Telecommunications Authority of Trinidad and Tobago

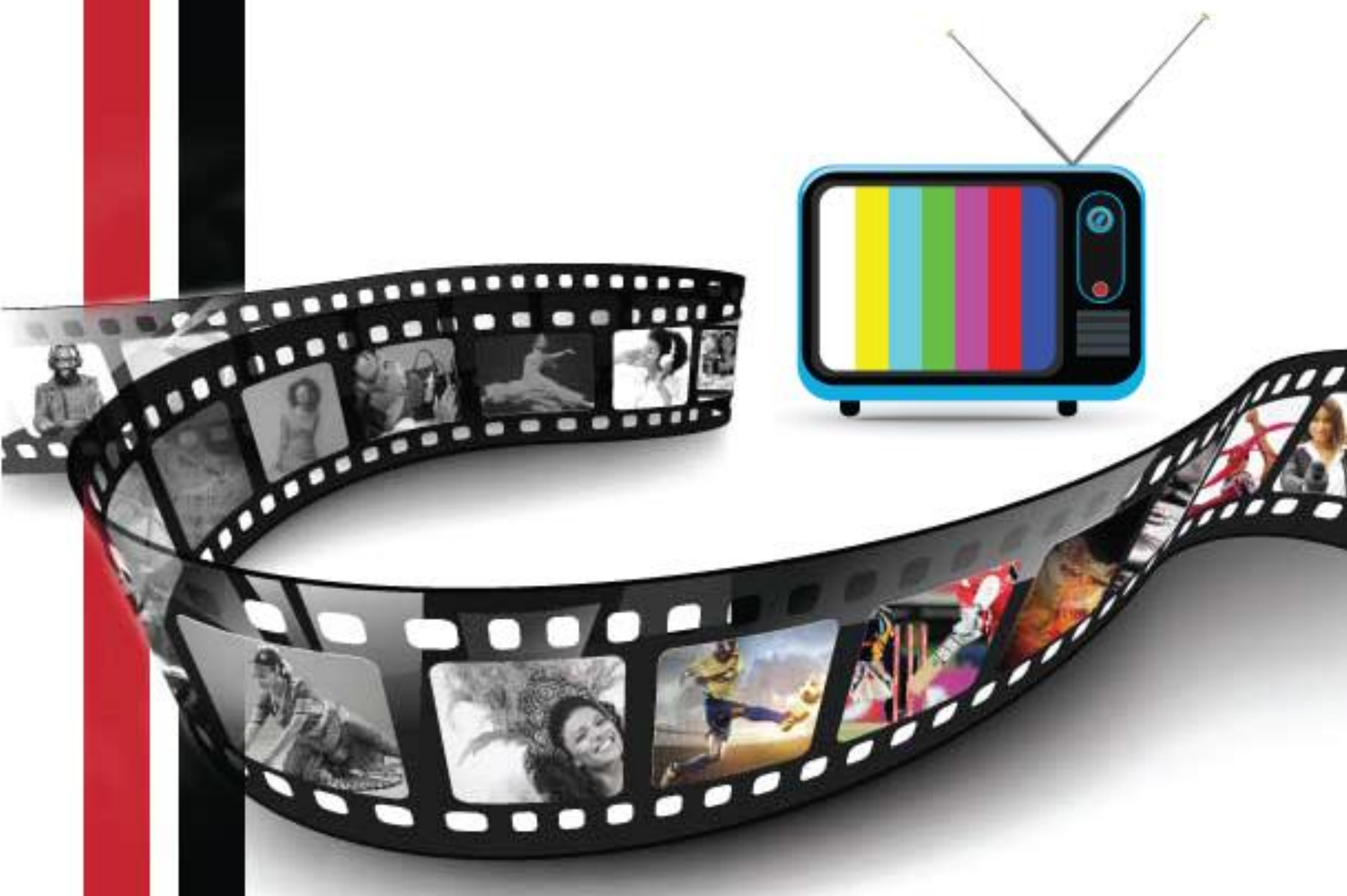
TELECOMMUNICATIONS AUTHORITY OF TRINIDAD AND TOBAGO

TELECOMMUNICATIONS AND BROADCASTING SECTORS

ANNUAL MARKET REPORT 2022

Celebrating

60 YEARS OF TELEVISION BROADCASTING IN TRINIDAD AND TOBAGO



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Disclaimer

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Nothing in this report shall be construed as prejudicing any determination or regulatory action undertaken by the Authority in accordance with the Telecommunications Act, Chap. 47:31.

