



Mid-Year ICT Sector Performance Report 2022



Information and Communication Technologies Sector

2022 Mid-Year Market Report

January — June, 2022

About this Report

The 2022 Mid-Year Market Report for the Information and Communication Technologies (ICT) Sector has been developed by the Economic Regulation department at the Zambia Information and Communications Technology Authority (ZICTA). The report is based on quantitative and qualitative insights gathered from various players in the ICT sector who include: providers of ICT services, Government Ministries, Agencies and Departments; as well as physical and online resources which were complemented with information generated by the Authority.

Specifically, the report highlights global and national developments in the ICT sector over the first half of 2022. An assessment of the macro-economic environment is also presented with a focus on drawing implications for the ICT sector. The report also presents some highlights on key trends in ICT access and usage based on micro level data as well as some of the drivers that could explain any observed patterns. The main focus of the report is to highlight developments in the various market segments of the ICT sector including but not limited to details on the market size, competition landscape, revenue performance, investment and any impediments to the growth and development of the sector. A sectorial policy and regulatory review based on consultations with the industry is also provided. The report concludes with some sentiments on the forecast for the subsequent review period and provides some suggestions on interventions to consider for the remainder of the year.

The information provided in this report is primarily compiled to assist in enhancing the regulatory functions of the Authority, assist in aligning the existing policy to the current dynamics on the market as well as to highlight any impediments on the market that need redress. Notwithstanding, all opinions, errors or omissions are the responsibility of the authors and would not present any liability on the Authority.

LIST OF ABBREVIATIONS

CPI	Consumer Price Index
eMBB	Enhanced mobile broadband
FTTX	Fibre To The X
FWA	Fixed Wireless Access
Gbps	Gigabytes per second
GCI	Global Cyber Security Index
GDP	Gross Domestic Product
GSMA	GSM Association
HHI	Herfindahl-Hirschman Index
ICT	Information and Communication Technology
INRIS	Integrated National Registration Information System
ITU	International Telecommunications Union
LMICs	Low- and Middle-Income Countries
LTE	Long Term Evolution
MNO	Mobile Network Operator
MPLS	Multiprotocol Labeling Switching
OTTs	Over –The-Top Technologies
PSTN	Public Switch Technology Network
SMS	Short Message Services
Tbps	Terabits per second
ZICTA	Zambia Information and Communications Technology Authority

TABLE OF CONTENTS

ABOUT THIS REPORT	I
LIST OF ABBREVIATIONS	II
LIST OF TABLES.....	VI
EXECUTIVE SUMMARY.....	VII
1.0. RECENT GLOBAL DEVELOPMENTS IN THE ICT SECTOR	1
1.1. GROWTH IN 5G CONNECTIONS	1
1.2. CONTRIBUTION OF MOBILE TELECOMMUNICATION INDUSTRY TO ECONOMIC GROWTH.....	1
1.3. GROWTH IN MOBILE MONEY INDUSTRY	1
1.4. DIGITAL GENDER DIVIDE.....	2
1.5. PROSPECTS FOR INCREASED GROWTH IN GDP FROM MID-BAND 5G	2
1.6. GLOBAL ESTIMATES OF UNCONNECTED POPULATION	2
1.7. GLOBAL POSTAL TRAFFIC	3
1.8. AFRICA POSTAL TRAFFIC.....	3
1.9. UPU MEMBERS PASS RESOLUTION TO REBUILD POSTAL INFRASTRUCTURE IN UKRAINE	4
1.10. UPU AND WORLD CUSTOMS ORGANISATION SIGN COOPERATION AGREEMENT	4
2.0. SELECTED LOCAL DEVELOPMENTS IN THE ICT SECTOR.....	5
2.1. ISSUANCE AND RENEWAL OF LICENSES TO OPERATORS IN THE ICT SECTOR.....	5
2.2. ISSUANCE AND RENEWAL OF LICENSES TO OPERATORS IN THE POSTAL SECTOR.....	6
2.3. TRENDS IN MOBILE MONEY TRANSACTIONS	6
2.4. TWO MILLION SIM CARDS DEACTIVATED	7
2.5. LAUNCH OF 5G SERVICES PILOT PLATFORM	7
2.6. IMPLEMENTATION OF BIOMETRIC ID REGISTRATION SYSTEM.....	7
2.7. DEVELOPMENT OF REVISED NATIONAL ICT POLICY AND DIGITAL TRANSFORMATION STRATEGY	8
2.8. ZAMBIAN GOVERNMENT SIGNS €10 MILLION MoU WITH ASSECO	8
2.9. ZAMPOST LAUNCHES E-ZAMPOST AND ZAMPOST MONEY	8
3.0. DEVELOPMENTS IN THE MACROECONOMIC ENVIRONMENT	9
3.1. ECONOMIC GROWTH.....	9
3.2. INFLATION RATE PERFORMANCE	10
3.3. PERFORMANCE OF THE FOREIGN EXCHANGE MARKET	11
3.4. AVERAGE LENDING RATES AND MONETARY POLICY RATES.....	12
3.5. ACCESS TO COMMERCIAL BANK CREDIT IN THE ICT SECTOR.....	12
4.0. PERFORMANCE OF THE ICT SECTOR	14
4.1. MOBILE TELEPHONY MARKET	14
4.2. FIXED TELEPHONY SUB SECTOR.....	26
4.3. FIXED AND MOBILE INTERNET SERVICES	29
4.4. PASSIVE INFRASTRUCTURE	35

4.5.	DATA STORAGE FACILITIES.....	36
4.6.	TRANSMISSION NETWORK MARKET.....	37
4.7.	EMPLOYMENT IN THE ICT SECTOR.....	42
5.0.	PERFORMANCE OF THE POSTAL SECTOR.....	44
5.1.	TRAFFIC PERFORMANCE BY THE PUBLIC POSTAL OPERATOR	44
5.2.	DOMESTIC MAIL.....	44
5.3.	DOMESTIC MAIL WEIGHTS	45
5.4.	UNDELIVERED DOMESTIC MAIL.....	46
5.5.	INTERNATIONAL MAIL.....	46
5.6.	DOMESTIC MAIL WEIGHTS	48
5.7.	UNDELIVERED DOMESTIC MAIL.....	48
5.8.	POSTAL AND COURIER SERVICES GEOGRAPHIC COVERAGE	49
6.0.	MID-YEAR SECTORIAL POLICY AND REGULATORY REVIEW	50
6.1.	POSITIVE FACTORS INFLUENCING GROWTH ON THE MARKET	50
6.2.	CONSTRAINTS GROWTH ON THE MARKET	51
6.3.	PROPOSALS FOR ENHANCING THE BUSINESS ENVIRONMENT	52
7.0.	OUTLOOK FOR THE ICT SECTOR IN THE SECOND HALF OF 2022.....	53

LIST OF FIGURES

FIGURE 1: QUARTERLY GDP GROWTH RATES: FIRST QUARTER, 2018 TO FIRST QUARTER, 2022	9
FIGURE 2: INFLATION PERFORMANCE JUNE 2021 - JUNE 2022	10
FIGURE 3: EXCHANGE RATE PERFORMANCE; JUNE 2021 – JUNE, 2022	11
FIGURE 4: COMMERCIAL LENDING RATES, JUNE 2021 – JUNE 2022	12
FIGURE 5: COMMERCIAL BANK CREDIT TO TRANSPORT, STORAGE AND COMMUNICATION SECTOR.....	13
FIGURE 6: TRENDS IN MOBILE SUBSCRIPTION: SECOND QUARTER, 2021- TO SECOND QUARTER, 2022.....	14
FIGURE 7: TRENDS IN MOBILE SUBSCRIPTION BY MNO: JUNE, 2021 TO JUNE, 2022.....	15
FIGURE 8: TRENDS OF SUBSCRIPTION-BASED MNO MARKET SHARES AND HHI: 2021-Q2 TO 2022-Q2.....	16
FIGURE 9: TRENDS IN DOMESTIC OUTGOING TRAFFIC MINUTES: 2021-Q2 TO 2022-Q2	18
FIGURE 10: TRENDS IN DOMESTIC INCOMING TRAFFIC MINUTES: 2021Q2 TO 2022Q2	18
FIGURE 11: TRENDS IN INTERNATIONAL INCOMING TRAFFIC MINUTES: 2021-Q2 TO 2022-Q2	19
FIGURE 12: TRENDS IN INTERNATIONAL OUTGOING TRAFFIC MINUTES: 2021-Q2 TO 2022-Q2	19
FIGURE 13: TRENDS IN SMS AND MMS TRAFFIC: 2021-Q2 TO 2022-Q2	20
FIGURE 14: MNO ARPU: JUNE, 2021 TO JUNE, 2022.....	20
FIGURE 15: MOBILE VOICE TARIFFS ‘PER MINUTE IN ZMW’: 2015-2022	22
FIGURE 16: TELECOMMUNICATION SITES BY TYPE OF TECHNOLOGY: JUNE, 2021 TO JUNE, 2022	24
FIGURE 17: MNO REVENUE PERFORMANCE; JUNE, 2021 TO JUNE, 2022	25
FIGURE 18: MNO REVENUES BY SOURCE; JUNE, 2021 - JUNE, 2022.....	26
FIGURE 19: ACTIVE PSTN LINES AND PENETRATION RATES: JUNE 2021 TO JUNE 2022.....	27
FIGURE 20: FIXED LINE TRAFFIC; JUNE, 2020-JUNE, 2022	28
FIGURE 21: TRENDS IN REVENUES FROM THE PSTN SUBSECTOR: JUNE 2021 TO JUNE 2022	29
FIGURE 22: FIXED INTERNET SERVICE SUBSCRIPTION BY SERVICE PROVIDER: JUNE 2021 TO JUNE 2022.....	31
FIGURE 23: TRENDS IN SHARES OF MOBILE INTERNET USERS: JUNE 2020 TO JUNE 2021	32
FIGURE 24: TRENDS IN NETWORK CAPACITY AND UTILISATION FOR MOBILE INTERNET PROVIDERS: JUNE 2021 TO JUNE 2022	33
FIGURE 25: OWNERSHIP OF TOWER INFRASTRUCTURE.....	36
FIGURE 26: TREND IN NETWORK TRANSMISSION CAPACITY AND UTILISATION: JUNE 2021TO JUNE 2020	37
FIGURE 27: FIBRECOM NETWORK MAP: 2021.....	38
FIGURE 28: LIQUID TECHNOLOGIES METRO AND BACKBONE NETWORK DIAGRAM, 2022	39
FIGURE 29: ZAMTEL FIBRE BACKBONE INFRASTRUCTURE	40
FIGURE 30: AIRTEL NETWORK PLANNED AND EXISTING FIBRE NETWORK INFRASTRUCTURE	41
FIGURE 31: MTN ZAMBIA AERIAL AND UNDERGROUND BACKBONE FIBRE NETWORK.....	42
FIGURE 32: EMPLOYMENT BY SUBSECTOR; 2019-2022	43
FIGURE 33: ZAMPOST DELIVERY TRAFFIC	44
FIGURE 34: INCOMING MAIL VOLUMES	44
FIGURE 35: OUTGOING MAIL VOLUMES.....	45
FIGURE 36: INTERNATIONAL INCOMING MAIL VOLUMES	47
FIGURE 37: INTERNATIONAL OUTGOING MAIL VOLUMES.....	47

LIST OF TABLES

TABLE 1: GLOBAL POSTAL TRAFFIC	3
TABLE 2: AFRICAN POSTAL TRAFFIC	4
TABLE 3: VALID LICENCES IN THE ICT SECTOR: JUNE 2021 TO JUNE 2022	5
TABLE 4: LICENSED POSTAL OPERATORS: JUNE 2021 TO JUNE 2022	6
TABLE 5: TRENDS IN VOLUMES AND VALUES OF ELECTRONIC MONEY TRANSACTIONS	7
TABLE 6: UNIQUE SUBSCRIPTIONS JUNE, 2021- JUNE, 2022	17
TABLE 7: BENCHMARKING OF MOBILE VOICE TARIFFS IN US DOLLARS	22
TABLE 8: TRENDS IN INTERNET USAGE: JUNE 2021 TO JUNE 2022	30
TABLE 9: BENCHMARKING OF MOBILE VOICE AND DATA PRICE BASKET IN SELECTED COUNTRIES	34
TABLE 10: BENCHMARKING OF 5GB MONTHLY BUNDLE DATA PRICES IN SELECTED COUNTRIES	35
TABLE 11: DATA CENTRE SERVICE PROVIDERS' PERFORMANCE STATISTICS: JUNE 2021 TO JUNE 2022	37
TABLE 12: DOMESTIC MAIL DELIVERY WEIGHTS	45
TABLE 13: UNDELIVERED DOMESTIC MAIL.....	46
TABLE 14: DOMESTIC MAIL WEIGHTS	48
TABLE 15: UNDELIVERED INTERNATIONAL MAIL.....	48

EXECUTIVE SUMMARY

Major Global Developments in the ICT Sector:

According to the GSMA, 5G connections will surpass 1 billion in 2022 and 2 billion by 2025. The Mobile Economy Report 2022 from the GSMA projected that by the end of 2025, 5G will account for over a fifth of total mobile connections, and more than two in five people globally will live within reach of a 5G network. In 2021, mobile technologies and services generated 5 percent of global GDP, a contribution that amounted to \$4.5 trillion of economic value added. The mobile ecosystem also supported approximately 26 million jobs (directly and indirectly) and made a substantial contribution to the funding of the public sector, with almost \$500 billion raised through taxes on the sector. The 2021 State of the Industry Report on Mobile Money revealed that mobile money adoption and use continued to grow in 2021, processing over \$1 trillion during the 2021. The industry also recorded a substantial increase of 18 percent in the number of registered accounts between 2020 and 2021 reaching 1.35 billion globally. The International Telecommunication Union reported that an estimated 37 percent of the world's population or 2.9 billion people, have still never used the Internet. The ITU also reported strong global growth in Internet use, with the estimated number of people who have used the Internet surging to 4.9 billion in 2021, from an estimated 4.1 billion in 2019. The GSMA Mobile Gender Gap Report 2022 showed that after years of progress towards women's equal digital inclusion, only 59 million additional women started using mobile internet in 2021 compared to 110 million in 2020. This slowdown in the growth rate at which women are adopting the mobile internet was in contrast with continued high growth rates for men.

Major Local Developments in the ICT Sector:

By the end of June 2022, there were a total of seventy nine (79) valid licences in the ICT sector compared to seventy eight (78) valid licences recorded at the end of June, 2021 representing an increase of 1.3 percent. The value of mobile money transactions recorded a downward trajectory in the first half of 2022 when compared to the performance of these transactions in the first half of 2021. Particularly, the value of transactions reduced from ZMW 76 billion in the first half of 2021 to ZMW 50.4 billion in the first half of 2022 representing a reduction of 33.7 percent. Similarly, the volume of transactions reduced from 358 million in the first half of 2021 to 277 million representing a reduction of 22.6 percent. ZICTA disconnected over two million SIM cards across the country in a bid to combat digital fraud. The deactivated SIM cards belonged to subscribers who had more than ten SIM cards under one name or had some missing information on their registration details. In the first quarter of 2022, the Ministry of Home Affairs and Internal Security confirmed that Zambia had started to implement its Integrated National Registration Information System (INRIS), a national identity management system with enhanced biometric digital security features for national registration cards, as well as birth and death certificates. The Government has also embarked on a process to develop a revised National ICT policy as well as a digital transformation strategy aimed at providing a medium term strategy for accelerating the growth and development of the ICT sector.

Major Developments in the Postal Sector

By the end of June 2022, ZICTA issued a total of fifty nine (59) valid licenses to operators in the postal and courier services sector by the end of June, 2022 compared to forty one (41) licences reported at the end of June, 2021, reflecting an increase of 43.9 percent. The global postal traffic statistics indicate that there was a persistent decline in the volume of letter-post globally as letter post volumes domestically and internationally decreased by 13.6 percent and 27.6 percent respectively. This is consistent with the expectation that letter mail shall continue to decline over time as alternative electronic means of communication emerge. Locally, efforts to digitize the Postal sector received a strong intervention with the Ministry of Technology and Science signing a Memorandum of Understanding (MoU) agreement with ASSECO, a Polish technologies company, in the objective of investing €10 Million into the digitalization of Zampost's processes. Traffic for Zampost experienced a decline of about 90 percent in the first half of 2022 though this is expected to improve in tandem with the gains that the Zambian Kwacha has made against the United States Dollar.

Performance of Selected Indicators in the ICT Sector. June 2021 –June 2022

The table below provides a summary of the developments in the ICT sector based on a selected list of key indicators:

Indicator	June 2021	June 2022	Comment
1. Total number of active mobile network subscriptions	19,685,845	18,708,450	Reduction 5.0 percentage points
2. Mobile Penetration Rate	107.0	98.8	Reduction of 8.2 percentage points
3. Market Concentration (HHI)	0.37	0.36	Reduction of 0.01 percentage points
4. Number of unique mobile cellular subscriptions	7.40	7.50	Improvement of 1.4 percentage points
5. Total domestic outgoing traffic on mobile cellular networks	11,202,998,122	13,053,466,206	Improvement of 16.5 percentage points

Indicator	June 2021	June 2022	Comment
6. Volume of international outgoing traffic	8,101,934	7,561,963	Reduction of 6.7 percentage points
7. Volume of international incoming traffic	10,163,868	8,101,293	Reduction of 20.3 percentage points
8. Regional Benchmarking of 5GB Monthly Bundle Data Prices	N/A	3rd out of 14 countries	New indicator
9. Total number of operational telecommunication sites in the country	10,303	10,574	Improvement of 2.6 percentage points
10. Revenue performance in the mobile telephone subsector (ZMW)	3,037,122,650	3,595,200,879	Improvement of 18.4 percentage points
11. Total number of active internet (mobile & fixed) subscriptions	10,365,776	10,074,205	Reduction of 2.8 percentage points
12. Average Broadband capacity used by the mobile network operators.	83,800	128,000	Improvement of 52.7 percentage points
13. Volume of Broadband Capacity Utilised (TB)	127,000	189,000	Improvement of 48.8 percentage points
14. Number of telecommunication towers in Zambia	3,409	3,457	Improvement of 1.4 percentage points
15. Total broadband capacity utilised among wholesale Transmission carriers (Gbps)	98.1	104.4	Improvement of 6.4 percentage points
16. Total number of employees in the ICT sector	1,662	1,670	Improvement of 0.5 percentage points

A sectorial policy and regulatory review undertaken at the end of June, 2022 through extensive consultations with operators revealed the following challenges:

- a) High tax incidence in the ICT sector.** The ICT sector continued to face the highest corporate tax rate of 40 percent applied on profits above K250, 000. In addition, the excise duty of 17.5 percent applied on airtime has a direct effect of increasing the cost of services.
- b) Challenges with Colocation on Poles:** Operators considered the colocation charges for poles on the market to be high with the potential to limit the prospects for infrastructure sharing.
- c) Macro-Economic Instability:** Operators identified challenges associated with the macroeconomic environment as a key factor that increased the cost of doing business. Notably, the effect of the extensive depreciation of the local currency in the previous year as well as inflation were noted to be the significant factors that affected the business environment.
- d) Rising energy Costs:** The cost of diesel which is a key input in the provision of services increased significantly over the first half of 2022. In addition, the frequency of adjustments in the pricing were changed to monthly leading to more periodic variations in the price of fuel.
- e) Delays in Approval for installation of infrastructure:** Operators indicated that there were delays by ZICTA in obtaining approvals for installation of infrastructure such as the laying of fiber. The delays posed challenges in providing commitments to their customers on the delivery of services and posed a risk on their competitive advantage. In addition, there were concerns on cost and delivery time associated with the compulsory requirement for concrete poles to be used in deployment of fiber.
- f) Low Awareness on Cyber Security Risks:** Operators identified cyber security risks as a growing challenge in the country. However, it was also observed that the extent of awareness of the existing risks and mitigation strategies among users of ICT services was low.
- g) Limited Awareness on Emerging Technologies:** It was reported that there was limited awareness of emerging technologies such as cloud solutions and artificial intelligence among consumers of ICT services. This was considered as a challenge that could slow down the uptake of such technologies and related services.

The outlook for the second half of 2022 based on the trends noted on the market as well as sentiments gathered from operators are summarized below:

- a) Growth in ICT Uptake and Deployments:** The ICT sector is expected to continue on its positive growth trajectory in the subsequent review period amidst some notable risks. Growth is expected to mainly be driven by increased demand for data services among consumers. Investments into infrastructure especially 4G/LTE sites among the mobile network operators is likely to drive increased adoption of broadband services. The government has also a renewed focus on promoting innovation by leveraging on technology which will lead to new platforms being deployed.
- b) Macro-economic outlook and its implications:** The macro-economic outlook is positive amid notable improvements in the inflation rate and the appreciation of the local currency. There is

also a general positive posture on the business environment arising from the extensive investment promotion efforts by the government.

