949.00
	Subscription fee (Once-Off) VAT Incl.	N\$18.00	N\$23.00	N\$80.00	N\$160.00	N\$310.00	N\$436.00	N\$1,092.00
	Subscription Code	*130*1000#	*130*2000#	*130*5000#	*130*10000#	*130*20000#	*130*30000#	*130*100000#
	Validity Period (Days)	60	30	60	60	60	60	60
	Campaign ending date	11-Dec-23	15-Dec-23	11-Dec-23	11-Dec-23	11-Dec-23	11-Dec-23	11-Dec-23

Paragraph 67 and 68: A price cap does not prohibit low-volume products.

Paragraph 69: The Report could replicate the figures 9 and 10 with ITU data and would have arrived at similar result. Instead it is speculating that MTC has been treated unfairly.

Paragraph 70: Research ICT Solutions uses the same methodology as the ITU or the OECD with the only difference being that a basket is priced for all products, not just what appears to be the cheapest product and that data is collected quarterly instead of annually. Despite small difference the conclusions from both data sets will be the same.

Paragraph 70.3: Different methodologies have different purposes. The mentioned graph has a specific purpose: *“The lack of competitive pressure in Namibia led to higher, not lower broadband prices until 2023 Q1, contrary to global trends. MTC’s price of 1GB prepaid data per month increased by 41% between Q1 2016 and 2022 Q3 while operators in Botswana, Zambia, Mozambique and even South Africa decreased their prices significantly during the same period (as shown in Figure 9 below).”*

Paragraph 70.4: This is speculation. Does Acacia have data to back this statement up other than for South Africa? Did it compute spectrum allocation per mobile operator? Did it compute spectrum allocation per mobile subscriber? Also 5G spectrum was indeed awarded to MTC in a recent spectrum auction.

Paragraph 70.5: The Report ignores that MTC is one of the MNOs with the highest EBITDA margins and return on equity in Africa. Population density does not play such an important role.

Paragraph 71: The Report demonstrated throughout that there is no understanding of what price baskets are and how they are used for regulatory purposes. Its statement even contradicts its own Figure 5.

Paragraph 72: ITU / OECD price basket methodologies were used to rank MNOs.

Paragraph 73: The usage basket of 20GB valid for 30 days is priced for all prepaid products in Africa. The baskets have been used by CRAN for many years. Below a summary of the methodologies used by CRAN:

“Ranking countries based on monthly usage baskets: This metric is used to analyse price developments

to compare the cheapest products available for a 1GB usage over the period of 30 days. All products for an operator are priced for monthly usage. A product with 7 days validity is divided by seven and multiplied by 30 to get to a monthly price and monthly bundled SMS, minutes and data. The product with the cheapest monthly cost for a given usage, 1GB in this case, is used for the comparison.

- *Ranking Namibia's mobile operators: The 1GB and the 20GB per month usage baskets are used to rank all mobile operators in Africa. The cheapest product from an operator for the respective baskets are used for this comparison.*
- *Ranking Namibia's products: The ranking by product is not based on usage baskets but on the implied price per GB. The product price is converted into US Dollar and then divided by the bundled unconditional GBs. Conditional data dedicated for specific applications such as WhatsApp or streaming was included in a separate calculation, where the product price is converted into US Dollar and then divided by the combined bundled conditional and unconditional GBs."*

Paragraph 74 - 80: The Report does not understand the ITU and OECD basket methodology. All were chosen and only the cheapest used for this comparison. The analysis utilised in the Report is not valid.

Paragraph 81: CRAN only displayed countries with faster speeds than Namibia.

Paragraph 82: Disagree. The 5G rollout is unlikely to affect the average speed much in 2022 (time of the speed tests) given that 5G handset penetration is still very low for most countries in Africa.

Paragraph 83: Disagree. Ranking by default looks at a single indicator only.

Paragraph 84: Disagree. Apart from population density there are many other factors that come into play for reaching coverage objectives. Population concentration and terrain being two of them, which both are favorable for Namibia.

Paragraph 85: Disagree. The 3G download speeds in Namibia are on average below 1Mbps and are not considered to be broadband by CRAN.

Paragraph 86: Disagree. The price cap incentivises high-volume / low-price business models using 4G. 4G is mostly CAPEX while 3G has a significant OPEX share due to patents.

Paragraph 87: Disagree, the Report is basing its analysis on wrong premises from previous paragraphs.

MTC group	2021	2022
Revenue Million NAD	2,799	2,839
Additions to PPE	400	366
Ratio of PPE to Revenue	14.3%	12.9%

Paragraph 88: MTC's additions to Property Plant and Equipment (PPE) was 12.9% of revenue in FY 2022, not 20% as the Report alludes to.

Paragraph 89: Disagree. The Report is ignoring the market conditions in Namibia. It ought to have considered market share for voice, SMS and data traffic for its statement.

Paragraph 90: The consultants do not seem to understand what price baskets are and how they are used for regulatory purposes. Its conclusions are not credible given the lack of economic expertise and calculation mistakes.

Reply comments to section 5 - Conclusion

Paragraph 91-93: The Report does not raise any new issue which has not already been discussed in the price study and lacks in understanding of what price baskets are and how they are used for regulatory purposes. The lack of necessary economic or accounting expertise together with wrong premises and calculation mistakes renders the submission as not credible.