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2022 ANNUAL MARKET REPORT

FOREWORD

Foreword

As the Telecommunications Authority of Trinidad and Tobago (the Authority) celebrates 19 years of regulating the telecommunications and broadcasting sectors, it is our distinct pleasure to present the *17th Annual Market Report: Telecommunications and Broadcasting Sectors 2022* (the Report).

This Report is a comprehensive compilation of statistics on the performance of the two sectors during the period January to December 2022. It contains data relating to a wide range of telecommunications and broadcasting indicators, such as subscription figures, penetration rates, gross revenues and traffic volumes. Market data received from concessionaires are used by the Authority to monitor and inform regulatory policy decisions aimed at promoting the growth of these sectors.

In 2022, Trinidad and Tobago celebrated 60 years as an independent nation. Coincidentally, 2022 also marked 60 years of local television broadcasting with one of the first free-to-air (FTA) television broadcasts being Trinidad and Tobago's Independence Day ceremony on 31st August 1962, on the state-owned and only television broadcaster at that time. Although Trinidad and Tobago's broadcasting sector is relatively young, in terms of television, it has played an important role in the country's history and culture, recording iconic moments in the life of the nation, and leaving a legacy of rich local content programming that was cherished by the population in the immediate post-independence years.

In those early days, the lone television broadcasting station provided news and entertainment which focused on the diversity and plurality of the people of Trinidad and Tobago. The second FTA television broadcaster began operations in September 1991, thereby ending the monopoly and opening the market to competition and more television content. The sector then evolved even further with the introduction of subscription television in the mid-1990s.

With the establishment in 2004 of the Authority as the regulator for the telecommunications and broadcasting sectors, and the introduction of more broadcasters in the years that followed, the sector continued to reflect local and regional interests and perspectives while also adapting to international changes, rising to the challenges brought by the rapid technological evolution that was reshaping global communications in the modern digital era.

Pursuant to its statutory mandate, the Authority remains committed to the objects of the Telecommunications Act, Chap. 47:31, thereby ensuring that the sector develops in an orderly and systematic manner. To this end, we now stand at this important 60-year milestone and take this opportunity to recognise the pioneers of television broadcasting in Trinidad and Tobago who brought the sector into the 21st century, and those stakeholders who have taken the baton to ensure that the sector continues to meet the growing demands of our society going forward.

As of 2022, the telecommunications and broadcasting sectors together generated $5.16 billion[1] in revenues and amassed approximately 3.8 million subscriptions across the mobile voice, fixed voice, fixed Internet, mobile Internet and subscription TV markets. The Authority wishes to thank the operators in both sectors for their substantial input into this Report, through their timely submission of sector-specific information and statistics, which we are confident will benefit all industry stakeholders and, in turn, the wider public who are consumers of the sectors' services.

[1] Throughout this Report, figures have been rounded and all revenues are expressed in Trinidad and Tobago dollars unless otherwise stated.

Executive Summary

This *17th Annual Market Report: Telecommunications and Broadcasting Sectors 2022* (the Report) presents and reviews statistical information on the performance and market trends observed within the telecommunications and broadcasting industry for the period January to December 2022.

The telecommunications and broadcasting industry generated revenues of approximately $5.2 billion, or US$772 million, in gross revenues during 2021. This represents an increase of 2.4% in total revenues year over year. The telecommunications sector contributed $4.1 billion, or 78.7% of total industry revenues, while the broadcasting sector contributed $1.1 billion, or 21.3%.