- c) **Cyber Related Risks:** Cyber related frauds especially on mobile money accounts are expected to persist. The SMS frauds which are targeted at mobile money users are increasingly drawing the biggest attention on consumer awareness and consumer protection. However, as adoption of ICTs increases coupled with poor digital skills among the populace in the country, the diversity and intensity of these risks is expected to persist.
- d) **Investment in Infrastructure:** The continued investments in backbone and metro fibre networks as well as telecommunication sites by operators is expected to extend coverage and improve quality of service. Extension of fibre circuits by some operators is also expected to open additional routes for redundancy while the metro access will facilitate access of fibre to the X (FTTX). It is anticipated that a number of operators will continue investing in their 4G networks aimed at extending coverage as well as improving quality of service.
- e) **Product and Service Diversity:** Operators are expected to continue introducing innovative product offerings for consumers to remain viable in the competitive environment. There is also an anticipated opportunity for growth in the adoption of new and emerging technologies such as cloud computing and artificial intelligence.
- f) **Issuance of Spectrum in the 800 Mhz band and 2600 Mhz band:** ZICTA is expected to issue spectrum in the 800Mhz band and 2600Mhz band during the second half of 2022 in line with the 5G spectrum roadmap. The scarce resources are expected to assist with improving quality of service, extending coverage and facilitate the introduction of innovative products and services.
- g) **Issuance of Network (Facilities) Licence in the international Market Segment:** The Authority is scheduled to issue a Network (Facilities) Licence in the international Market Segment within the second half of 2022. The licence is expected to allow for the operator to contract connectivity across the border and terminate it in Zambia or transit it across the borders. This will enhance competition in international data transmission services among the existing players on the market.
- h) **ICT Policy and Digital Transformation Strategy:** The government through the Ministry of Technology and Science has been developing the ICT policy and digital transformation strategy aimed at providing a medium term direction for the ICT sector in the country. These policy documents are expected to be concluded within the second half of 2022.

1.0. RECENT GLOBAL DEVELOPMENTS IN THE ICT SECTOR

1.1. Growth in 5G Connections

According to the GSMA, 5G connections will surpass 1 billion in 2022 and are expected to reach 2 billion by 2025. By the end of 2025, 5G are estimated to be able to account for over a fifth of total mobile connections, and more than two in five people globally will live within reach of a 5G network. There are approximately 200 live 5G networks in seventy countries, including 68 operators providing 5G Fixed Wireless Access (FWA) services and 23 delivering Stand Alone (SA) 5G services. All this supports consumer demand propelled by an ever-growing portfolio of 5G-enabled smartphones. Early network capability initiatives are underway to support the increasing number of innovative consumer and enterprise use cases across the 5G Era. These include the 5G utilisation of multiple sub-3GHz spectrum bands, 5G Advanced, and Private Networks.¹

1.2. Contribution of Mobile Telecommunication Industry to Economic Growth

In 2021, mobile technologies and services generated 5 percent of global GDP, a contribution that amounted to \$4.5 trillion of economic value added. The mobile ecosystem also supported approximately 26 million jobs (directly and indirectly) and made a substantial contribution to the funding of the public sector, with almost \$500 billion raised through taxes from the sector. By 2025, the mobile industry's contribution is anticipated to grow by more than \$400 as countries around the world increasingly benefit from the improvements in productivity and efficiency brought about by the increased uptake of mobile services.²

1.3. Growth in Mobile Money Industry

The 10th Annual 'State of the Industry Report on Mobile Money' revealed that mobile money adoption and use continued on its growth trajectory in 2021. The industry recorded a substantial increase of 18 percent in the number of registered accounts relative to 2020 reaching 1.35 billion globally. The volume of person-to-person transactions also increased to more than 1.5 million every hour. The report revealed that one of the most significant drivers of growth was merchant payments, which almost doubled on a year on year basis. It also highlights how mobile money continues to act as a core pillar of financial and economic inclusion, particularly for women. The report further revealed that mobile money has also been a driving force for financial inclusion for the world's most vulnerable, particularly women.³

¹https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwik3724vb_4AhVswQIHHdcJAKkQFnoECAcQAQ&url=https%3A%2F%2Fwww.gsma.com%2Fmobileeconomy%2Fwp-content%2Fuploads%2F2022%2FO2%2F280222-The-Mobile-Economy-2022.pdf&usg=AOvVaw0j-W4VMghFln_O80R19m_M

² Mobile Economy Report 2022

³ <https://www.gsma.com/newsroom/press-release/mobile-money-industry-processes-record-1-trillion-in-2021/>

1.4. Digital Gender Divide

The expansion of mobile internet access in low- and middle-income countries (LMICs) continue on a positive pace, but risks of leaving women further behind also emerged. The GSMA Mobile Gender Gap Report 2022 showed that after years of progress towards women's equal digital inclusion across LMICs, only 59 million additional women in LMICs started using mobile internet in 2021 compared to 110 million in 2020. This recent slowdown in the growth rate at which women are adopting the mobile internet across LMICs is in contrast with continued high growth rates for men. It represents the first time GSMA data has recorded such a negative trend. Across LMICs, the report showed that the mobile internet gender gap has narrowed every year from 2017 to 2020, from 25 per cent to 15 per cent. However, GSMA data from 2021 suggested that this momentum had been lost. Women were 16 per cent less likely than men to use the mobile internet, which equated to 264 million fewer women than men using mobile internet.⁴

1.5. Prospects for Increased Growth in GDP from Mid-Band 5G

Research commissioned by the GSMA found that 5G mobile network services in the mid-band spectrum range could add more than \$610 billion to global GDP in 2030. This analysis showed the extent to which government policies that prioritise mid-band 5G spectrum could aid economic development strategies for the years ahead – a key area of focus for policymakers and regulators from around the world. The new economic forecast predicted that in 2030, 5G spectrum in the 1-7 GHz mid-band range will drive nearly 65 percent of the overall \$960 billion socio-economic value created by 5G. The study also warned of the potential negative economic impact of insufficient spectrum availability, showing that up to \$360 billion of 2030 GDP could be lost. If spectrum is constrained to current levels as demand for services grows, increased network congestion and deployment costs will stifle 5G. Network quality and speed will suffer, limiting 5G adoption and its economic impact. The research showed that 75 percent of the benefits of mid-band 5G will be through the core 5G use cases of enhanced mobile broadband (eMBB) and fixed wireless access (FWA).⁵

1.6. Global Estimates of Unconnected Population

An estimated 37 per cent of the world's population or 2.9 billion people were estimated to have never used the Internet. New data from the International Telecommunication Union (ITU), the United Nations specialized agency for information and communication technologies (ICTs), also revealed strong global growth in Internet use, with the estimated number of people who have used the Internet surging to 4.9 billion in 2021, from an estimated 4.1 billion in 2019. However, the ITU data confirmed that the ability to connect remains profoundly unequal. Of the 2.9 billion still offline, an estimated 96 per cent live in developing countries. And even among the 4.9 billion counted as 'Internet users', many hundreds of millions may only get the chance to go online infrequently, via shared devices, or using connectivity speeds that markedly limit the usefulness of their connection. Measures taken during the pandemic, such as widespread lockdowns and school closures, combined with people's need for access to news, government services, health updates, e-

⁴ <https://www.prnewswire.com/in/news-releases/new-gsma-data-is-a-wake-up-call-for-the-digital-gender-divide-839039417.html>

⁵ [https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/GSMA State-of-the-Industry-Report-on-Mobile-Money-2021 Summary.pdf](https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/GSMA-State-of-the-Industry-Report-on-Mobile-Money-2021-Summary.pdf)

commerce and online banking – contributed to a 'COVID connectivity boost' that brought an estimated 782 million additional people online since 2019 representing an increase of 17 percent.⁶

1.7. Global Postal Traffic

The global postal traffic statistics indicate that there is a persistent decline in the volume usage of letter-post items domestically and internationally. Table 1 indicates that letter post volumes domestically and internationally decreased by 13.6 percent and 27.6 percent respectively. This decline is supported by the trend of a reduction in letter post usage over a five year negative annual compound growth rate of more than 4 percent in both domestic and international letter post measures. On the other hand, there has been a rise in parcel post volume usage domestically with an annual growth rate of 17.7 percent and five year compound growth rate of 15.2 percent. In spite of international parcel post volumes decreasing by 1.5 percent due to the covid-19 pandemic lockdown restrictions, the five year compound growth rate (10.4 percent) entails a positive trend of increased parcel post usage internationally.

Table 1: Global Postal Traffic

Region	Measure	Millions of Items (2020)	Annual Growth Rate (2019-2020)	5-year Compound Annual Growth Rate (2015-2020)
Global	Letter-post items, Domestic	259,986.5	-13.6%	-4.6%
	Letter-post items, International	3,027.7	-27.6%	-4.4%
	Parcel-post items, Domestic	24,802.7	17.7%	15.2%
	Parcel-post items, International	188.9	-1.5%	10.4%

Source: UPU Postal Economic Outlook 2021

1.8. Africa Postal Traffic

The African region depicts the sharpest decline in domestic post volumes amongst all global regions with a 33.2 percent decline. In addition, international post volumes had a larger decline cumulating into a traffic drop of 66.2 percent. These figures exacerbate the disparate impact of the covid-19 pandemic on the African region in regards to letter post items. The African domestic

⁶ <https://www.itu.int/en/mediacentre/Pages/PR-2021-11-29-FactsFigures.aspx>

parcel post growth has increased indicating a positive outlook towards customers shifting towards higher usage of parcel and logistics in the African market.

Table 2: African Postal Traffic

Region	Measure	Millions of Items (2020)	Annual Rate (2019-2020)	Growth (2019-2020)	5-year Compound Annual Growth Rate (2015-2020)
Africa	Letter-post items, Domestic	503.1	-33.2%	-16.3%	
	Letter-post items, International	26.1	-66.2%	-11.8%	
	Parcel-post items, Domestic	4.8	6.1%	5.7%	
	Parcel-post items, International	0.2	-24.8%	-6.1%	

Source: UPU Postal Economic Outlook 2021

1.9. UPU Members Pass Resolution to Rebuild Postal Infrastructure in Ukraine

The UPU members, including Zambia, passed a resolution presented by the Council of Administration that provides additional support in the continuation and reconstruction of the postal services and infrastructure in Ukraine. The resolution aimed at evaluating the essential needs of the Ukrainian Postal sector as well as assess the impact of the Ukraine-Russia conflict on UPU programmes, infrastructure, financial services and operations on the postal network in Ukraine and globally. Moreover, this resolution was preceded by previous passed resolutions that approved assistance towards Ukraine from the Emergency Solidarity Fund and Quality of Service Fund. This was done under the Economics and Strategy Committee to which Zambia belongs.

1.10. UPU and World Customs Organisation Sign Cooperation Agreement

The UPU signed a cooperation agreement with the World Customs Organisation (WCO) that aims to harness the development of E-commerce and network security in the postal sector. This agreement outlines the shared common goals of the two organisations in advancing trade and security in the global postal network. As a result, the cooperation agreement intends to foster relations in the post-customs digital spectrum and ensure reliability in the delivery of postal items globally. UPU and WCO have agreed to host a joint WCO-UPU Global Conference in the year of 2023 to discuss the opportunities and threats customs and postal networks face in facilitating international e-commerce.

2.0. SELECTED LOCAL DEVELOPMENTS IN THE ICT SECTOR

2.1. Issuance and Renewal of Licenses to Operators in the ICT sector

By the end of June 2022, there was a total of seventy nine (79) valid licences in the ICT sector compared to seventy eight (78) valid licences recorded at the end of June, 2021 representing an increase of 1.3 percent. The valid licences constituted forty five (45) Network licences, twenty eight (28) Service with Network licences and six (6) Service without Network licences.

Table 3: Valid Licences in the ICT Sector: June 2021 to June 2022

Type of Licence	Market Segment	Jun-2021	Dec-2021	Jun-2022
Network (Service & Facilities)	International	4	4	4
	National	30	30	30
	Provincial	4	4	4
	District	7	7	7
Service (With a Network- Category A)	National	22	22	22
	Provincial	2	2	2
	District	4	4	4
Service (Without a Network- Category B)	National	5	5	6
	Provincial	0	0	0
	District	0	0	0
TOTAL		78	78	79

Source: ZICTA

2.2. Issuance and Renewal of Licenses to Operators in the Postal Sector

By the end of June, 2022, the Authority had issued a total of fifty nine (59) valid licenses to operators in the postal and courier services sector compared to forty one (41) licences reported at the end of June, 2021, reflecting a 43.9 percent increase in the number of valid licences..

Table 4: Licensed Postal Operators: June 2021 to June 2022

Licence Type	Market Segment	Jun-2021	Jun-2022
1. Public Postal	International	1	1
2. Courier	International & Domestic	19	20
3. Courier	Domestic	15	20
4. Courier	Local	6	7
TOTAL		41	59

Source: ZICTA

The growth was mainly driven by the newly licenced entities in local market segment, reflecting an increased participation in this market segment as well as an improved posture in compliance to the regulations relating to licensing of courier services providers.

2.3. Trends in Mobile Money Transactions

The value of mobile money transactions recorded a downward trajectory in the first half of 2022 when compared to the size of transactions in the first half of 2021. Particularly, the value of transactions reduced from ZMW 76.0 billion in the first half of 2021 to ZMW 50.4 billion in the first half of 2022 representing a reduction of 33.7 percent. Similarly, the volume of transactions reduced from 358 million in the first half of 2021 to 277 million representing a reduction of 22.6 percent. The reduction in volumes and values of mobile money were mainly on account of the emergence of close substitutes such as the growing agency banking network adopted by most of the commercial banks.

Table 5: Trends in Volumes and Values of Electronic Money Transactions

	Jun-21	Dec-21	Jun-22	Percent change YTD
Volumes of Transactions (Millions)	358	472	277	-22.63%
Values in ZMW (Millions)	76,020	92,725	50,401	-33.70%

Source: BOZ

2.4. Two million SIM cards Deactivated

The Zambia Information and Communications Technology Authority (ZICTA) disconnected over two million SIM cards across the country in a bid to combat digital fraud. The deactivated SIM cards belonged to subscribers who had more than ten SIM cards under one name and had some missing information related to registration. The Authority undertook this measure to address the challenge of unsolicited messages to members of the public using the SMS platform aimed at defrauding users of electronic communication services.⁷

2.5. Launch of 5G services Pilot Platform

MTN Zambia announced the launch of its 5G network pilot platform in the country which the company stated “promises significant improved technology which will enhance faster connectivity speed, ultra – low latency and greater bandwidth.” According to the telecommunications company, 5G cellular networks are at least ten times faster than 4G “which creates new opportunities for people and businesses in Zambia.” They stated that 5G technology can connect virtually everyone and everything, including machines, objects, and devices. MTN Zambia will be rolling out 5G pilot demonstration sites in Lusaka and Copperbelt Provinces and intends to set up specific and relevant use cases together with Zambian customers and partners to expand social and commercial horizons, alongside the rest of the world. MTN Zambia stated that apart from the many innovative applications of 5G, once the network is rolled out and more 5G devices are coming in, it will help increase general internet access in Zambia, where fixed broadband penetration is still low.⁸

2.6. Implementation of Biometric ID Registration System

The Ministry of Home Affairs and Internal Security confirmed that Zambia has started to implement its Integrated National Registration Information System (INRIS), a national identity management system with enhanced biometric digital security features for national registration cards, as well as birth and death certificates. It was further confirmed that the development of INRIS has been

⁷ <https://dailynationzambia.com/2022/03/zicta-deactivates-2-1-million-sim-cards/>

⁸ <https://www.mtn.zm/mtn-zambia-launches-first-5g-pilot-service-in-zambia/>

completed, hardware connectivity set up and the system has been successfully deployed in ten districts across the country. The development follows the realization that the manual system had failed to respond to demands arising from continued growth of the population and rapid changes in technology. This caused issues like duplication of national registration card numbers, identity fraud and challenges in record management. The INRIS will assign a national identity number at birth as opposed to when a person is 16 years old. It is anticipated that this will make it very difficult for an ineligible person to register as a Zambian citizen⁹.

2.7. Development of Revised National ICT Policy and Digital Transformation Strategy

The Government of the Republic of Zambia embarked on the development of the Revised National ICT policy as well as the Digital Transformation strategy. The two documents are aimed at providing a medium term strategy for the development of the ICT sector in Zambia. The current ICT policy was developed in 2006 and may not be responsive to the needs of the digital economy. A number of developments in technology as well as business models adopted by providers of ICT services have evolved. There are also new requirements to ensure that consumers are adequately protected from any risks associated with the digital economy while a number of opportunities that require consideration have equally emerged.

2.8. Zambian Government Signs €10 Million MoU with ASSECO

The Ministry of Technology and Science signed a Memorandum of Understanding (MoU) agreement with ASSECO, a Polish technologies company, in the objective of investing €10 Million into the digitalisation of Zampost's processes. This agreement outlines that the Zambian government, through the direct cooperation from Zampost and ASSECO, will establish a joint venture company that shall oversee the digital transformation of Zampost. The digital transformation encompasses developing Zampost's capabilities and resources in the e-commerce and e-banking platforms. The MoU outlines the intent of providing universal postal services in the Zambian rural regions across the country through enhanced operational efficiency and security of postal service delivery.

2.9. Zampost Launches e-Zampost and Zampost Money

The Minister of Technology and Science, officially launched the e-Zampost and Zampost Money platforms on 28th May, 2022. These digital platforms entail the initiative of Zampost in fostering a digital transformation in the provision of postal services across Zambia. E-Zampost is a postal management system that provides digital postal services in the field of e-commerce, e-government and e-logistics. Zampost Money is a digital e-wallet platform that enables customers to accessible financial services in local money transfer businesses as well as other value added services such as bill payment services.

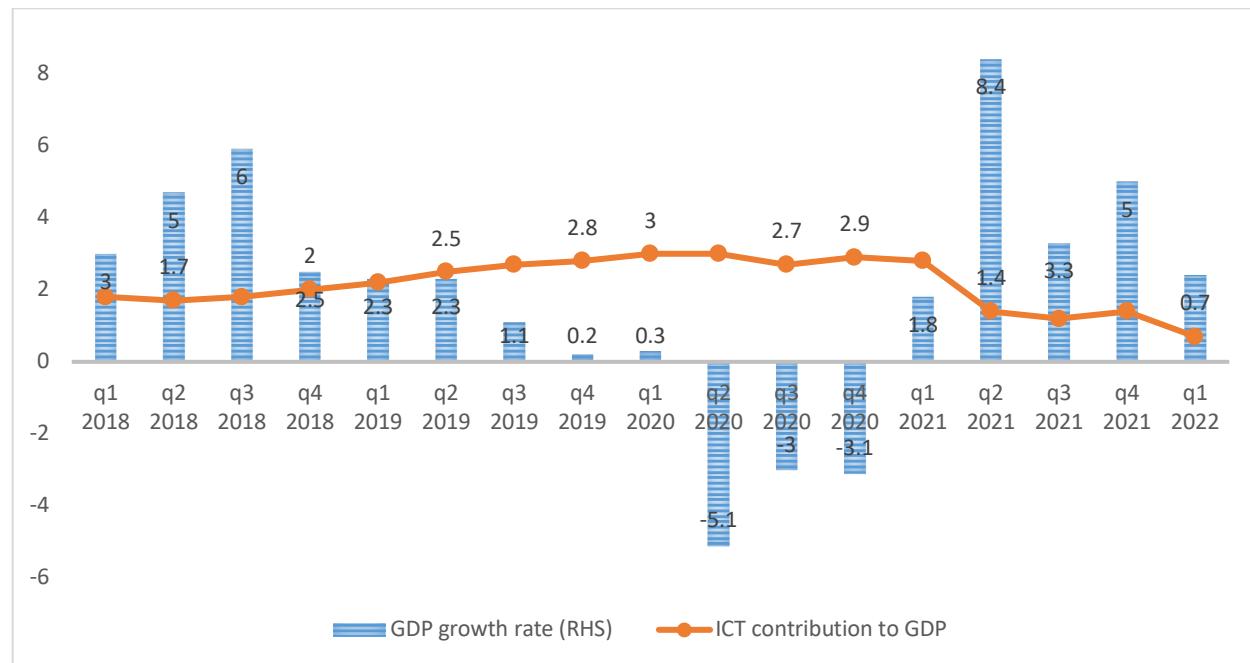
⁹<http://www.daily-mail.co.zm/k1bn-biometric-id-issuance-starts/>

3.0. DEVELOPMENTS IN THE MACROECONOMIC ENVIRONMENT

3.1. Economic Growth

Economic activity in the first quarter of 2022 continued to grow at a moderate rate of 2 percent after a rebound in economic activity recorded in 2021. This moderate growth rate reflects the country's increasing economic stability that preceded the recession observed in 2020 as the Covid-19 pandemic ensued. Activity in the ICT sector was characterized by much less instability as the sector continued to grow throughout the reference period. As of the first quarter of 2022, the ICT sector had grown by 17.7 percent making it one of the four sectors of the economy with the highest quarterly growth rates. However, the sectors' contribution to GDP in the first quarter of 2022 declined to 0.7 percent from 1.4 percent in the previous quarter. This decline was mostly attributed to improved economic activity in the other sectors such as the education and public administration sectors. The improvements in stability of the overall economy are expected to impact the ICT sector positively as it will not only enhance productivity but also encourage both local and foreign investment in the sector. This improvement is also likely to expand consumers' disposable incomes thereby increasing demand for ICT services and accelerating ICT adoption. Additionally, the recorded reduction in the sectors' contribution to GDP is expected to improve as increased activity in the education and public administration sectors is anticipated to increase the demand for ICT services.

Figure 1: Quarterly GDP Growth Rates: First Quarter, 2018 to First Quarter, 2022

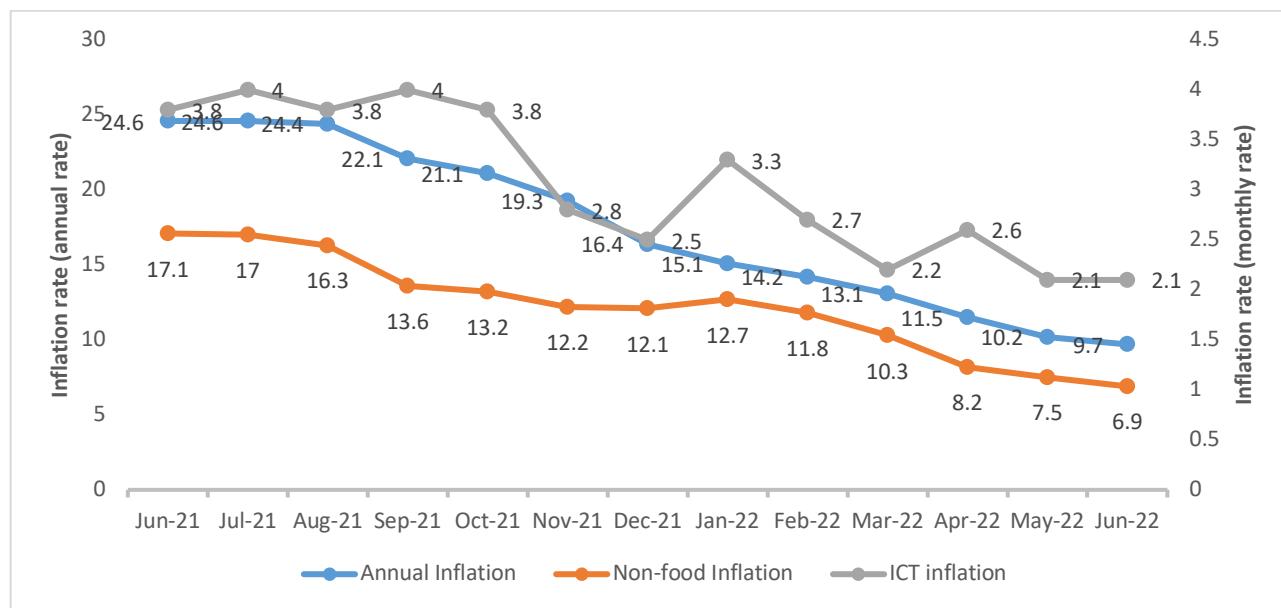


Source: Zambia Statistics Agency

3.2. Inflation Rate Performance

Overall price levels in the country continued to increase at a decreasing rate as demonstrated by changes in the Consumer Price Index (CPI). As of June, 2022, the annual inflation rate was estimated at 9.7 percent, falling to a single digit number for the first time since August 2019 and below the set 2022 inflation rate target of 9.9 percent¹⁰. The drop in annual inflation rates was mostly attributed to the decline in non-food inflation which fell to an average of 6.9 percent at the end of June 2022 from 17.1 percent at the end of June 2021. Food inflation equally fell significantly during the review period from 31.2 percent to 11.9 percent representing a decline of 19.3 percentage points. This overall decrease implies a decline in the rate at which the prices of general goods and services are purchased. Inflation rates in the ICT sector also declined marginally over the review period from 3.8 percent to 2.1 percent, reflecting a decline of 1.7 percentage points. The overall decline in the prices of goods and services is expected to positively impact the consumption of ICT services as less currency is spent on the consumption of other goods and services. Similarly a reduction in the increase of ICT service prices will translation into increased adoption of the services as affordability increases thereby promoting the growth of the sector which multiplies the other sectors.

Figure 2: Inflation Performance June 2021 - June 2022



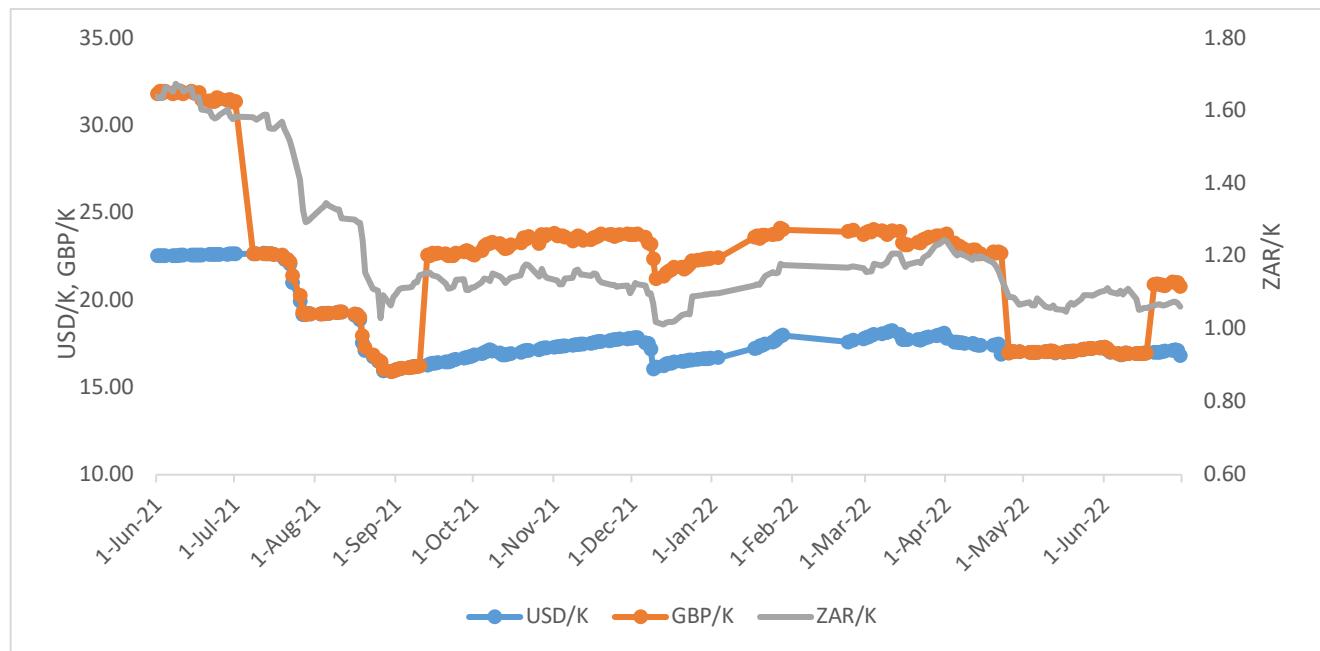
Source: Zambia Statistical Agency

¹⁰ Bank of Zambia, 2022 January to June Monetary Policy Statement

3.3. Performance of the Foreign Exchange Market

The Zambian Kwacha recorded a positive performance between the end of June 2021 and June 2022. Relative to its major trading currencies, the Kwacha appreciated by an average of 26 percent with respect to the United States Dollar (USD) while a 34 percent and 33 percent appreciation was recorded relative to the British Pound and the South African Rand (ZAR) respectively. Specifically, the local currency depreciated from 22.64 ZMW/USD to 16.83 ZMW/USD; from 1.58 ZMW/ZAR to 1.06 ZMW/ZAR and from 31.39 ZMW/GBP to 20.77 ZMW/GBP during the reference period. This appreciation has mostly been attributed to the reduction in money supply, an increase in credit allocated to the private sector and an increase in stability of economic activity all of which translate into increased demand for local currency. Overall, the appreciation and stability of the local currency is anticipated to have a positive impact on the economy as a whole as it will encourage further investments. For the ICT sector, it is expected that the currency appreciation will proportionately reduce the cost of internationally sourced inputs such as international bandwidth and international terminal costs thereby creating more resources for infrastructure investments while increasing the affordability of ICT services. Additionally, the increasing stability of the local currency is expected to impact positively on the stability of ICT prices thereby encouraging adoption of the services. Furthermore, this development will positively impact the postal and courier services sector as it will increase the local demand for foreign goods as the price of foreign currency falls.

Figure 3: Exchange Rate Performance; June 2021 – June, 2022

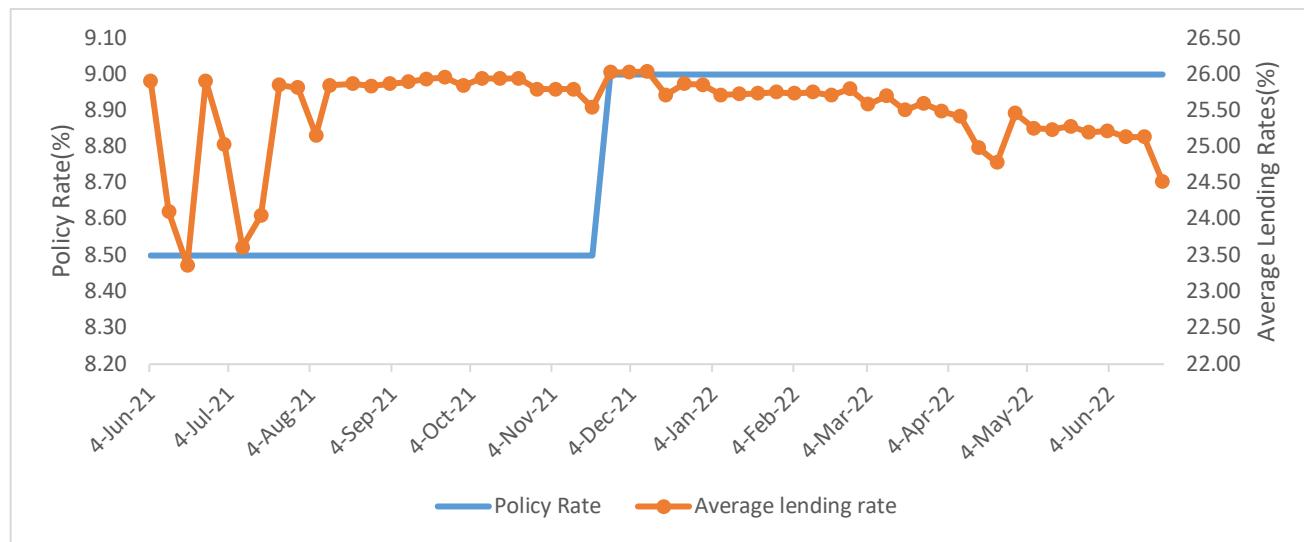


Source: Bank of Zambia

3.4. Average Lending Rates and Monetary Policy Rates.

An annual review of the commercial bank average lending rates showed a marginal decline from 25.9 percent at the end of June 2022 to 24.52 percent at the end of June 2022 reflecting a 5 percent drop. The decline in average commercial bank lending rates, which reflects the country's average cost of borrowing, was mostly attributed to a similar decline in money supply by an average of 8 percent over the period of reference. On the other hand, the monetary policy rate was revised upwards by 50 basis point from 8.5 percent to 9 percent in November 2021, which was maintained at the end of June 2022. This increase was done in a bid to steer the inflation rate towards the medium term annual target range of 6 to 8 percent. An increase in the monetary policy rate is expected to increase the base lending rate and consequently the commercial bank lending rate, a phenomenon which was observed at the close of 2021. However, the average lending rates declined in the first half of 2022 thereby increasing local access to finance. Consequently, the decline in the commercial banks average lending rates is expected to positively impact the ICT sector as it will increase the sectors' access to funds for investment which may have positive implications on the quality of services provided as well as coverage among other attributes.

Figure 4: Commercial Lending Rates, June 2021 – June 2022



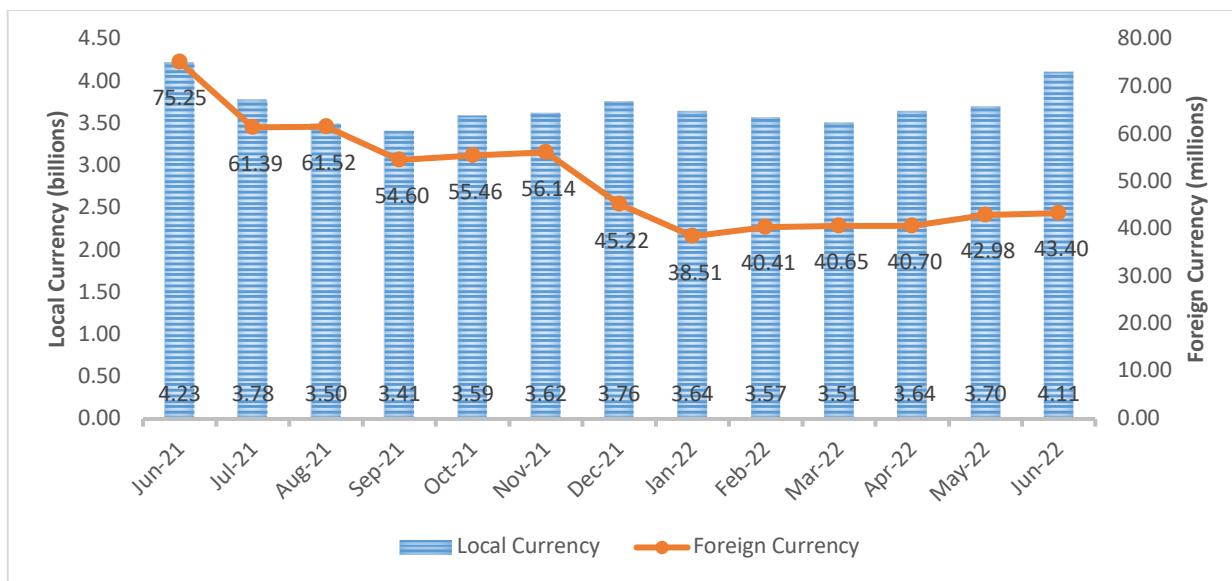
Source: Bank of Zambia

3.5. Access to Commercial Bank Credit in the ICT sector

The total local currency credit allocated to the Transport, Storage and Communications sector declined slightly on a year to date basis from ZMW4.23 billion at the end of June 2021 to ZMW4.11 billion at the end of June 2022 representing a 2 percent decline. It was also noted that the decline in credit to the sector displayed some seasonal effect as the total credit to the sector declined in the 3rd quarter of 2021 and rebounded slightly in the fourth quarter of that year. On the other hand, foreign currency credit allocated to the sector declined significantly from \$75.3 million to \$43.4 million over the reference period reflecting a decline of 40 percent. The overall decline in

both foreign and local currency credit allocated to the sector is expected to have a negative impact on the sector as it reduces funds available for infrastructure investments.

Figure 5: Commercial Bank Credit to Transport, Storage and Communication Sector



Source: Bank of Zambia

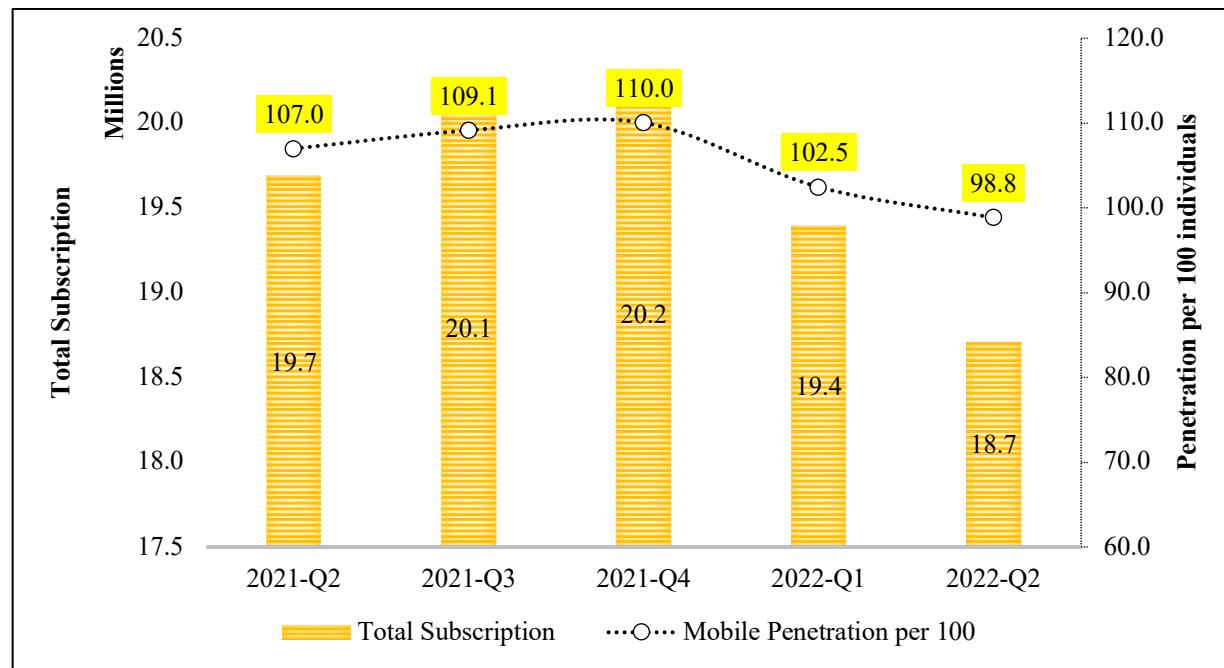
4.0. PERFORMANCE OF THE ICT SECTOR

4.1. Mobile Telephony Market

The total number of mobile cellular subscriptions decreased marginally at the end of June of 2022 to 18.7 million subscriptions from 19.7 million subscriptions recorded at the end of June 2021, representing a year to date decline of 5.0 percent. Consequently, the mobile cellular penetration rate, which is computed as a ratio of the total number of subscriptions relative to the total population, decreased on a year to date basis from 107.0 percent to 98.8 percent (see Figure 6). The overall decline in the number of active mobile subscriptions was mostly attributed to the deactivation of a number of sim cards that were not compliant with the sim registration guidelines as a response to addressing the rising mobile money related frauds.

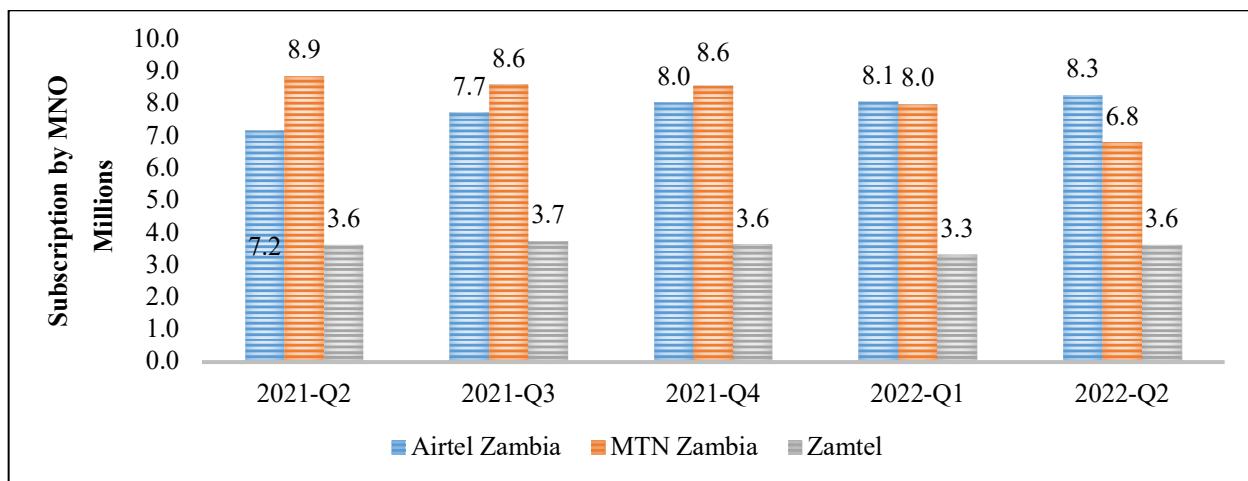
4.1.1. Active Mobile Network Subscription

Figure 6: Trends in Mobile Subscription: Second Quarter, 2021- to Second Quarter, 2022



Airtel Zambia had the largest number of active mobile network subscriptions of 8.3 million followed by MTN Zambia and Zamtel who had active mobile network subscriptions of 6.8 million and 3.3 million respectively. The market shares in the mobile network subscriptions shifted in the second half of 2022, with Airtel attaining the largest market share of 44.2 percent followed by MTN Zambia with a market share 36.4 percent. ZAMTEL continued to have the least market share of 18.2 percent despite recording a marginal improvement of 1 percentage point on market share (see Figure 7).

Figure 7: Trends in Mobile Subscription by MNO: June, 2021 to June, 2022

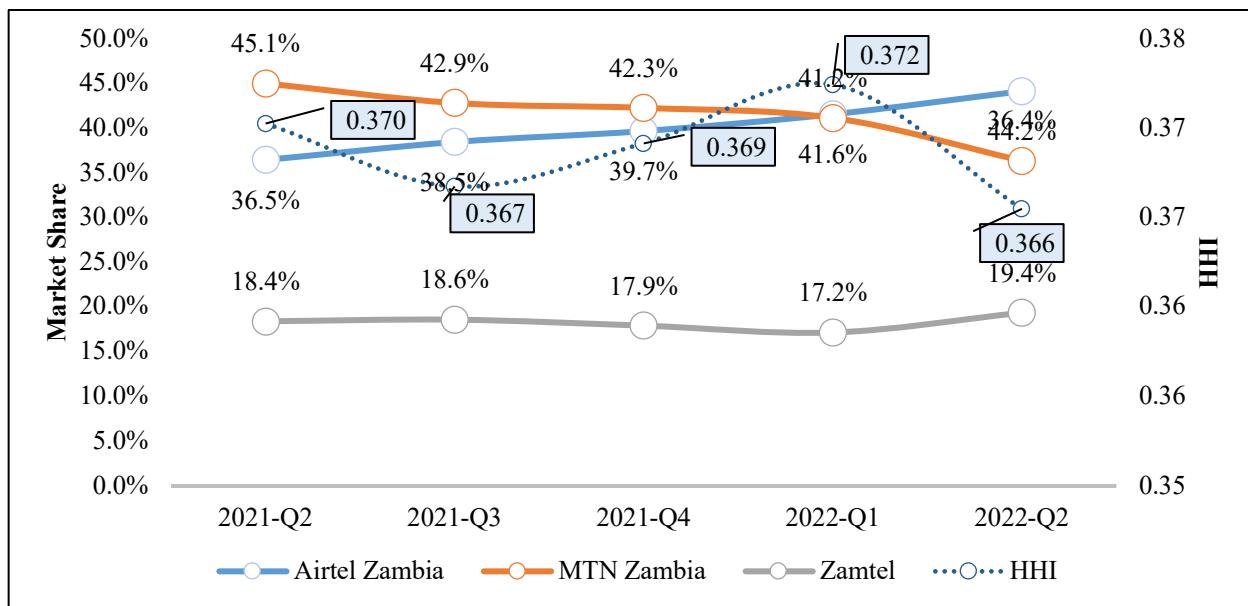


Source: Operator submissions

4.1.2. Market Shares of Mobile Telephone Subscriptions and Trends in Market Concentration

The market shares in the mobile network subsector shifted in the half of 2022, with Airtel attaining the largest market share based on subscription numbers. At the end of June 2022, Airtel's market share stood at 44.2 percent, increasing by 7.7 percentage points from 36.5 percent recorded at the end of June 2022 synonymous with its increased number of subscriptions. On the other hand, MTN Zambia's market share declined over the review period from 45.1 percent to 36.4 percent while that of Zamtel increased marginally by 1 percentage point. The Hirschman- Herfindahl Index (HHI), which measures market concentration, decreased marginally over the period from 0.37 to 0.366 reflecting an increasing competition market (see Figure 8).