The Internet market, which comprises both fixed and mobile Internet, generated $2,244 million, accounting for 43.5% of total industry revenues. This was followed by the mobile voice and subscription TV markets, which contributed $948.1 million (18.4%) and $627.7 million (12.2%), respectively, of total industry revenues.

Subscription-based services, specifically mobile voice, fixed voice, fixed Internet, mobile Internet and subscription TV, amassed approximately 3.8 million subscriptions – a 0.9% increase. Subscriptions to mobile voice, fixed and mobile Internet services all increased while subscriptions to fixed voice and subscription TV decreased.

The FTA TV market earned $62.1 million – an increase of $6.1 million, or 10.9%, from 2021. The FTA radio market generated $107.7 million, which is an increase of $8.1 million, or 8.1%, from 2021. The TV broadcasting service via cable market generated $6.7 million in 2022 – a decrease of $0.3 million, or 4.3%, from 2021.

2022 ANNUAL MARKET REPORT

OVERALL MARKET

1 Overall Market Review

1.1 Overview and Methodology

The *17th Annual Market Report: Telecommunications and Broadcasting Sectors 2022* (the Report) presents statistics relating to the performance of the telecommunications and broadcasting sectors in Trinidad and Tobago. For the purposes of this Report, the telecommunications sector is classified into four markets:

1. Fixed voice
2. Mobile voice
3. International voice
4. Internet: fixed and mobile

The broadcasting sector is categorised into four markets:

1. Free-to-air (FTA) television (TV)
2. Television broadcasting service via cable
3. Free-to-air (FTA) radio
4. Subscription TV

Figure 1 Classification of markets

The information presented is based primarily on data submitted by operational concessionaires in the two sectors for the period January to December 2022. Additionally, historical data series and other information made available to the Authority at the time of publication are also used in the Report.

The data received from concessionaires are compiled, reviewed and analysed to produce statistical market indicators. These indicators measure the evolution of the telecommunications and broadcasting sectors, based on the number of subscriptions, gross revenues and traffic. The information in this Report is used by the Authority to inform and monitor policy decisions which will facilitate the orderly development of these sectors.

The Authority also publishes quarterly market updates on the telecommunications and broadcasting sectors to supplement the Report, which can be accessed from its website: tatt.org.tt.

1.2 Concessions Granted

Under sections 21 and 31 of the Telecommunications Act, Chap. 47:31 (the Act), the Authority is responsible for making recommendations to the Minister with responsibility for telecommunications, regarding the granting and renewal of concessions to telecommunications and broadcasting operators who are authorised to operate a public telecommunications network or provide public telecommunications or public broadcasting services. It should be noted that a concessionaire may be granted more than one type of concession.

As at December 2022, 97 concessions were granted by the Authority, as shown in Table 1. A detailed list of these concessions can be found in Appendix II.

Table 1 Number of concessionaires, by market

Network Category	Service Provided	Concessionaires
International Telecommunications	Network only	1
	Services only	1
	Network and services	7
Mobile Telecommunications	Mobile voice and Internet services	2
Fixed Telecommunications	Fixed telephony	7
	Fixed Internet	12
Subscription TV		11
FTA Radio Broadcasting		37
FTA TV Broadcasting		5
TV Broadcasting via Cable		14

1.3 Review of the Telecommunications and Broadcasting Industry

1.3.1 Total Revenue Contributions by the Sectors

In 2022, the telecommunications and broadcasting industry generated $5.2 billion[2], or US$772 million[3], in gross revenues, which, as a proportion of the gross domestic product (GDP)[4], equals 2.7%. This represents a 2.4% increase in total industry revenues when compared to 2021. Figure 2 presents the industry's gross revenues by sector and market, while Figure 3 shows the percentage of revenue contributions of each market to total industry revenues.