Figure 8: Trends of subscription-based MNO market shares and HHI: 2021-q2 to 2022-q2



Source: Operator submissions

4.1.3. Unique Mobile Cellular Subscription Trends

The total number of unique mobile network subscriptions recorded at the end of June, 2022, measured by the count of unique identification numbers in the consolidated consumer registration database for all the three mobile network operators, was 7.4 million. This subscriber base represents a unique mobile penetration rate of 39.6 percent and is 59.2 percentage points lower than the multiple subscription penetration rate of 98.8 percent. The operator with the largest number of unique subscriptions was Airtel Zambia at 5.4 million subscriptions, followed by MTN Zambia and Zamtel at 4.2 million and 1.8 million unique subscriptions respectively. The intensity of multiple subscriptions across all the three operators was estimated at 2.5 subscriptions per unique subscription. ZAMTEL had the highest intensity of multiple subscription of 2.0 while Airtel Zambia and MTN Zambia had intensities of 1.5 and 1.6 respectively (**see Table 4**).

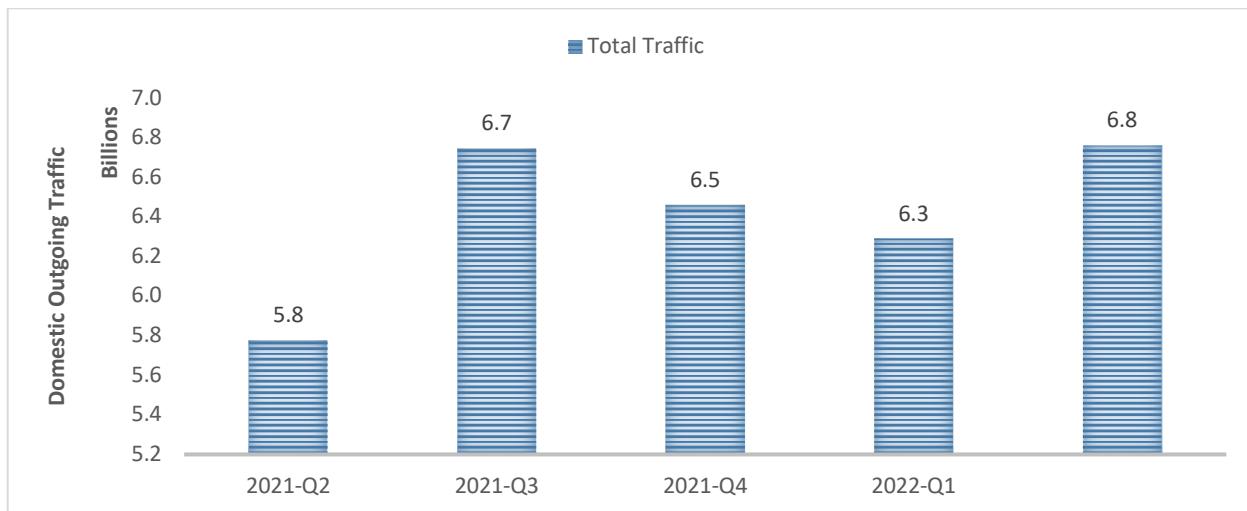
Table 6: Unique Subscriptions June, 2021- June, 2022

	Operator	Multiple Subscription	Unique Subscription	Intensity Ratio of SIM Multiplicity
Jun-22	MTN Zambia	6,812,430	4,237,055	1.6
	Airtel Zambia	8,267,842	5,401,276	1.5
	Zamtel	3,628,178	1,789,023	2.0
	Across All	18,708,450	7,396,426	2.5
Dec-21	MTN Zambia	8,569,227	4,493,314	1.9
	Airtel Zambia	8,043,806	4,890,461	1.6
	Zamtel	3,634,078	1,633,587	2.2
	Across All	20,247,111	7,477,715	2.7
Jun-21	MTN Zambia	8,871,612	4,525,251	2.0
	Airtel Zambia	7,184,544	4,406,802	1.6
	Zamtel	3,629,689	2,761,260	1.3
	Across All	19,685,845	7,497,322	2.6
Percent Change YTD		-5.0%	-1.3%	-3.7%

4.1.4. Mobile Cellular Traffic

The volume total domestic outgoing traffic increased in the first half of 2022 from 5.8 billion minutes in the first half of 2021 to 6.8 billion minutes reflecting an increase of 15.9 percent (see Figure 9). The overall increase in outgoing traffic was mostly attributed to the increased use of voice services on the basis of increasing affordability of these services.

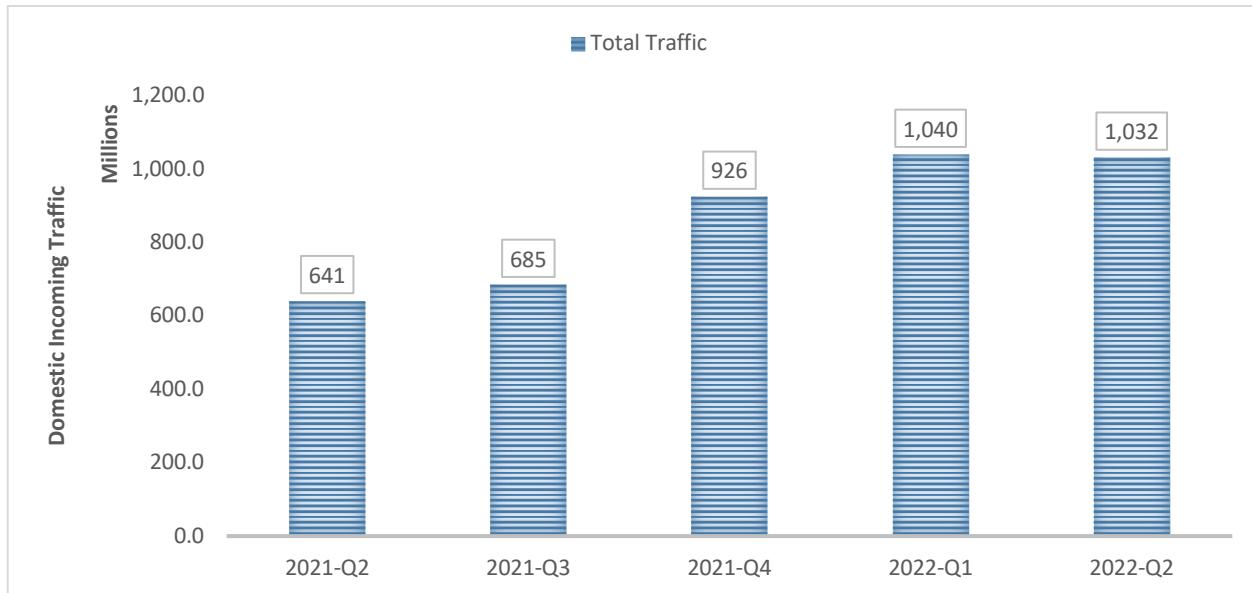
Figure 9: Trends in Domestic Outgoing Traffic Minutes: 2021-q2 to 2022-q2



Source: Operator submissions

Similar to the volume trends in domestic outgoing traffic, domestic incoming traffic also retained a positive growth trajectory increasing from 641 million minutes at the end of June 2021 to 1.03 billion minutes at the end of June 2022 representing a 61 percent growth rate (see Figure 10).

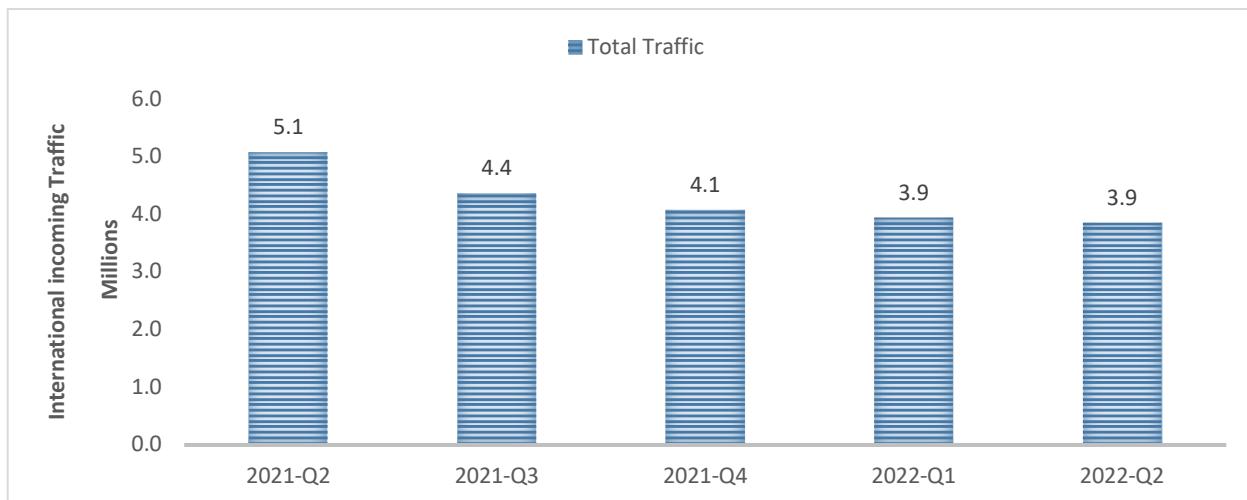
Figure 10: Trends in Domestic Incoming Traffic Minutes: 2021q2 to 2022q2



Source: Operator submissions

The volume of International voice traffic continued to recede in the first half of 2022. Notably, the volume of international incoming minutes declined by an average of 24 percent from 5.1 million minutes to 3.9 million minutes (see Figure 11). The reduction in terminating calls was somewhat attributed to the global increase in adoption of internet enabled platforms that allow for voice calls.

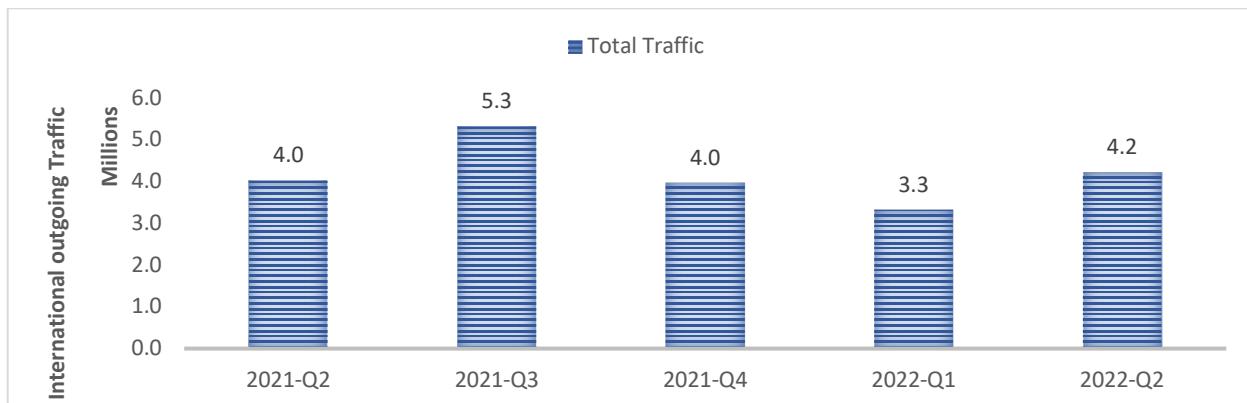
Figure 11: Trends in International Incoming Traffic Minutes: 2021-q2 to 2022-q2



Source: Operator submissions

On the other hand, the overall volume of international outgoing traffic increased marginally by 5 percent from 4 million minutes at the end of June 2021 to 4.2 million minutes at the end of June 2022 (see Figure 12). It is expected that the increase in international voice traffic is attributed to the increasing use of international voice call bundles which provide discounted tariffs.

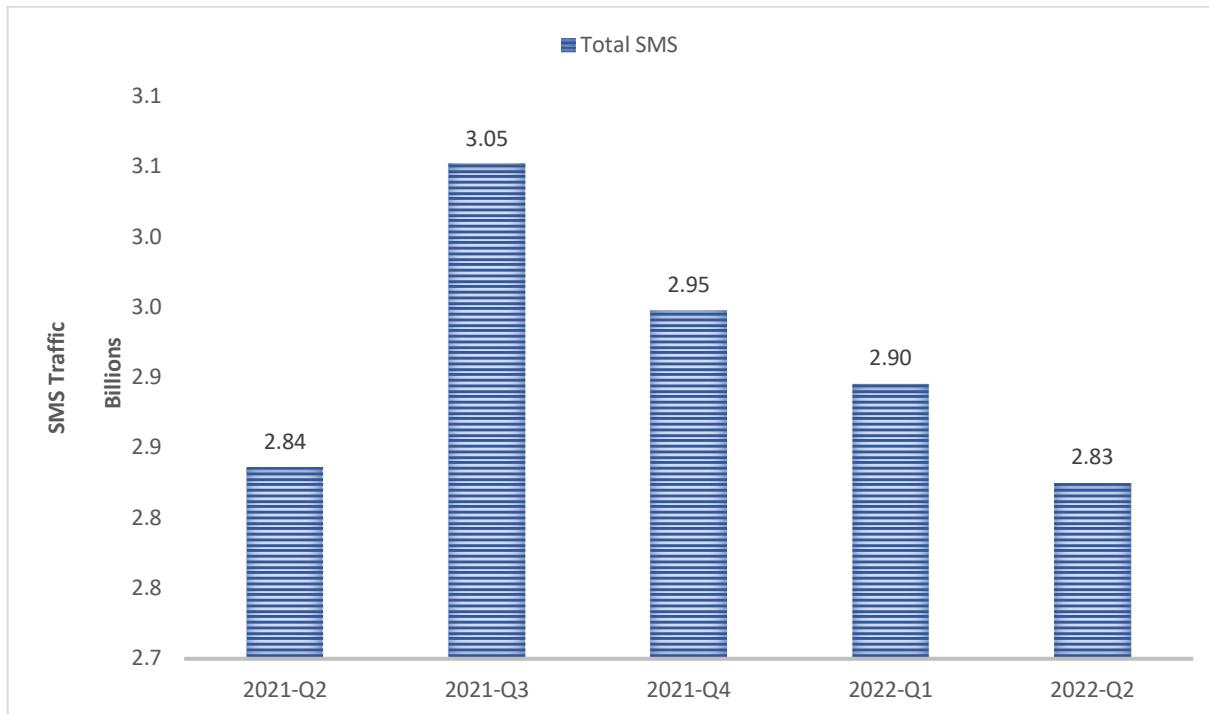
Figure 12: Trends in International Outgoing Traffic Minutes: 2021-q2 to 2022-q2



Source: Operator submissions

A slight decline in the volume of SMS traffic was observed from 2.84 billion SMSs at the end of June 2021 to 2.83 billion SMSs at the end of June 2022 (see Figure 13). The slight decline in SMS volumes was partly attributed to the increased use of internet enabled messaging platforms.

Figure 13: Trends in SMS and MMS Traffic: 2021-q2 to 2022-q2

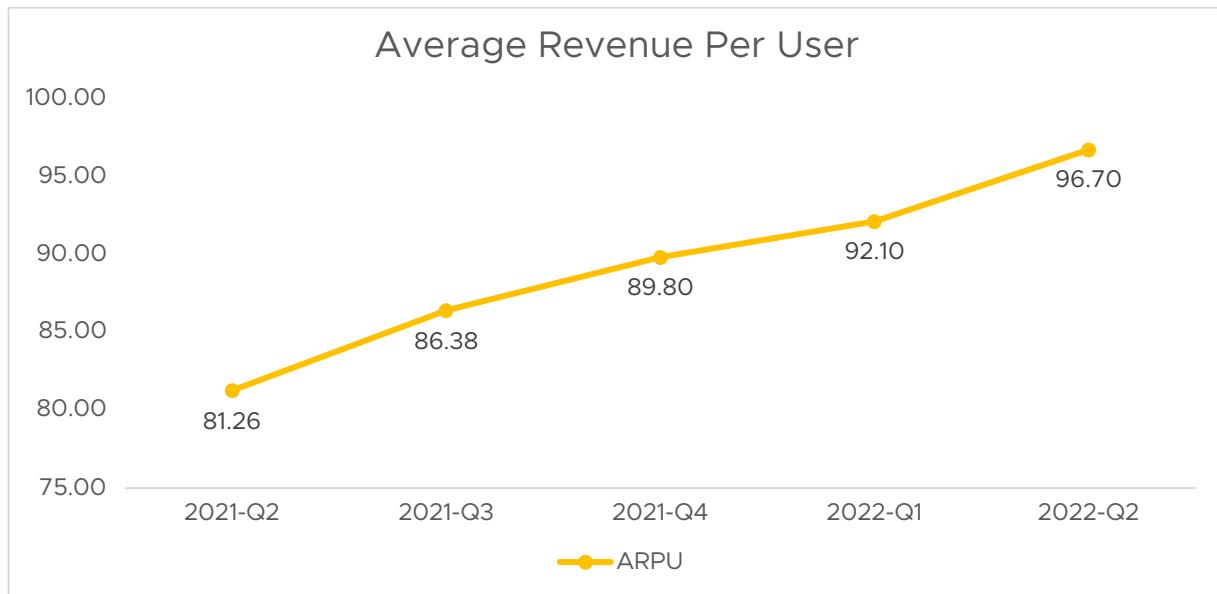


Source: Operator submissions

4.1.5. MNO Average Revenue per User

The average revenue per user, computed as a ratio of total revenues and total number of subscribers, increased over the review period from an average of ZMW81.26 to ZMW96.70 per user. The increase in revenues per users is partly attributed to the increasing usage of ICT services despite the decline in the number of active subscribers.

Figure 14: MNO ARPU: June, 2021 to June, 2022

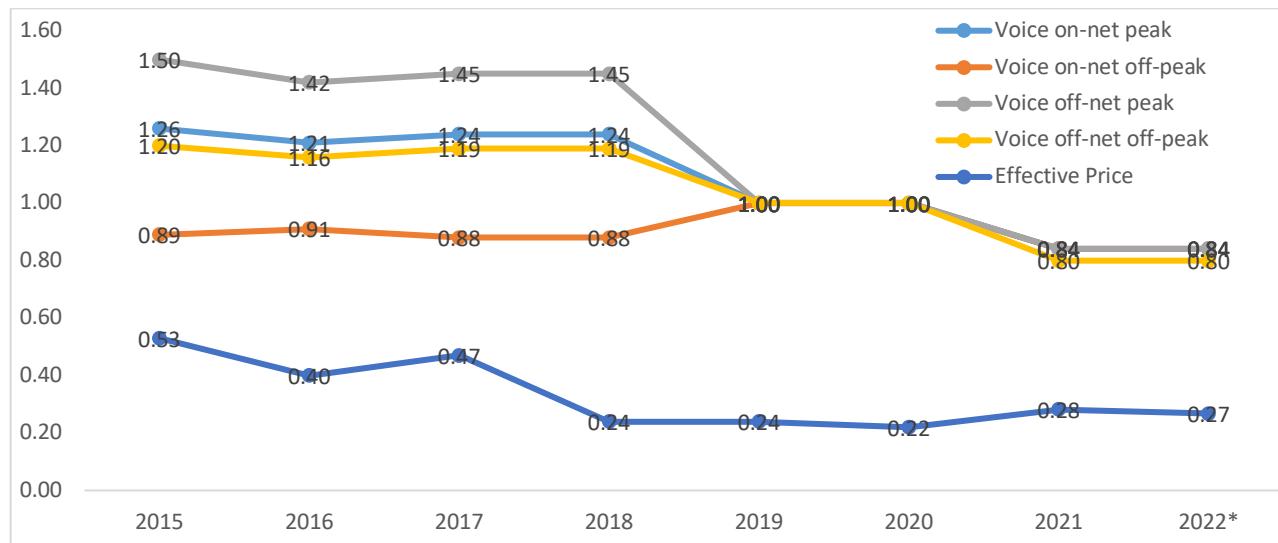


Source: Operator submissions

4.1.6. Mobile Voice Tariffs

The headline mobile voice call tariff at the end of the first half of 2022 was maintained at an average of ZMW0.84 per minute for both on-net and off-net calls during peak hours, while the off-net off-peak tariffs averaged ZMW0.80. On the other hand, the effective tariff, measured as a ratio of revenues to outgoing voice traffic, decreased from ZMW0.28 at the end of 2021 to ZMW0.26 in the first half of 2022. The decrease in the effective tariff has mostly been attributed to the increased usage of ICT products particularly bundled offers which provide more services than those available on a standard tariff.