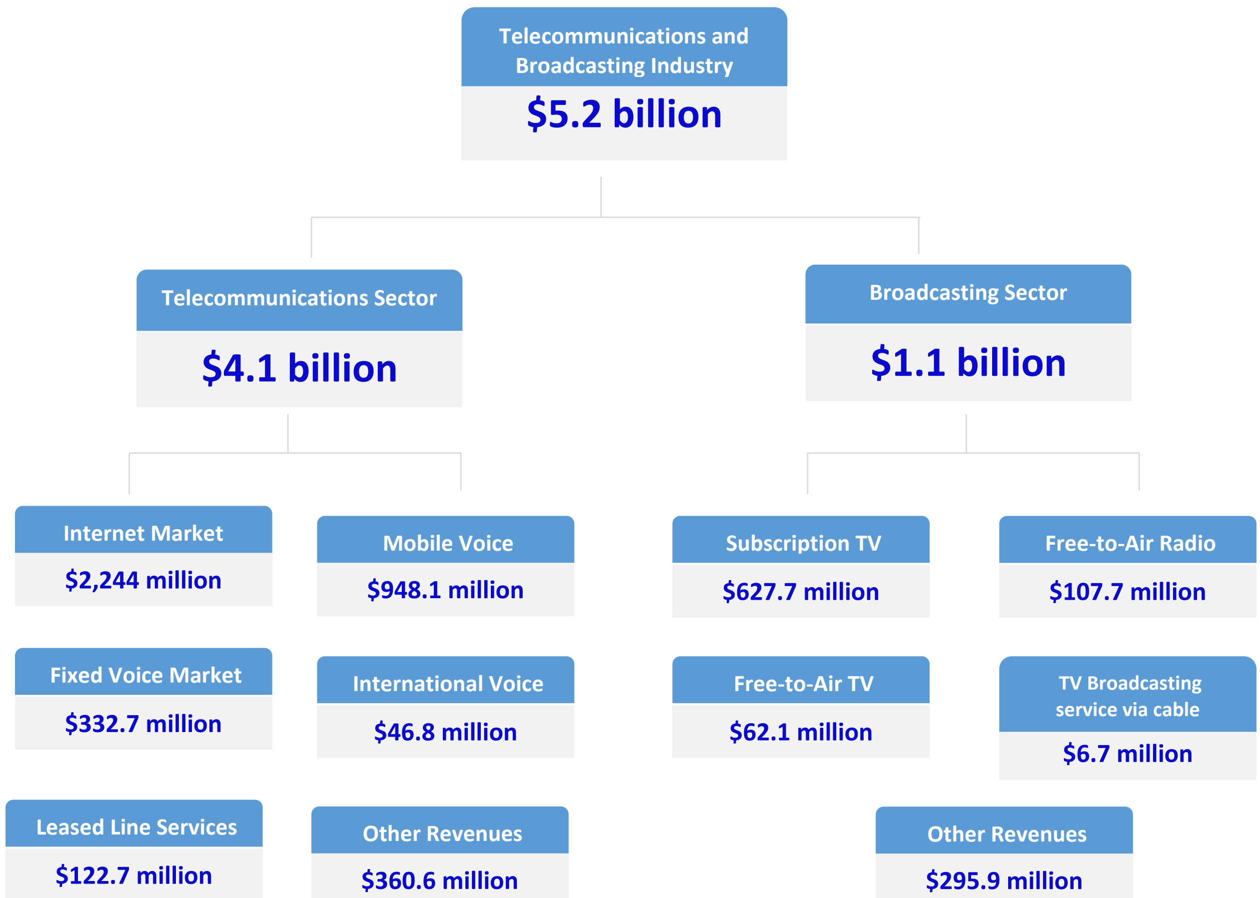

Figure 2 Gross revenues by industry, sector and market in 2022

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[2] This figure includes revenues from telecommunications and broadcasting services offered to members of the public and private leased line services.