Figure 15: Mobile Voice Tariffs ‘Per Minute in ZMW’: 2015-2022



*2022 estimate based in 2022q2 values

A benchmarking of default tariffs on mobile voice services across eighteen countries drawn from SADC and COMESA regions, revealed that the tariffs in Zambia are relatively competitive. Zambia ranked ‘seventh’ on peak On-net; ‘eighth’ on Off-peak On-net calls, ‘fifth’ on Off-peak On-net and ‘seventh’ on Off-peak Off-net calls. These ranking are similar to the rankings recorded at the end of December 2021 were Zambia ranked 7th on on-net calls and 6th on off-net calls. The declined rating could be attributed to the fluctuation in the currency exchange rates against the US dollar experienced locally and within the region.

Table 7: Benchmarking of Mobile Voice Tariffs in US dollars

Country	Mean Peak Tariffs	Rank	Mean Off-Peak Tariffs	Rank	Mean Peak Tariffs	Rank	Mean Off-Peak Tariffs	Rank
Angola	0.074	11	0.074	12	0.086	13	0.086	14
Botswana	0.101	16	0.055	9	0.101	16	0.055	8
Kenya	0.022	3	0.022	4	0.025	2	0.025	3
Lesotho	0.113	17	0.096	17	0.113	17	0.096	17
Madagascar	0.038	6	0.038	7	0.056	6	0.056	9

Malawi	0.081	13	0.081	14	0.085	12	0.083	13
Mauritius	0.019	2	0.019	3	0.083	11	0.035	5
Mozambique	0.095	15	0.095	16	0.095	15	0.095	16
Namibia	0.087	14	0.087	15	0.087	14	0.087	15
Nigeria	0.079	12	0.079	13	0.079	10	0.079	12
Rwanda	0.037	5	0.014	1	0.040	4	0.017	2
Seychelles	0.272	18	0.129	18	0.310	18	0.162	18
South Africa	0.059	8	0.059	10	0.059	7	0.059	10
Swaziland	0.068	10	0.037	6	0.068	9	0.037	6
Tanzania	0.016	1	0.016	2	0.016	1	0.016	1
Uganda	0.062	9	0.062	11	0.063	8	0.063	11
Zambia	0.053	7	0.050	8	0.053	5	0.053	7
Zimbabwe	0.035	4	0.026	5	0.035	3	0.035	4

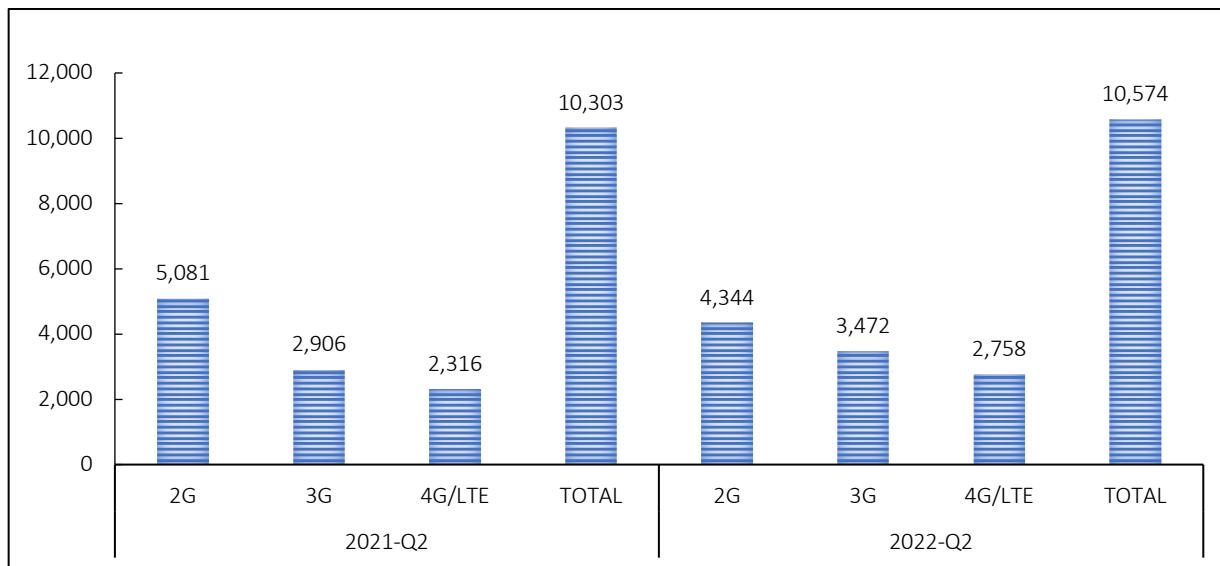
Source: MNO Websites

4.1.7. Telecommunication Infrastructure

The total number of operational telecommunications sites in the country continued to escalate in a bid to increase network coverage and quality. By the end of June 2022, there were a total number of 10,574 sites relative to 10,303 sites recorded at the end of June 2021. The increase in the number of sites over the period was estimated at 3 percent with substantial improvements observed amongst the 3G sites. The total number of 2G sites decreased over the period from 5,081 sites to 4,344 sites representing a decline of 14.5 percent while the number of 4G sites increased by 19 percent from 2,316 sites to 2,758 sites. Despite the decline in number of 2G sites, they accounted for the largest proportion of telecommunications sites in the country with a share of 41 percent, signifying a 9 percentage point decline from the first half of 2021. The proportion of 3G sites increased from 28 percent to 33 percent of the total number of sites over the reference period while that of 4G sites increased from 22 percent to 26 percent. The consistent increase in 3G and

4G sites is expected to promote the uptake of internet services and its anticipated multiplier effects on the economy.

Figure 16: Telecommunication Sites by Type of Technology: June, 2021 to June, 2022

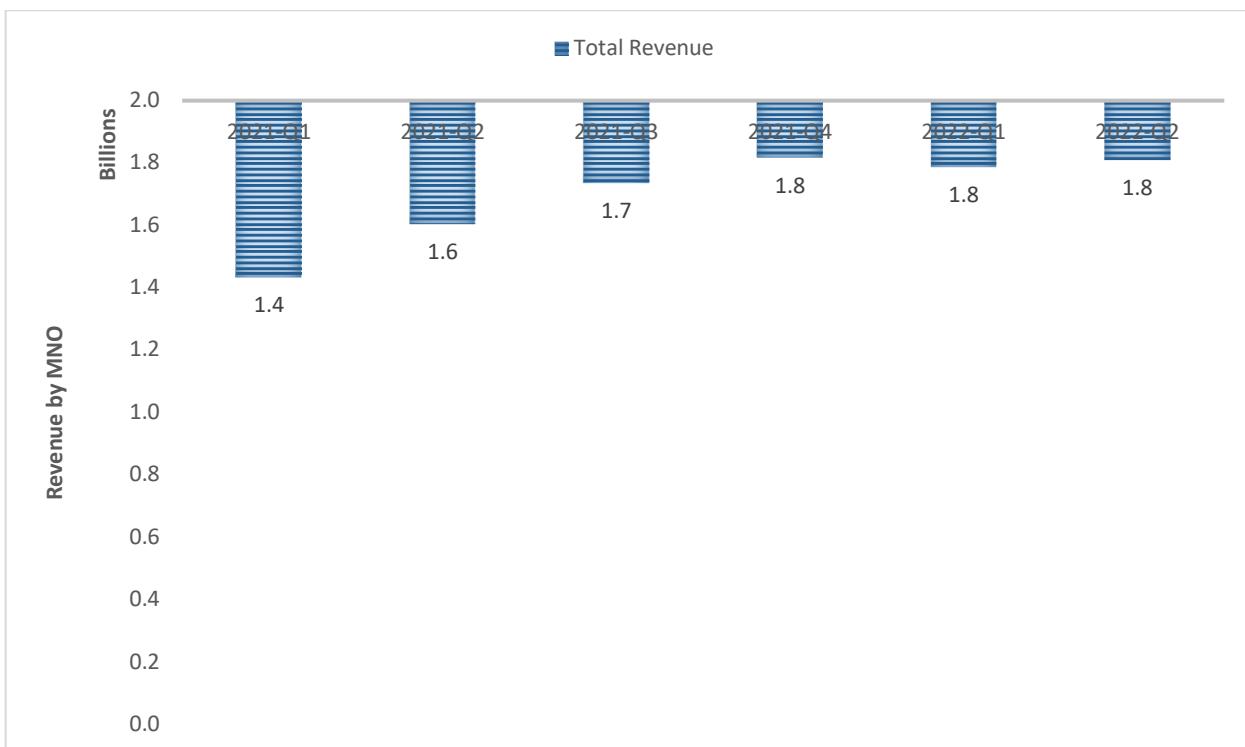


Source: Operator submissions

4.1.8. Mobile Revenue Performance

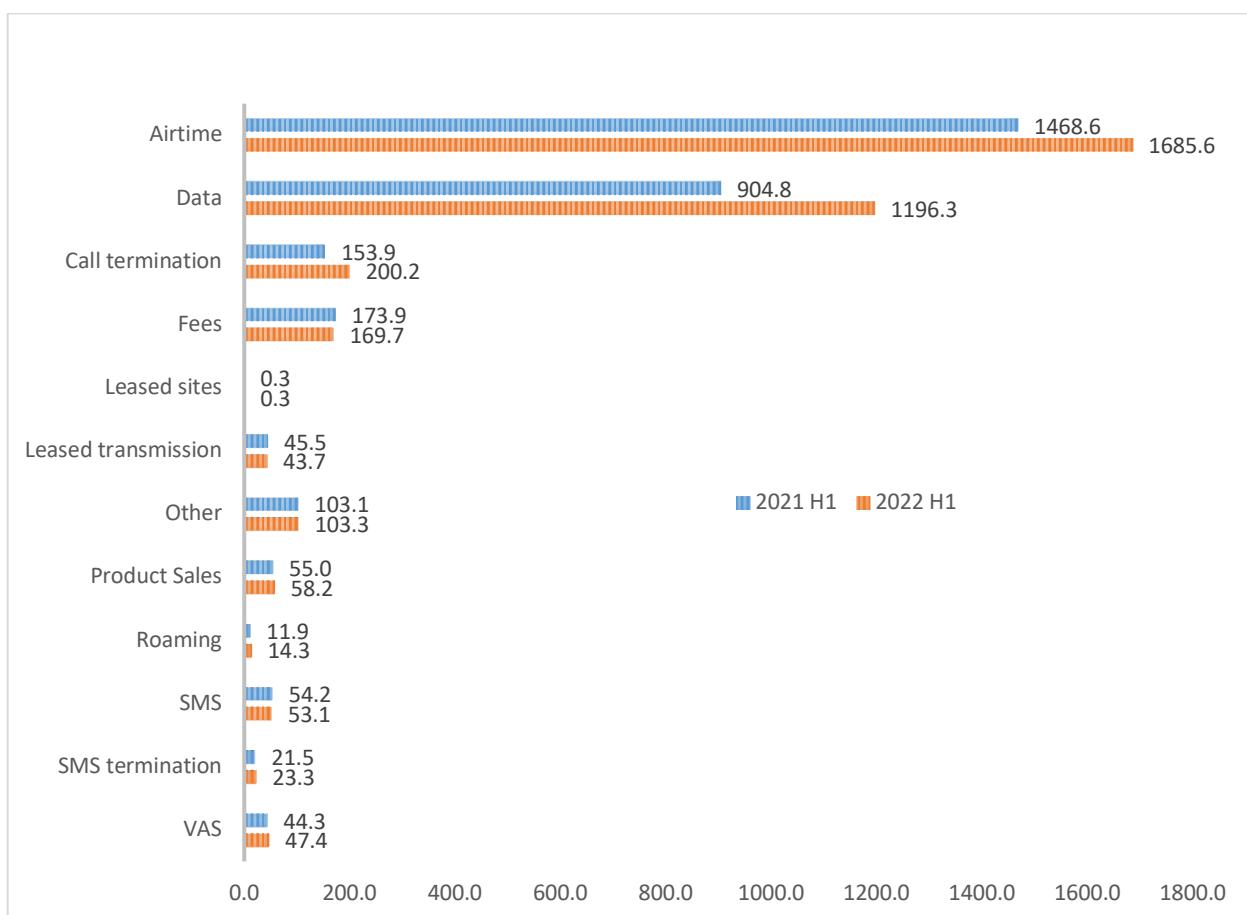
The total revenues obtained by the mobile network operators increased from ZMW3.0 billion reported in the first half of 2021 to ZMW3.6 billion reported in the first half of 2022 signifying a growth rate of 18.4 percent (Figure 25). The overall increase in the total revenues reflects positively on the performance of the sector. It is anticipated that the revenues will continue on an upward trajectory as more households and businesses adopt ICTs.

Figure 17: MNO Revenue Performance; June, 2021 to June, 2022



Total MNO revenues in the first half of 2022 were mostly comprised of revenues from airtime, data, call terminations services and fees. Revenues from airtime remained dominant at 46.9 percent of total revenues while data sales had a proportion of 33.2 percent of the total revenues. These proportions increased substantially from the first half of 2021 where airtime revenues increased by 14.8 percent from a share of 48 percent and data increased by 32.2 percent from a share of 30 percent of total revenues. Revenues from leased sites, SMS termination and roaming remained the least revenue source with a total contribution of 1 percent on the total revenues.

Figure 18: MNO Revenues by Source; June, 2021 - June, 2022



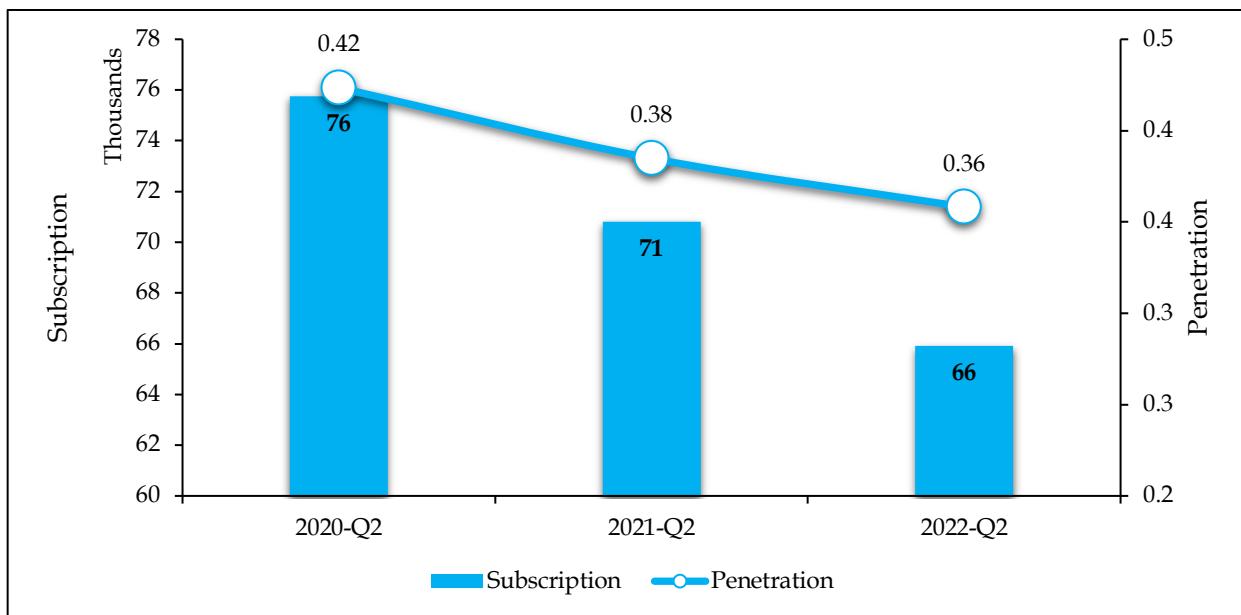
4.2. Fixed Telephony Sub Sector

4.2.1. Fixed Telephone Subscription

There was a notable decline in the subscriptions of fixed telephone (PSTN¹¹) services during the period under review. Between June 2021 and June 2022, subscription declined from nearly 76 thousand lines to 66 thousand lines reflecting a decline of 6.9 percent. The performance reflects a corresponding reduction in fixed telephone penetration from 0.42 percent to 0.36 percent over the review period (see **Error! Reference source not found.**).

¹¹ Public switched Telephone Networks

Figure 19: Active PSTN Lines and Penetration Rates: June 2021 to June 2022

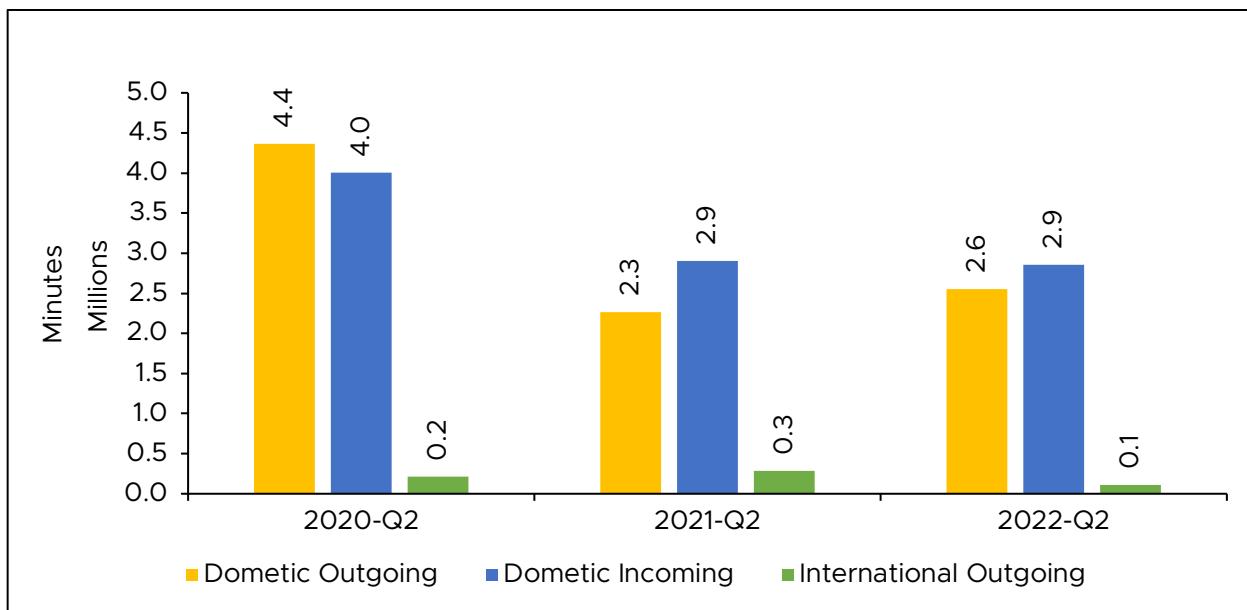


Source: ZICTA

4.2.2. Fixed Telephone Traffic

There was a noted reduction in both domestic outgoing and international outgoing traffic from PSTN lines between June 2021 and June 2022. Total domestic outgoing traffic reduced from 4.4 million minutes reported during the first half of 2021 to 2.6 million minutes reported during the first half of 2022 representing a decline of 40.9 percent. Similarly, the total number international outgoing minutes reduced from 4 million minutes reported during the first half of 2021 to 2.9 million minutes reported during the first half of 2022 reflecting a reduction of 27.5 percent. The traffic has continued to exhibit a sustained reduction mainly on account of the substitution between fixed and mobile telephony services.

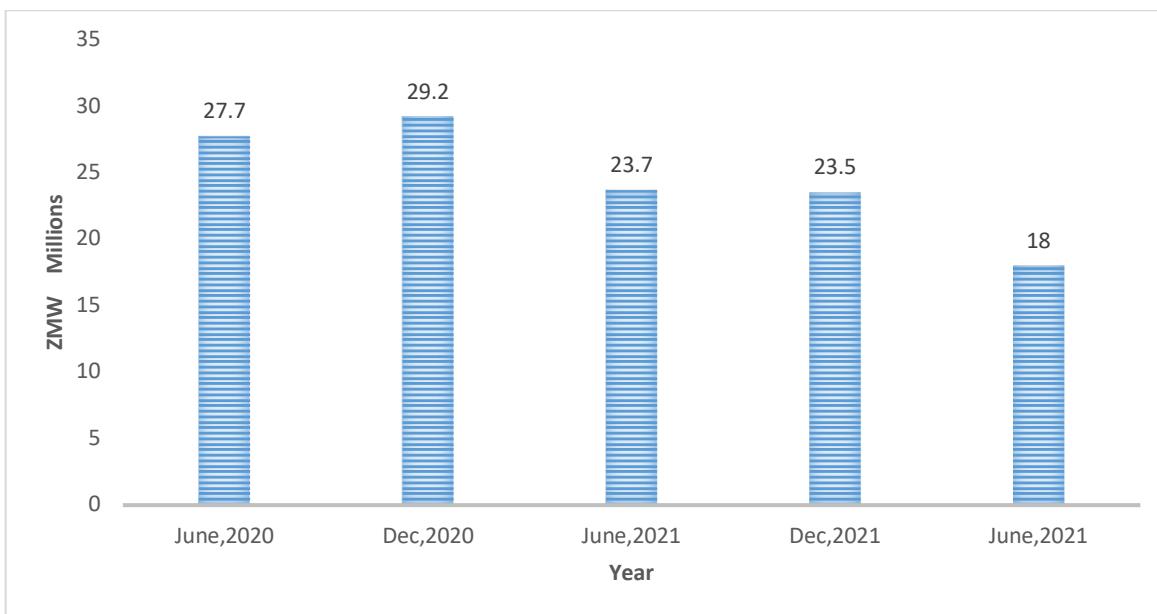
Figure 20: Fixed Line Traffic; June, 2020-June, 2022



4.2.3. Fixed Telephone Revenue Performance

PSTN revenues recorded a decline of 24.1 percent between the first half 2021 and the first half of 2022. The total revenue generated from PSTN services reduced from K23.7 million at the end of June 2021 to K18 million at the end of June, 2022. This decline in revenues from fixed telephony services could mainly be explained by reduction in intensity of usage of fixed telephony services. Corporate entities continue to be the main users of PSTN services. A progressive strategy for the subsector would be to provide PSTN services as part of bundled packages with internet services to attract a wider spectrum of clients.

Figure 21: Trends in Revenues from the PSTN Subsector: June 2021 to June 2022



Source: ZICTA

4.3. Fixed and Mobile Internet Services

4.3.1. Fixed and Mobile Internet Subscriptions

The total number of active internet subscriptions in the country decreased from 10.4 million subscriptions recorded in the first half of 2021 to 10.1 million subscriptions reported at the end of June, 2022 reflecting a decrease of 2.8 percent. Consequently, the internet penetration rate increased by 5.5 percentage points, from 56.3 percent to 53.2 percent between June, 2021 and June, 2022. The decrease could be mainly be attributed to the drop in subscription numbers following the decommissioning of over 2 million SIM cards to curb the rise in matters of fraud and other cyber related crimes and incidents. It is also worth noting that fixed internet subscriptions decreased marginally during the review period. However, nearly 99 percent of the internet users are mobile internet users implying most internet services are accessed through SIM card based technology (See **Error! Reference source not found.**). This could partly be explained by the ease of accessing mobile internet services, the relatively lower cost of accessing the services compared to fixed internet services and portability of the service. In addition, the roll out of infrastructure needed for fixed internet services is relatively less extensive.

Usage of mobile internet services has continued to grow in Zambia because MNOs are continuously extending their network coverage with capacity to provide 4G/LTE services, affordable smart devices and increased use of VOIP and social media applications. Further, some fixed Internet providers have also adopted LTE technology for their customers.

Subscription to fixed internet services decreased by 1.2 percent from over 85 thousand subscribers reported in June, 2021 to over 84 thousand subscribers in June, 2022. The majority of users with fixed internet subscription are corporates mainly due to reliability of service. However, the high cost associated with fixed Internet services serves has deterred most potential household users. Therefore, most households prefer mobile Internet to fixed Internet. In addition, providers of mobile internet services are also providing enterprise solutions leading to some corporates switching.

Table 8: Trends in Internet Usage: June 2021 to June 2022

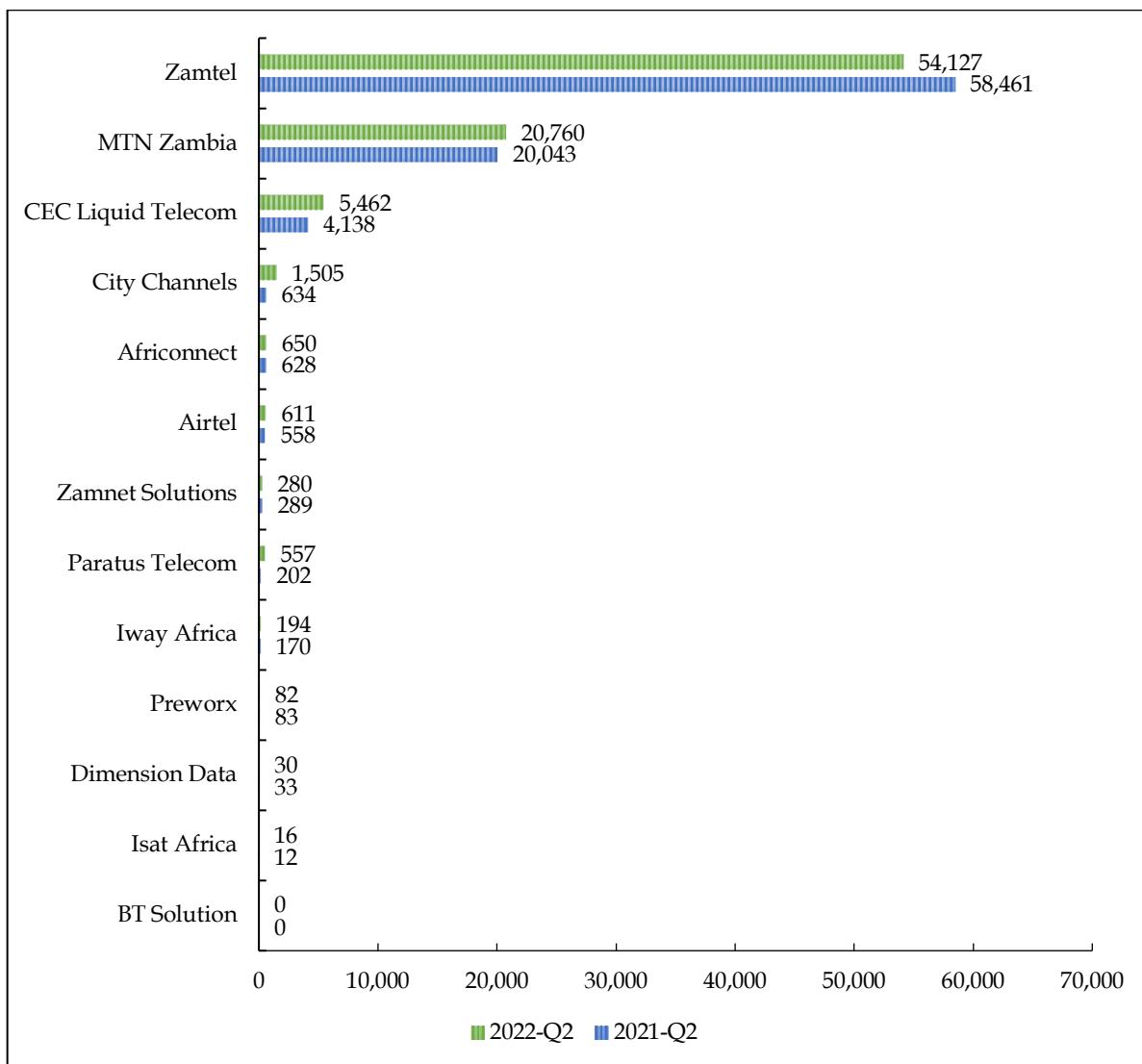
Internet Usage	2021		2022	YoY Change
	Jun-21	Dec-21	Jun-22	
Internet Subscription – Fixed	85,251	80,611	84,258	-1.2%
Fixed Internet subscriptions Per 100 Inhabitants	0.46	0.44	0.45	-3.9%
Mobile internet subscriptions	10,280,525	10,357,442	9,989,947	-2.8%
Mobile Internet subscriptions Per 100 Inhabitants	55.9	56.3	52.8	-5.5%
Internet Subscriptions – Fixed & Mobile Internet	10,365,776	10,438,053	10,074,205	-2.8%
Internet Subscriptions Per 100 Inhabitants	56.3	56.7	53.2	-5.5%

Source: ZICTA

4.3.2. Internet Services Market Shares

The fixed internet services market remains highly concentrated despite having over 17 licensed operators. Zamtel, MTN Zambia and Liquid telecom accounted for nearly 97 percent of the subscription for the fixed internet services. The focus of most ISPs continued to be corporate clients as opposed to individuals given strong competition from mobile internet services. Zamtel accounted for the highest proportion of subscribers at 64.2 percent during the first half of 2022. MTN Zambia and Liquid Telecom trailed with 24.6 percent and 6.5 percent respectively (see **Error! Reference source not found.**).

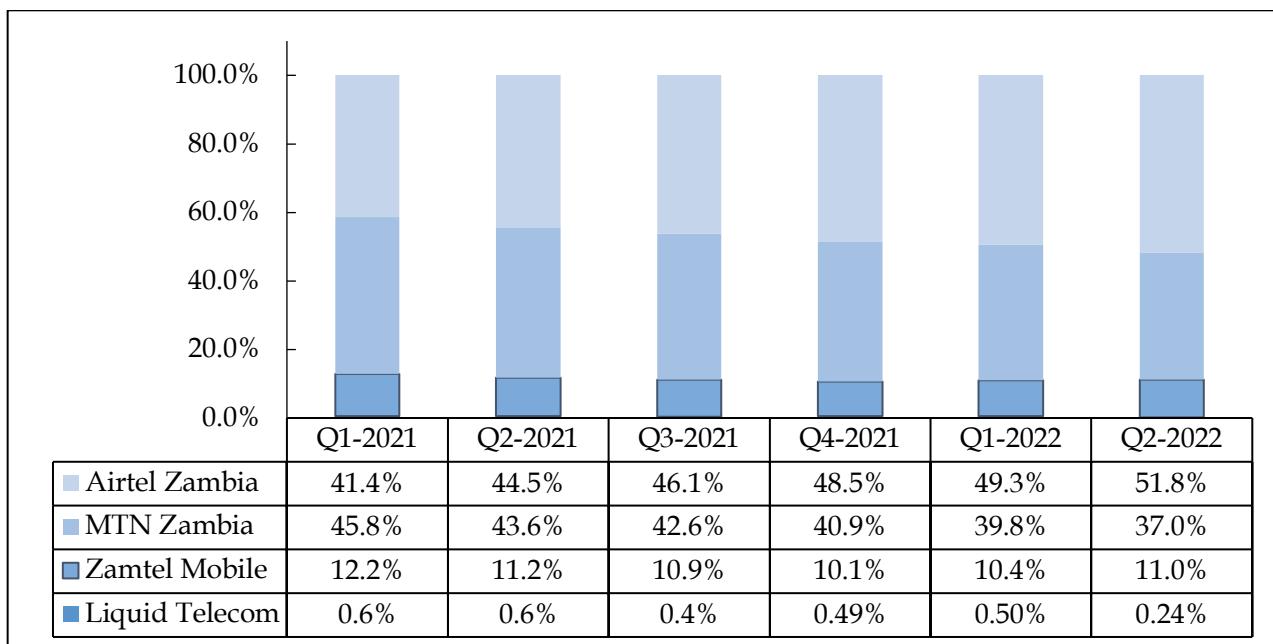
Figure 22: Fixed Internet Service Subscription by Service Provider: June 2021 to June 2022



Source: ZICTA

MTN Zambia and Airtel Zambia continued to have relative dominance in the shares of mobile internet users accounting for nearly 89 percent of mobile subscriptions with the mobile internet access on the market. Airtel Zambia and MTN Zambia had the large market shares of 51.8 percent and 37.0 percent in the first half of 2022. However, Liquid Telecom reported a drop in subscription of over 50 percent increase in mobile Internet users during the same period. Overall, the market shares for mobile Internet services remain dominated by MNOs despite the participation of fixed internet services providers providing the service mainly via the fixed modems. This is mainly on account of the huge subscriber bases for MNOs wider mobile cellular network coverage.

Figure 23: Trends in Shares of Mobile Internet Users: June 2020 to June 2021

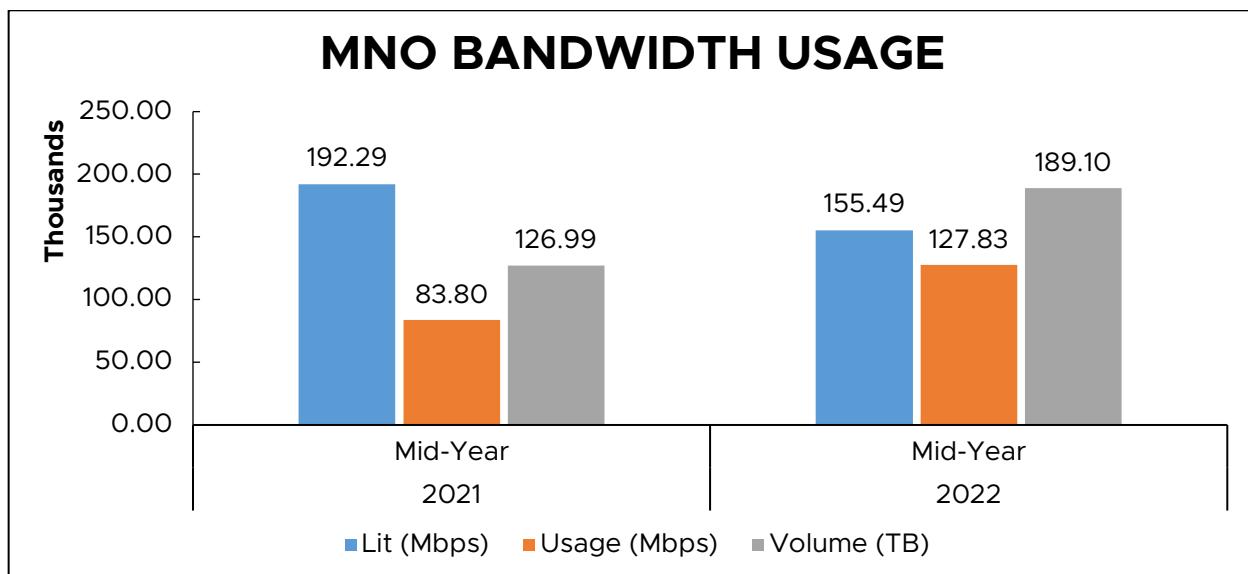


Source: ZICTA

4.3.3. Mobile Internet Service Providers Capacity and Utilisation

The Lit/equipped capacity for the first half of 2022 among the mobile cellular network operators dropped to reach 155,486.67 Megabits per second (Mbps) from 237,594 Mbps reported in the first half of 2021. Overall, capacity usage increased by 52.5 percent during the review period. The throughput volume of data increased significantly during the review period. The volume increased by nearly 48.9 percent in the first half of 2022 to reach 189,099.33 terabytes (TB) from 126,989 TB in the first half of 2021.

Figure 24: Trends in Network Capacity and Utilisation for Mobile Internet Providers: June 2021 to June 2022



Source: ZICTA

4.3.4. Benchmarking of Mobile Voice and Data Basket Prices in the Region

A benchmarking of the price of a basket of ICT goods within the region was carried out to determine the affordability of ICT service. Prices were obtained from the largest Mobile Network Operator in each country. The basket of ICT goods, which contains an average of 100 off-net minutes and 500 megabytes of data per month, was estimated to cost USD3.00. Zambia was ranked third (3) in the region indicating that the country had a fairly competitive price within the region. When compared to the countries' 2021 Gross National Product (GNI) per capita, the price of the ICT goods basket was estimated at 3.5 percent and was ranked sixth in the region.

Table 9: Benchmarking of Mobile Voice and Data Price Basket in Selected Countries

Country	Bundle price (USD)	Rank	Price as % of GNI	Rank
DR Congo	0.87	1	1.91	2
Rwanda	2.88	2	4.44	9
Zambia	3.00	3	3.5	6
Nigeria	3.10	4	1.86	1
Madagascar	3.23	5	8.07	12
Tanzania	4.23	6	4.70	10
Angola	6.22	7	3.35	5
Kenya	6.40	8	4.36	8
Mozambique	7.26	9	18.95	14
Uganda	9.69	10	14.54	13
Swaziland	11.43	11	3.83	7
Botswana	12.03	12	2.17	3
South Africa	14.86	13	3.30	4
Namibia	21.05	14	5.59	11

Source: Various Mobile Network Operators' Websites

4.3.5. Benchmarking of 5GB Monthly Bundle Data Prices in the Region

A benchmarking of the price of a 5GB monthly data bundle was carried out to determine the competitiveness of the services in the country. Zambia ranked sixth (2nd) with regards to pricing of a monthly data bundle relative to fourteen other countries, indicating a high country competitiveness with respect to affordability. The average price of the 5GB monthly data bundle was estimated at USD 9.6 which made Zambia very competitive in the provision of mobile data services in the region.

Table 10: Benchmarking of 5GB Monthly Bundle Data Prices in Selected Countries

Country Name	Price 5GB Data Monthly Validity (USD)	Rank
Angola	7.7	7
Botswana	15.8	12
Eswatini	9.8	10
Kenya	8.8	9
Lesotho	8.4	8
Madagascar	4.8	5
Mozambique	4.4	4
Namibia	23.7	14
Nigeria	12.0	11
Rwanda	2.4	1
South Africa	5.9	6
Tanzania	4.3	3
Uganda	22.9	13
Zambia	3.0	2
Regional Average	9.6	

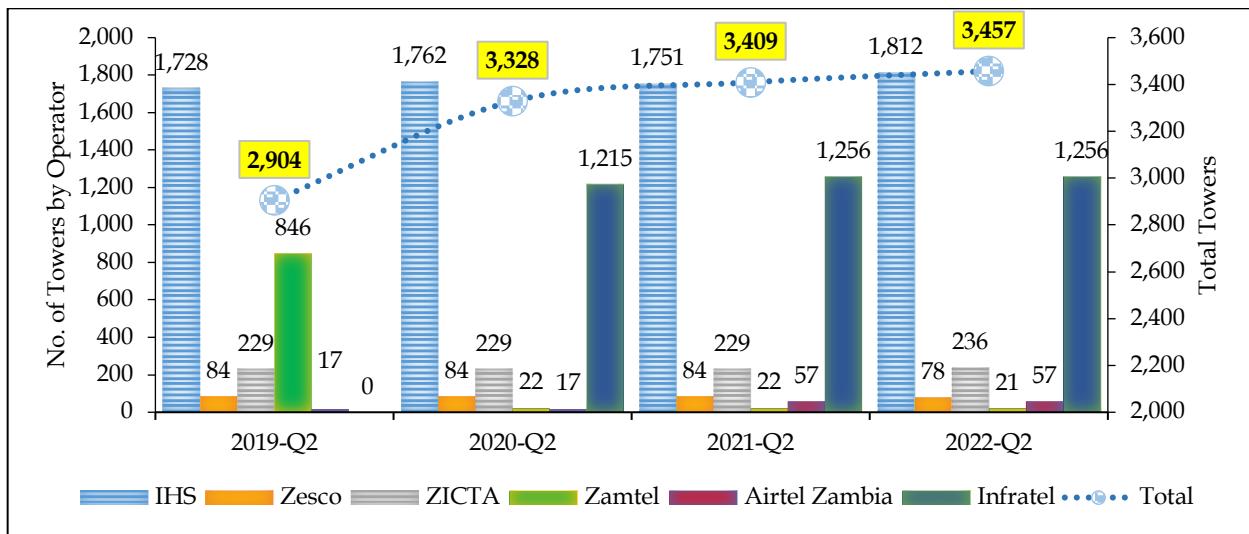
Source: Various Mobile Network Operators' Websites

4.4. Passive Infrastructure

4.4.1. Ownership of Tower Infrastructure

The total number of communication towers in Zambia increased from 3,409 reported at the end of June, 2021 to 3,457 recorded at the end of June, 2022, representing an increase of 1.4 percent. IHS recorded the largest growth of 3.4 percent in the number of communication towers owned as it continued to provide colocation services on their towers for all the service providers. ZICTA also recorded a positive growth rate of 3.1 percent in the number of towers (see **Error! Reference source not found.**).

Figure 25: Ownership of Tower Infrastructure



Source: Operator submissions

4.5. Data Storage Facilities

4.5.1. Capacity and Utilisation of Data Storage Facilities

The cloud services subsector has grown in terms of size and scope of services since the first operator was licenced in 2017. The growth has been supported by the onset of the COVID-19 pandemic in 2019. Currently Netone and Infratel are the two licensees providing cloud services (also known as data centre services) exclusively. Other players in the subsector provide cloud services as value added services (VAS). Table 11 shows cloud service performance statistics during the first half of 2021 and 2022. Most characteristics related to the infrastructure remained unchanged during the period under review. However, there were significant increases reported in terms of physical racks usage, own data storage usage, and number of customers during the period under review. Data storage providers recorded a 316.5 percent growth in the period under review, however, there was a decline in bandwidth usage in June 2021 on a year to date basis. Table 11 shows performance summary statistics for the first half of 2021 for the data centers.