[3] Central Bank of Trinidad and Tobago Exchange Rate: US$1 = TT$6.78

[4] Forecasted GDP at current prices for calendar year 2022: 190,770.8 million (Source: Ministry of Finance, Review of the Economy 2022)

The Internet market accounted for the largest proportion of revenues, earning $2,244 million (43.5%) of total industry revenues. The mobile voice market was the second highest earner, with $948.1 million (18.4%) of total revenues. This was followed by subscription TV and other revenues[5], which generated $627.7 million (12.2%) and $656.5 million (12.7%), respectively. The fixed voice market[6] was next, with $332.7 million (6.5%), followed by the leased lines[7] market, which accounted for $122.7 million (2.4%). The FTA radio and FTA TV markets made industry contributions of $107.7 million (2.1%) and $62.1 million (1.2%), respectively. Revenues from international voice services and TV broadcasting services via cable amounted to $46.8 million and $6.7 million – a 0.9% and 0.1% share of total industry revenues, respectively.

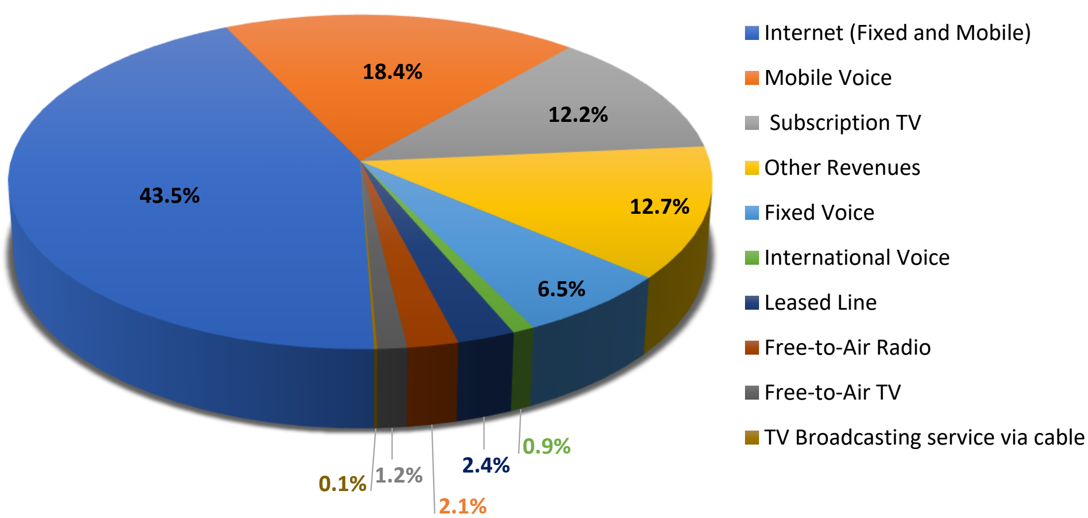


Figure 3 Proportion of total industry revenues contributed by each market in 2022

[5] Other revenues consist of additional incomes from both the telecommunications and broadcasting sectors, such as those received from wholesale services, and production and airtime for local programming on subscription TV.

[6] Fixed voice market revenues include those earned from fixed voice services, excluding international services.

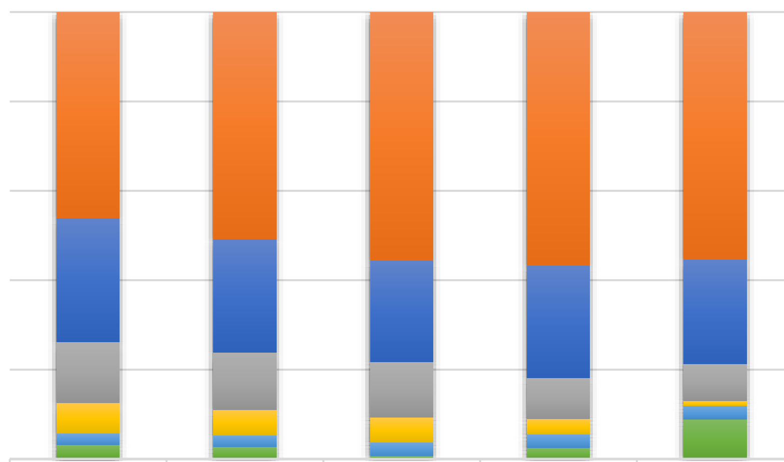
[7] Leased lines include both international and domestic circuits.

1.3.1.1 Market Revenues in the Telecommunications Sector

In 2022, the telecommunications sector generated $4.1 billion, or 78.7%, of total industry revenues. This represents an increase in sector revenues of $246.3 million, or 6.5%, from 2021.

The contributions, by percentage, of the various telecommunications markets to overall sector revenues for the past five years are shown in Figure 4.

The Internet market generated 55.3% of sector revenues, while the second largest share, 23.4%, came from the mobile voice market. The fixed and international voice markets contributed 8.2% and 1.2%, respectively. Leased line services accounted for 3%, with other revenues (telecommunications)[8] contributing the remaining 8.9%.



	2018	2019	2020	2021	2022
Internet (Fixed and Mobile)	46.0%	50.8%	55.6%	56.6%	55.3%
Mobile Voice	27.8%	25.3%	22.7%	25.2%	23.4%
Fixed Voice	13.6%	12.8%	12.3%	9.2%	8.2%
International Voice	6.8%	5.8%	5.6%	3.5%	1.2%
Leased Line	2.6%	2.6%	3.0%	3.0%	3.0%
Other Revenues (Telecommunications)	3.2%	2.7%	0.8%	2.5%	8.9%

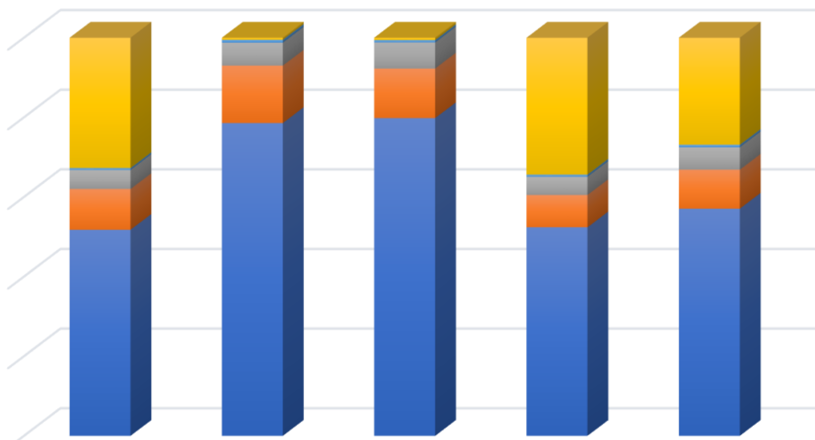
Figure 4 Contributions by telecommunications markets from 2018 to 2022

[8] Other revenues earned from service providers in the telecommunications sector include other wholesale services (excluding leased lines), high-capacity wireless links and two-way radios. The increase in other revenues (telecommunications) is mainly as a result of one concessionaire's reporting this revenue category for the first time.

1.3.1.2 Market Revenues in the Broadcasting Sector

The broadcasting sector amassed $1.1 billion, or 21.3%, of total industry revenues. The subscription TV market earned the majority of this sector's revenues, specifically 57.1%, while other revenues[9] accounted for 26.9%.

The FTA radio and FTA TV markets held a share of 9.8% and 5.6%, respectively. TV broadcasting service via cable contributed 0.6% to total broadcasting revenues. Figure 5 depicts the contributions, by percentage, of the individual markets to broadcasting sector revenues for the period 2018 to 2022.



	2018	2019	2020	2021	2022
Other Revenues (Broadcasting)	32.7%	0.5%	0.6%	34.4%	26.9%
TV Broadcasting service via cable	0.5%	0.7%	0.6%	0.6%	0.6%
Free-to-Air TV	4.8%	5.8%	6.6%	4.6%	5.6%
Free-to-Air Radio	10.2%	14.4%	12.4%	8.1%	9.8%
Subscription TV	51.8%	78.6%	79.8%	52.4%	57.1%

Figure 5 Percentage contributions by broadcasting markets from 2018 to 2022

1.3.2 Telecommunications and Broadcasting Subscriptions

In 2022, the subscription-based markets, that is, the mobile voice, fixed voice, fixed Internet, mobile Internet and subscription TV markets, collectively amassed approximately 3.8 million subscriptions. Compared to 2021, this total represents an increase of 34,200 subscriptions, or 0.9%.