Table 11: Data Centre service providers' performance statistics: June 2021 to June 2022

Period	Physical Racks		Own Data Storage		Bandwidth Usage		Customers	Revenue
	Capacity	Usage	Capacity	Usage	Capacity	Usage	Number	ZMW'000
2021 Q2	237	30%	5.02 PB	0.99 PB	55 Mbps	98%	255	24,748.89
2022 Q2	221	42%	4.07 PB	1.72 PB	410 Mbps	22%	1,062	14,115.80

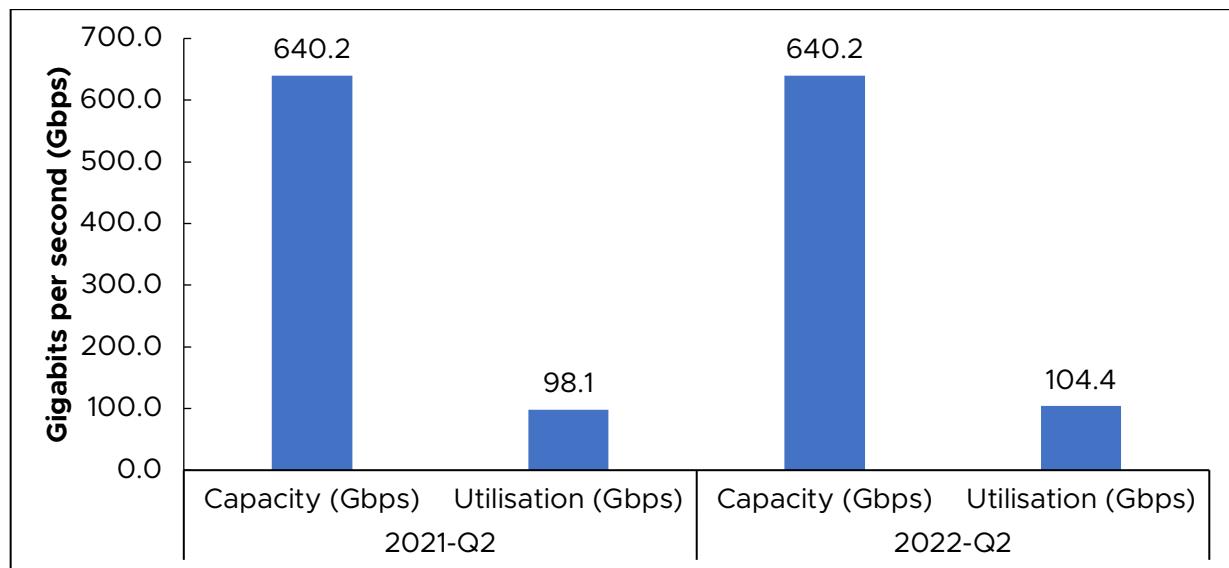
Source: ZICTA

4.6. Transmission Network Market

4.6.1. Network Capacity and Utilisation in the Transmission Network Market

The total available capacity among wholesale carriers remained consistent at 640.2 Gigabits per second (Gbps) between June, 2022 and June 2021 reflecting no changes in capacity contracted on a year to date basis. On the other hand, the capacity utilization increased from 98.1 Gbps reported at the end of June 2021 to 104.4 Gbps recorded at the end of June 2022 representing an improvement of 6.4 percent on a year to date basis. The increase in network utilization reflects positively on the adoption of internet, a phenomenon which has been attributed to the increase in the use of digital platforms.

Figure 26: Trend in Network Transmission Capacity and Utilisation: June 2021 to June 2022



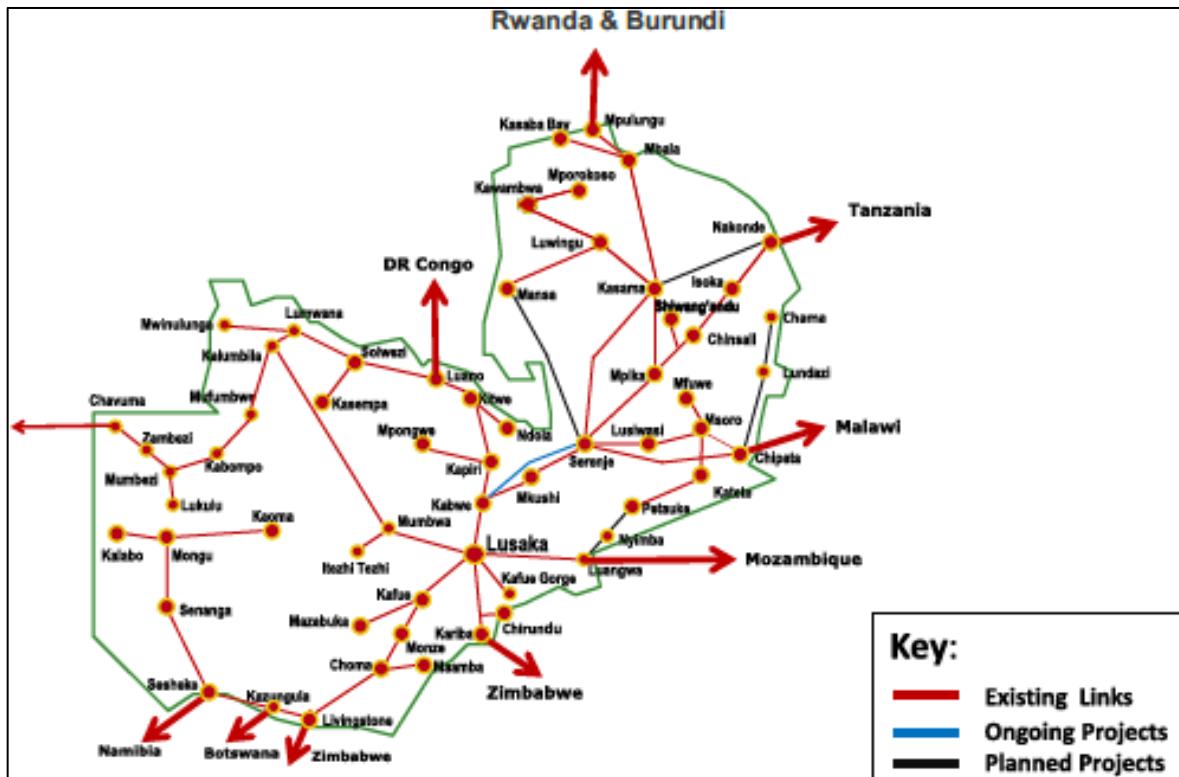
4.6.2. Wholesale Transmission Infrastructure

As at the end of June, 2022, there were a total of eight (8) operators in the wholesale transmission infrastructure market. Fibercom retained the most extensive fibre-optic network coverage in the country extending to a total length of over 12,000 km with various international gateways. Liquid Intelligent Technologies owned significant fibre network with a total length of over 8,000 km. MTN and Airtel Zambia continued to collaborate on an underground metropolitan network in Lusaka while ZAMTEL retained its extensive network with access to several international submarine cables. Other operators in the subsector included Smartnet which had a total of 1,583.09 km of optic fibre and Paratus Telecom who owned 157.09 km of fibre with 130.91km of backbone ring fibre as at end of June, 2022.

4.6.2.1. Fibrecom Fibre Network

Fibrecom has deployed over 12,000 km of optic Fibre cables countrywide enabling a wide coverage and making it the only network that has directly connected all 10 provincial centres. The operator has continued to intensify its optic-fibre network in the Eastern, Northern and Central areas of the country. Through submarine cables, Fibercom has interconnected its optic fibre network internationally to Namibia, Botswana, Zimbabwe, Malawi, Angola and Tanzania (see Figure 27).

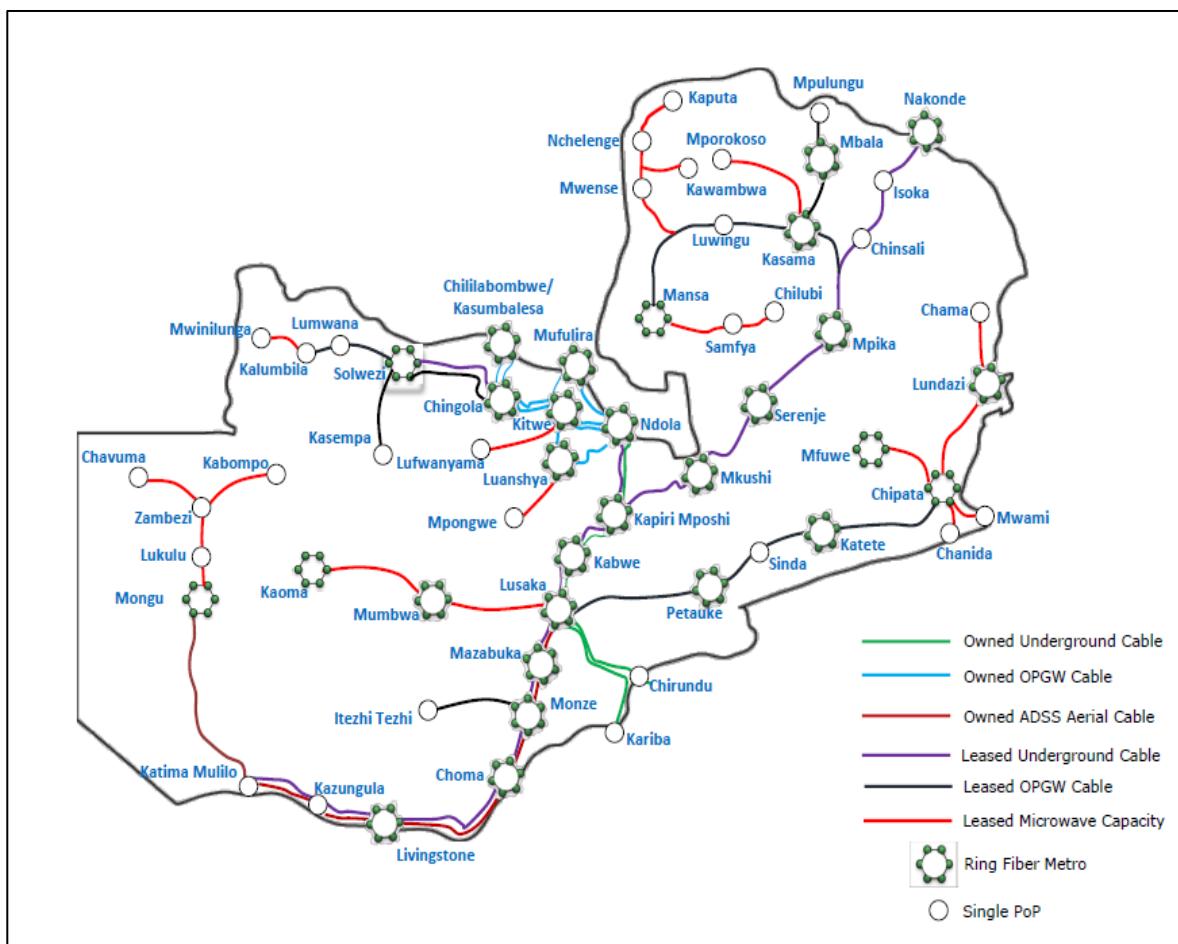
Figure 27: Fibrecom Network Map: 2021



4.6.2.2. Liquid Telecom Network

Liquid Telecom had deployed a total optic fibre length of 8,195.6 km countrywide as at the end of June, 2022. The backbone network is linked to 29 ring fibre metro networks with several microwave single points-of-presence (PoP). The network also has various international links through gateways at Livingstone, Nakonde, Chililabobwe and Sesheke. These gateways provide links to Zimbabwe, Tanzania and Democratic Republic of Congo (see figure 28).

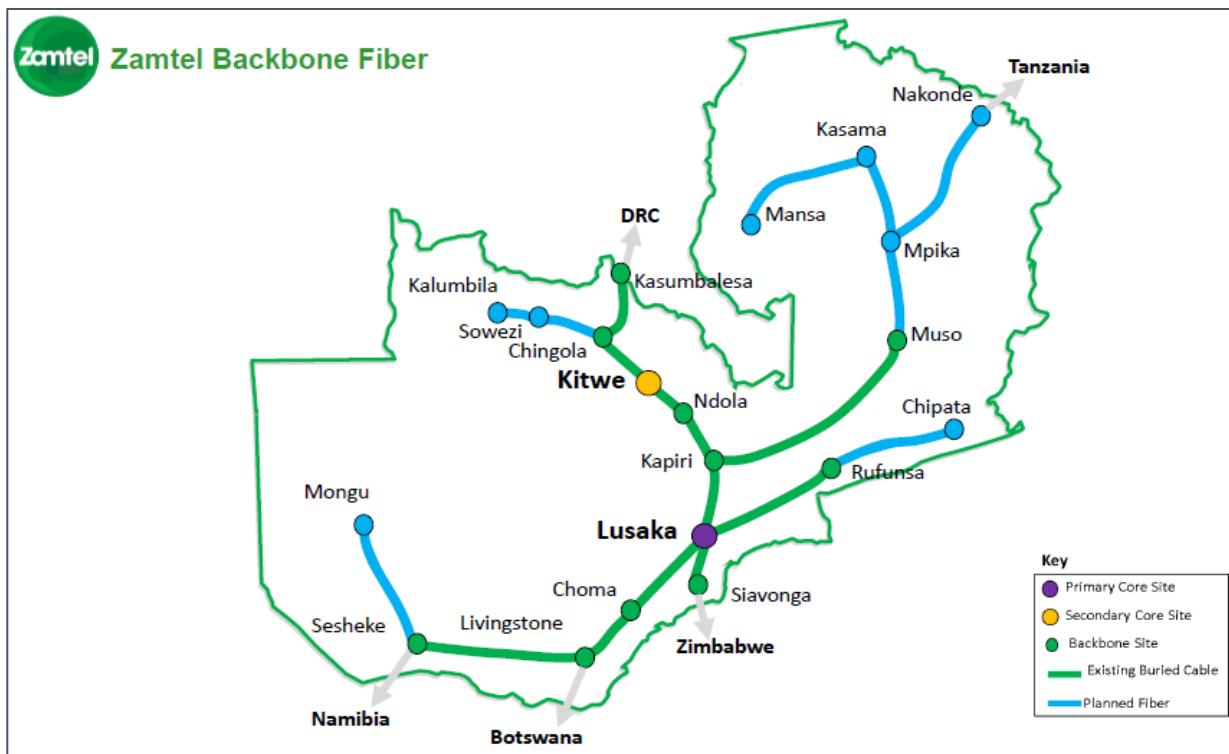
Figure 28: Liquid Technologies Metro and Backbone Network Diagram, 2022



4.6.2.3. Zamtel Fibre Network

Zamtel fibre network is similarly extensive, covering most areas along the line of rail, with access to several international submarine cables. These links have enabled access to undersea fibre-optic cables since 2011. The international fiber links connect to the Democratic Republic of Congo, Tanzania, Zimbabwe, Namibia and Botswana (see Figure 29).

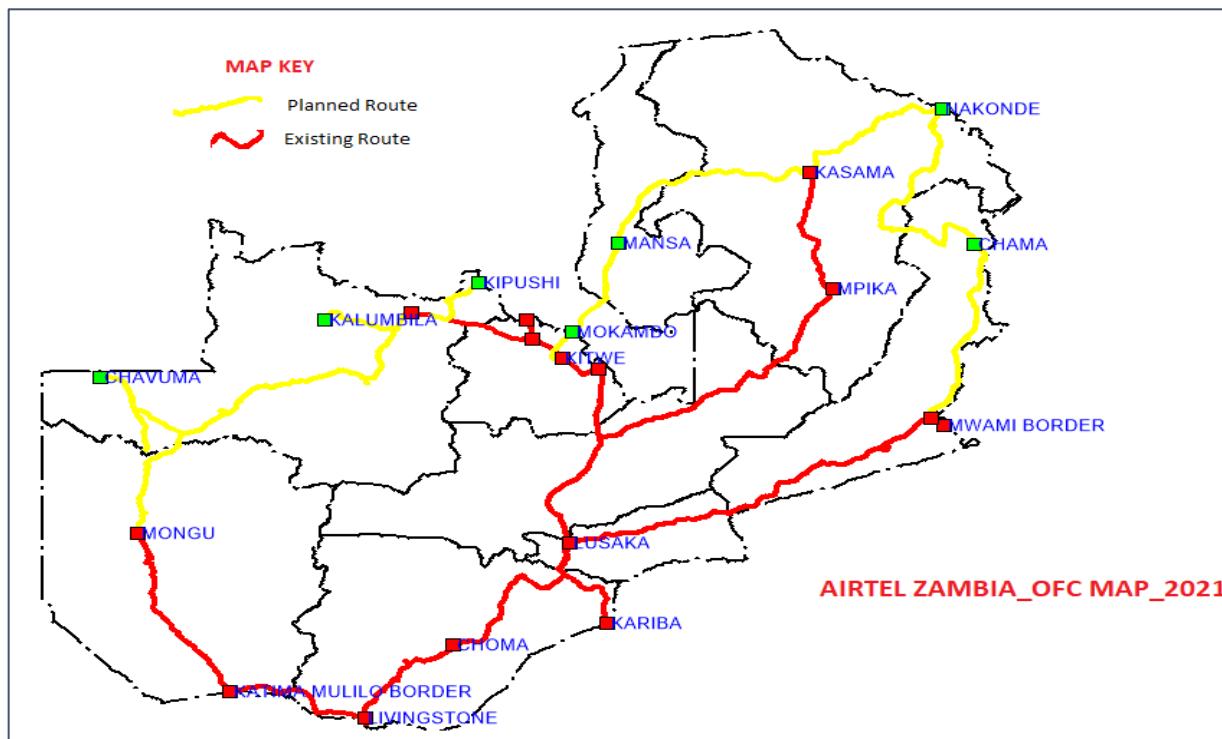
Figure 29: Zamtel Fibre Backbone Infrastructure



4.6.2.4. Airtel Networks Fibre Network

Airtel Zambia had, at the end of June, 2022, rolled out optic fiber network in all major towns of the country. The network also plans to expand its fiber network to other towns in the Luapula, Muchinga and North Western Provinces. Similarly, the national and international traffic fibre rings are planned for the next phase of expansion.

Figure 30: Airtel Network Planned and Existing Fibre Network Infrastructure



4.6.2.5. MTN Zambia Fibre Network

As at the end of June 2022, MTN Zambia retained ownership of optic fiber network located mostly in the northern part of the country including the Copperbelt, Central, Lusaka, North-Western, Northern and Muchinga Provinces. The total infrastructure deployed by the operator as at end of 2021 was 3,136km in backbone fiber, 482km of metro fiber and 288.65km of FTTH fiber. Backbone Fiber located in the Western and Southern Provinces was mostly co-owned with Airtel Zambia. MTN Zambia has an international gateway for data to interconnect beyond the Zambian borders to Zimbabwe, Namibia, Tanzania, Botswana and the Democratic Republic of Congo (DRC) (see Error! Reference source not found.1).

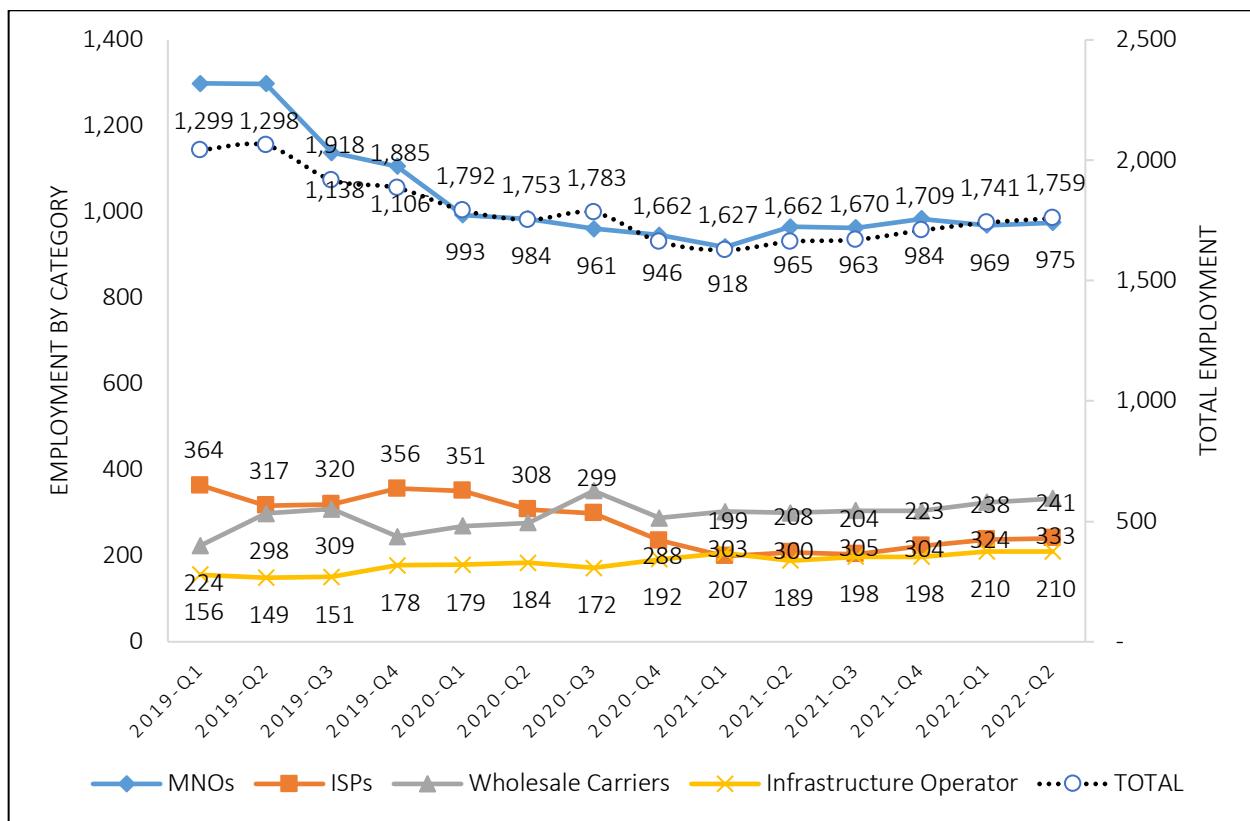
Figure 31: MTN Zambia Aerial and Underground Backbone Fibre Network



4.7. Employment in the ICT Sector

Overall employment among licensees increased between the first half of 2021 and the first half of 2022. Specifically, the total number of persons employed among licensees increased from 1,662 at the end of June, 2021 to 1759 at the end of June, 2022 representing an improvement of 5.8 percent. The largest growth rate on a year to date basis was among the infrastructure companies and wholesale transmission providers with growth rates of 11.1 percent and 11 percent respectively. The mobile network operators continued to account for the largest proportion of employees at 55.4 percent followed by the wholesale transmission providers who accounted for 18.9 percent. The smallest proportion of operators were from the tower infrastructure companies which accounted for 11.9 percent.