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9 Other revenues include revenues received from broadcasting services such as radio rental and services, subscription TV advertising, digital signage and interactive learning.

Table 2 presents subscription figures and growth rates for the past five years, while Figure 6 shows the percentage contribution of individual markets to total industry subscriptions in 2022.

Table 2 Number of subscriptions by market from 2018 to 2022

	2018	2019	2020	2021	2022
Mobile Voice Subscriptions (millions)	1.97	2.16	1.99	2.00	2.00
Growth rate	-2.9%	9.7%	-7.9%	0.5%	0.1%
Fixed Voice Subscriptions ('000s)	317.7	332.3	323.9	341.4	326.5
Growth rate	-0.3%	4.6%	-2.5%	5.4%	-4.4%
Fixed Internet Subscriptions ('000s)	341.3	339.4	376.8	369.1	389.6
Growth rate	4.4%	-0.5%	11.0%	-2.0%	5.0%
Mobile Internet Subscriptions ('000s)	678.6	653.3	770.2	819.8	859.1
Growth rate	-3.7%	-3.7%	17.9%	6.5%	4.8%
Subscription TV Subscriptions ('000s)	234.7	249.8	242.4	237.8	226.8
Growth rate	-4.9%	6.4%	-3.0%	-1.9%	-4.6%
Total Subscriptions (millions)	**3.54**	**3.74**	**3.70**	**3.77**	**3.78**
Growth rate	**-2.3%**	**5.5%**	**-1.1%**	**1.9%**	**0.5%**

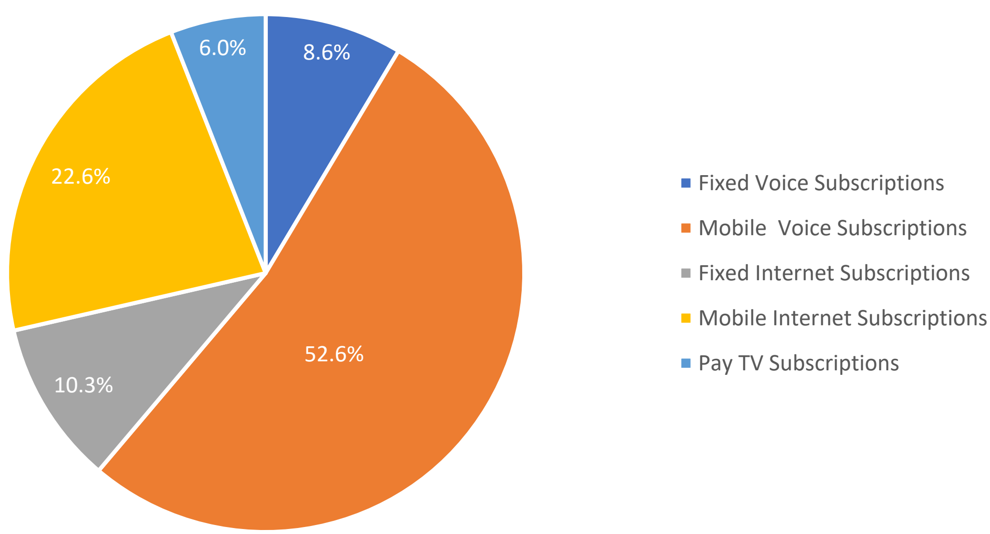
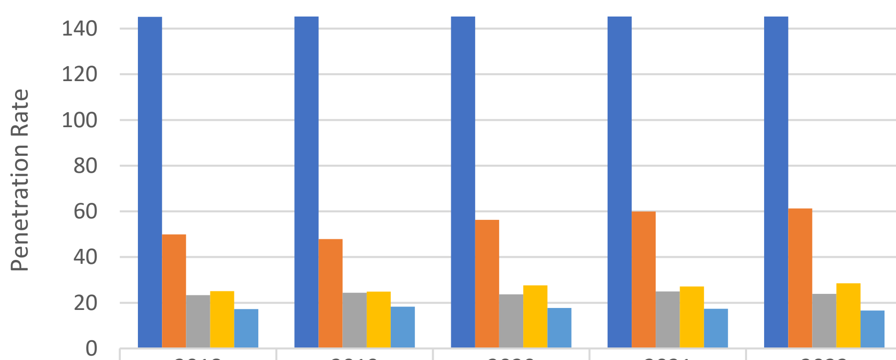