Figure 32: Employment by Subsector; 2019-2022



Source: ZICTA

5.0. PERFORMANCE OF THE POSTAL SECTOR

5.1. Traffic Performance by the Public Postal Operator

The Zampost traffic statistics for the second quarter (Q2) of 2022, are provided in the figure below. The data indicates the total number of postal items processed in which inbound international deliveries had the highest traffic during Q2 with 38,618 deliveries, 64.05 percent of total deliveries. Outbound international deliveries and domestic deliveries captured 14,491 (24.03 percent) and 7,188 (11.92 percent) deliveries respectively.

Figure 33: Zampost Delivery Traffic



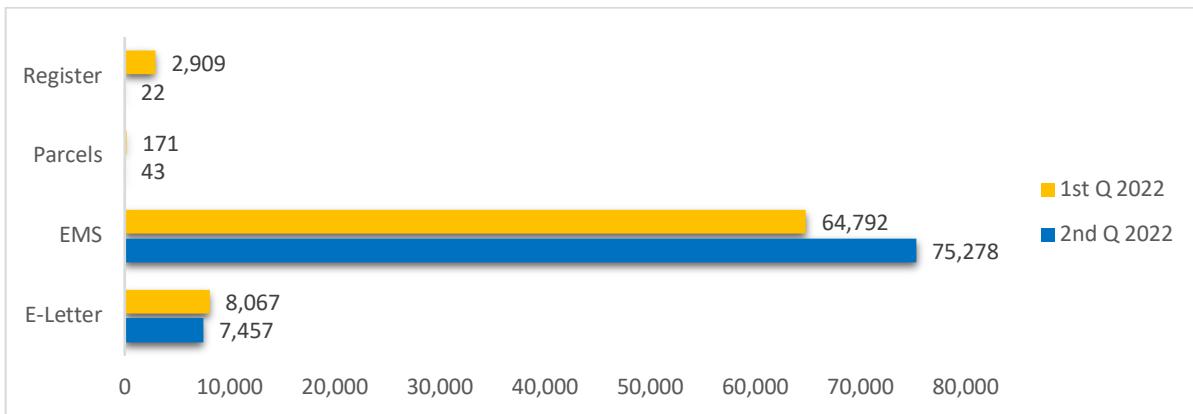
Source: Zampost

5.2. Domestic Mail

5.2.1. Domestic Mail Delivery – Number of Items Delivered

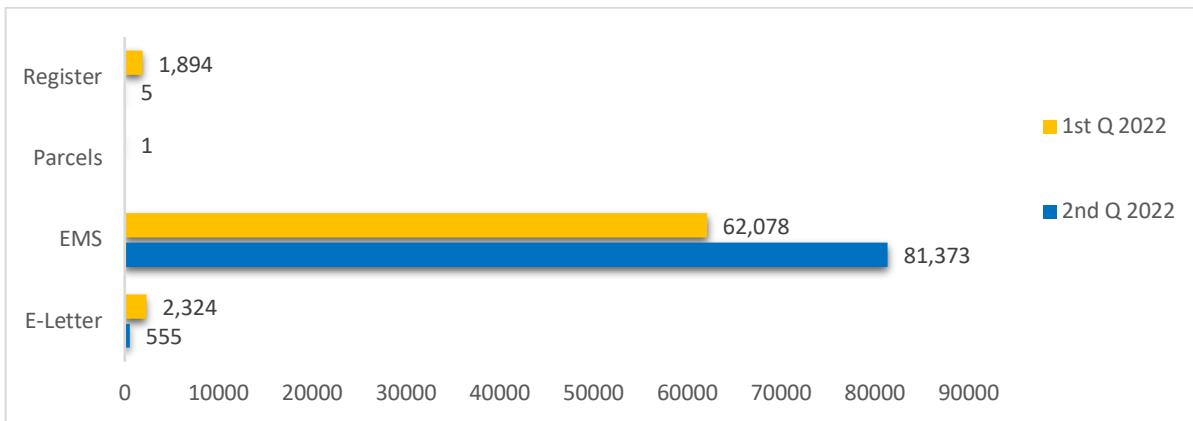
The Zampost's traffic indicates that there was an increase in domestic incoming mail volumes (64,792 items to 75,278 items) and outgoing mail volumes (62,078 items to 81,373 items) between the first quarter (Q1) and second quarter (Q2) of 2022. On the other hand, there were volume declines in the categories of registered mail, parcels, EMS and E-Letters in both the incoming and outgoing mail volumes during the same period.

Figure 34: Incoming Mail Volumes



Source: Zampost

Figure 35: Outgoing Mail Volumes



Source: Zampost

5.3. Domestic Mail Weights

The domestic mail weights as presented in Table 1 outline a decrease in all categories pertaining to both incoming and outgoing mail deliveries in the first half of 2021 and 2022.

Table 12: Domestic Mail Delivery Weights

SERVICE	Q1 2022		Q2 2022	
	Incoming Mail (Kg)	Outgoing Mail (Kg)	Incoming Mail (Kg)	Outgoing Mail (Kg)
E-Letter	1,263.38	593.97	562.81	42.18

EMS	1,909,788.53	1,128,206.69	725,855.01	216,150.08
Registered	310.53	1.33	3.52	1.34

Source: Zampost

5.4. Undelivered Domestic Mail

The undelivered domestic mail volumes entail a decrease in the E-Letters and EMS categories between Q1 and Q2 of 2022. Furthermore, the quantity in weights followed suite with a decline in E-Letters and EMS categories during the same period.

Table 13: Undelivered Domestic Mail

SERVICE	QUANTITY	Q1 2022	Q2 2022
E-Letter	Number of Items	44.00	9.00
	Weight (Kg)	4.47	0.95
EMS	Number of Items	960.00	224.00
	Weight (Kg)	29.67	17.79

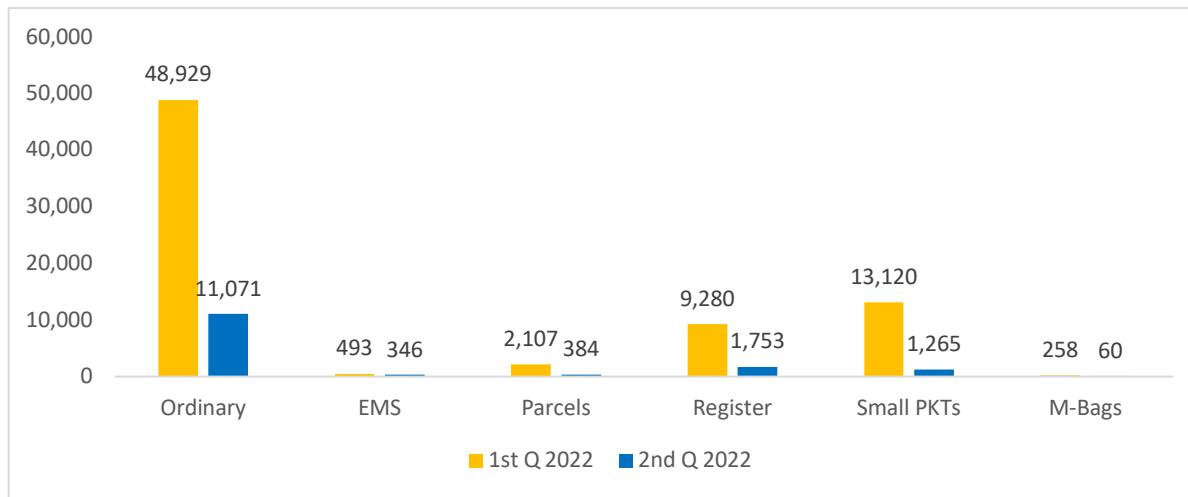
Source: Zampost

5.5. International Mail

5.5.1. International Mail Delivery – Number of Items Delivered

The international mail volumes of incoming and outgoing mail presented depicted declines in all categories of Ordinary mail, EMS, Parcels, Registered mail, Small Packets and M-Bags in Q2. The largest declines were recorded in Small Packets, Parcels and Registered mail with decreases of 90.36, 81.78 and 81.11 percent respectively. Moreover, the sharpest declines in outgoing mail volumes were covered by Parcels, Small Packets and Ordinary mail with reductions of 96.67, 92.25 and 89.15 percent respectively.

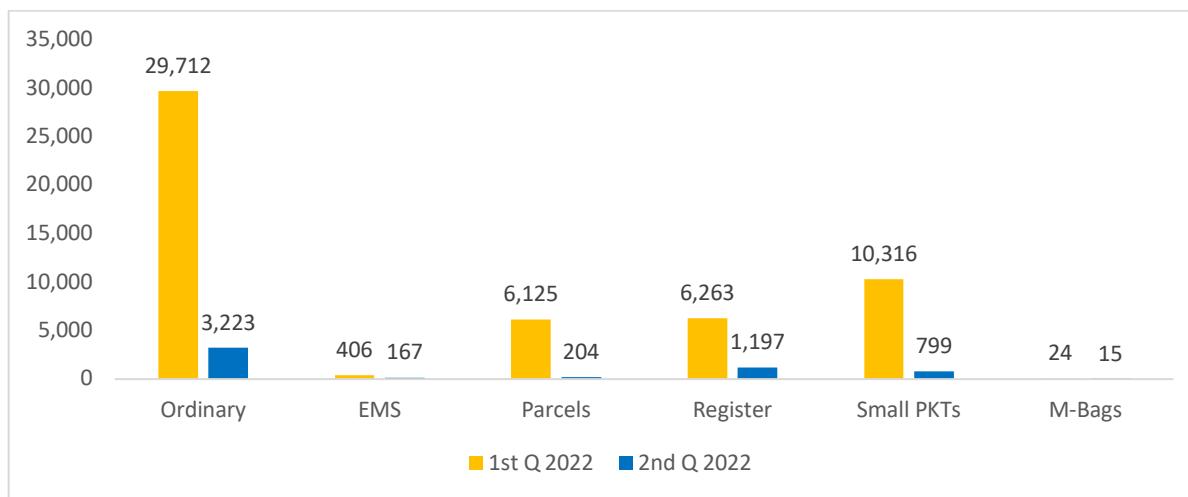
Figure 36: International Incoming Mail Volumes



Source: Zampost

Internationally, ordinary mail continued to record the highest traffic despite a significant fall between the first and the second quarter. The fall in international postal traffic can be attributed to the emergence of various alternative courier operators that offer similar services to Zampost. The drop was depicted in both international incoming mail volumes in figure 36 above and in international outgoing mail volumes in figure 37 below.

5.5.2. Figure 37: International Outgoing Mail Volumes



Source: Zampost

5.6. Domestic Mail Weights

The corresponding domestic weight quantities entailed a decline in all postal services in regards to incoming and outgoing mail categories during Q2 as set out in the table below.

Table 14: Domestic Mail Weights

SERVICE	Q1 2022		Q2 2022	
	Incoming Mail (Kg)	Outgoing Mail (Kg)	Incoming Mail (Kg)	Outgoing Mail (Kg)
Ordinary	15,737.66	217.06	653.10	15.70
EMS	68,202.85	6,048.27	4,144.96	3,118.30
Parcels	13,083.85	18.40	1,955.51	2.40
Register	3,432.01	27.66	640.96	-
Small Packets	10,186.85	11.00	469.53	-
M-Bags	2,421.90	15.00	405.30	-

Source: Zampost

5.7. Undelivered Domestic Mail

The undelivered domestic mail statistics covered a reduction in the number of items and weight quantities of all the services provided as illustrated below.

Table 15: Undelivered International Mail

SERVICE	QUANTITY	Q1 2022	Q2 2022
Ordinary	Number of Items	2,795.00	452.00
	Weight (Kg)	17.75	4.67
EMS	Number of Items	2.00	1.00
	Weight (Kg)	14.00	5.00
Parcels	Number of Items	231.59	64.00
	Weight (Kg)	306.72	51.12

Register	Number of Items	1,223.67	116.00
	Weight (Kg)	56.06	13.87
Small Packets	Number of Items	1,330.00	228.00
	Weight (Kg)	178.86	38.42
M-Bags	Number of Items	62.00	19.00
	Weight (Kg)	162.39	57.46

Source: Zampost

The level of undelivered mail dropped between the first and second quarters of 2022. This may be attributed to the general drop in mail traffic between the two quarters.

5.8. Postal and Courier Services Geographic Coverage

As at June 30 2022, Zampost occupied a total of 149 operational post offices across Zambia with Copperbelt, Southern Province and Lusaka encompassing the highest post office presence for its inhabitants. Muchinga is the only province to occupy less than ten post offices with a total number of six (06) whereas the Copperbelt had the most with 30 post offices.

6.0. MID-YEAR SECTORIAL POLICY AND REGULATORY REVIEW

ZICTA undertakes periodic assessments on the policy and regulatory environment in the ICT sector that are aimed at identifying any positive enablers to the operations of the players in the sector as well as establishing any existing or emerging constraints in the business environment that could limit growth. The assessments are based on qualitative interviews with all the operators on the market. As part of the assessments, operators are also engaged to provide proposals on how the identified challenges could be addressed as well as how the general business environment could be enhanced. In June, 2022, the Authority undertook the mid-year sectorial policy and regulatory review which would inform part of its focus in the second half of the year. The sentiments on the business environment from the industry are outlined in the ensuing sections.

6.1. Positive Factors Influencing Growth on the Market

- a) Investment in Telecommunication Infrastructure:** A number of operators indicated that they continued to invest in their networks to extend their reach and improve the reliability of their networks a major positive attribute to their growth in the first half of 2022. Notably there were extensive investments in fiber infrastructure aimed at increasing the data transmission capabilities of the operators as well as meeting the growing demand for data on the market. In addition, a number of telecommunication sites were deployed to align with the extending geographical boundaries for cities and towns as well as the establishment of infill sites to match the capacity needs due to the growth in demand.
- b) Introduction of Innovative Service Offers:** Some operators reported that they had made significant changes in their product offers to respond to the changing patterns in communication needs for their customers. These innovations in product development were aimed at ensuring that the products on offer are responsive to consumer usage patterns and affordability. This was also a useful strategy for growth and ensuring that operators maximize their revenue from the market.
- c) Monetisation of 4G Network:** Operators indicated that there has been a significant improvement in the uptake of data products in the country which has prompted the increased investments in 4G networks. The operators expressed commitment to continue investing in their 4G networks to match the growing demand for data products.
- d) Investment in Customer Care Systems:** It was established that a number of providers of ICT services invested in the improvement for their customer service systems aimed at ensuring that they enhance consumer welfare and redress for customer complaints. Customer care services were recognized a growing key differentiator among the providers. The operators also reported that they had invested in training programmes for their customer care staff to ensure that they were adequately equipped to respond to consumer inquiries. In some instances, operators have adopted artificial intelligence driven tools for automated assistance such as chat box platforms.

e) Development of the ICT Policy and Digital Transformation Strategy: Operators expressed their support and appreciation of the efforts being made by the Government through the Ministry of Technology and Science to develop the revised National ICT policy as well as the Digital Transformation Strategy. These documents were expected to provide details on the medium term strategy and focus of the Government on the ICT sector as well as ensure that the policy was aligned to current developments on the market.

6.2. Constraints Growth on the Market

- h) High tax incidence in the ICT sector.** The ICT sector continued to face the highest corporate tax rate of 40 percent applied on profits above K250,000. This was in spite of the reduction in the general corporate tax rate from 35 percent to 30 percent. The high corporate tax rate has the adverse effect of reducing available earnings for reinvestment by the operators which could slow down investment and growth. In addition, the excise duty of 17.5 percent applied on airtime has a direct effect of increasing the cost of services and consequently reduced the pace of adoption as well as intensity of usage of ICT services.
- i) Challenges with Colocation on Poles:** Operators considered the colocation charges for poles on the market to be high with the potential to limit the prospects for infrastructure sharing. The operators indicated that the colocation fees do not provide a long term economic value making the option for own construction more viable.
- j) Macro-Economic Instability:** Operators identified challenges associated with the macroeconomic environment as a key factor that increased the cost of doing business. Notably, the effect of the extensive depreciation of the local currency in the previous year as well as inflation were noted to be the significant factors that affected the business environment. As most of the capital items in the ICT sector were imported, the depreciation of the local currency had the adverse effect of increasing cost of imported inputs. Similarly, the elated inflation from the previous year increased the cost of locally sourced inputs leading to an increase in the overall cost of providing services.
- k) Rising energy Costs:** The cost of diesel which is a key input in the provision of services increased significantly over the first half of 2022. In addition, the frequency of adjustments in the pricing were changed to monthly leading to more periodic variations in the price of fuel. Operators indicated that the cost of fuel adversely affected the cost of providing services as fuel was a key input in the provision of ICT services.
- l) Delays in Approval for installation of infrastructure:** Operators indicated that there were delays by ZICTA in obtaining approvals for installation of infrastructure such as the laying of fiber. The delays posed challenges in providing commitments to their customers on the delivery of services and posed a risk on their competitive advantage. In addition, there were concerns on cost and delivery time associated with the compulsory requirement for concrete poles to be used in deployment of fiber.
- m) Low Awareness on Cyber Security Risks:** Operators identified cyber security risks as a growing challenge in the country. These incidence of these risks was particularly of concern given the growing number of users of ICT services and value added services such as mobile money. However, it was also observed that the extent of awareness of the existing risks and mitigation strategies among users of ICT services was low.

- n) Limited Awareness on Emerging Technologies:** It was reported that there was limited awareness of emerging technologies such as cloud solutions and artificial intelligence among consumers of ICT services. This was considered as a challenge that could slow down the uptake of such technologies and related services.

6.3. Proposals for Enhancing the Business Environment

- a) Review of the Tax burden in the ICT sector:** Operators indicated that it would be important for the Government to consider reviewing the tax burden placed on the ICT sector with a view to stimulate investment, employment and guarantee the sustainability of ICT operators. Particularly taxes related to corporate tax, excise duty and customs duty for essential equipment and infrastructure were proposed as possible areas for review.
- b) Review of Pricing for Collocation charges for Poles:** The Authority was requested to consider reviewing the charges for colocation on poles to ensure that the envisaged benefits of colocation are realized.
- c) Increased awareness:** Operators suggested that the Authority could consider enhancing its awareness activities relating to the existence and benefits of emerging technologies such as Artificial Intelligence and Cloud solutions. There was also a proposal for the Authority to enhance its awareness activities relating to cyber security to reduce the incidence of frauds and cyber related attacks.
- d) Enhance efficiency in approval for installation for infrastructure:** The Authority was requested to enhance its efficiency in the issuance of approvals for installation of infrastructure such as fibre. This was expected to assist with improving the timely delivery of services to customers. There was also a proposal for the Authority to review its decision on the compulsory use of concrete poles which are costly and require more time for deployment. Consideration was proposed for treatment of poles or the use of steel poles to ensure that the poles are resilient to adverse weather conditions.

7.0. OUTLOOK FOR THE ICT SECTOR IN THE SECOND HALF OF 2022

The following issues have been identified as key in informing the outlook for the developments in the ICT sector in the second half of the year, 2022:

- 7.1. Growth in ICT Uptake and Deployments:** The ICT sector is expected to continue on its positive growth trajectory in the subsequent review period amidst some notable risks. Growth is expected to mainly be driven by increased demand for data services among consumers. Investments into infrastructure especially 4G/LTE sites among the mobile network operators is likely to drive increased adoption of broadband services. The government has also a renewed focus on promoting innovation by leveraging on technology. This is expected to accelerate adoption and usage of ICTs in the country especially related to ecommerce platforms.
- 7.2. Macro-economic outlook and its implications:** The macro-economic outlook is positive amid notable improvements in the inflation rate and the appreciation of the local currency. There is also a general positive posture on the business environment arising from the extensive investment promotion efforts by the government.
- 7.3. Cyber Related Risks:** Cyber related frauds especially on mobile money accounts are expected to persist. The SMS frauds which are targeted at mobile money users are increasingly drawing the biggest attention on consumer awareness and consumer protection. However, as adoption of ICTs increases the diversity and intensity of these risks is expected to persist.
- 7.4. Investment in Infrastructure:** The continued investments in backbone and metro fibre networks as well as telecommunication sites by operators is expected to extend coverage and improve quality of service. Extension of fibre circuits by some operators is also expected to open additional routes for redundancy while the metro access will facilitate access of fibre to the X (FTTX). It is anticipated that a number of operators will continue investing in their 4G networks aimed at extending coverage as well as improving quality of service.
- 7.5. Product and Service Diversity:** Operators are also expected to continue introducing innovative product offerings for consumers to remain viable in the competitive environment. There is also an anticipated opportunity for growth in the adoption of new and emerging technologies such as cloud computing and artificial intelligence.
- 7.6. Issuance of Spectrum in the 800 Mhz band and 2600 Mhz band:** ZICTA is expected to issue spectrum in the 800Mhz band and 2600Mhz band during the second half of 2022 in line with the 5G spectrum roadmap. The scarce resources are expected to assist with improving quality of service, extending coverage and facilitate the introduction of innovative products and services.
- 7.7. Issuance of Network (Facilities) Licence in the international Market Segment:** The Authority is scheduled to issue a Network (Facilities) Licence in the international Market

Segment within the second half of 2022. The licence is expected to allow for the operator to contract connectivity across the border and terminate it in Zambia or transit it across the borders. This will enhance competition in international data transmission services among the existing players on the market.

- 7.8. ICT Policy and Digital Transformation Strategy:** The government through the Ministry of Technology and Science has been developing the ICT policy and digital transformation strategies aimed at providing a medium term direction for the ICT sector in the country. These policy documents are expected to be concluded within the second quarter of 2022.



ZICTA