Figure 6 Proportion of subscriptions by market as at December 2022

There were two million mobile voice subscriptions in 2022, which accounted for 52.6% of all industry subscriptions. Mobile Internet retained its position as the second most subscribed to service, with 859,100 subscriptions, or 22.6%. This was followed by the fixed Internet market which had 389,600 subscriptions, representing a share of 10.3%. The fixed voice market garnered 326,500 subscriptions, or 8.6%, while subscription TV contributed 226,800 subscriptions, or 6% of total industry subscriptions.

1.3.3 Subscription Penetration Rates

The penetration rates of all subscription-based markets for the last five years are provided in Figure 7. In 2022, penetration levels for mobile voice, mobile Internet, and fixed Internet all increased, with mobile Internet recording the highest increase. Mobile Internet penetration rose from 59.9% in 2021 to 62.9% in 2022.



	2018	2019	2020	2021	2022
Mobile Voice Penetration	145.1	158.6	145.5	146.0	146.4
Mobile Internet Penetration	49.9	47.9	56.3	59.9	61.3
Fixed Voice Penetration	23.4	24.4	23.7	25.0	23.9
Fixed Internet Penetration	25.1	24.9	27.6	27.1	28.5
Pay TV Penetration	17.3	18.3	17.7	17.4	16.6

Figure 7 Penetration rates by market from 2018 to 2022

The penetration rate for the mobile voice market increased from 146 in 2021 to 146.4 in 2022, while the penetration rate for fixed Internet increased to 28.5 in 2022. The fixed voice penetration rate for 2022 was 23.9 – a decrease of 1.1 points from the previous year. The penetration rate for subscription TV fell in 2022 to 16.6.

Review of the Economy

Volatile Growth!

The Global Economy

The world economy was projected to grow by 3.4% in 2022, according to the International Monetary Fund's World Economic Outlook, January 2023[10]. Real gross domestic product (GDP) in many emerging and developed economies[11] maintained a positive position throughout 2022, despite facing challenges such as Russia's conflict in Ukraine, China's COVID-19 resurgence, and the global efforts to combat inflation. The 2022 growth rate represents a reduction from the 5.5% experienced in the previous year.

The National Economy

Trinidad and Tobago's domestic real economic activity expanded by 6.6% (year on year) in 2022. The Central Statistical Office (CSO), in its publication, indicated that this expansion in activity was due to strong growth in the non-energy sector, evidenced by a 10.5% growth rate. Conversely, economic activity in the energy sector was found to have declined by 2.5% over the period[12].

The population showed a decline of 0.1%, from 1,367,558 people in 2021 to 1,365,805 people in 2022, based on the CSO's mid-year estimates.

Labour Force and Unemployment

In its January 2023 Economic Bulletin[13] (the Bulletin), the Central Bank of Trinidad and Tobago (CBTT) reported that the labour force in Trinidad and Tobago grew in the third quarter of calendar year 2022, from 588,900 in the previous quarter to 595,600. The Bulletin also stated that the unemployment rate fluctuated in the first three quarters of the year, standing at 5.1% in the first

[10] https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023

[11] The United States, the Euro area, and major emerging market and developing economies

[12] https://www.central-bank.org.tt/sites/default/files/reports/economic-bulletin-january-2023-20231302.pdf

[13] https://www.central-bank.org.tt/sites/default/files/latest-news/economic-bulletin-january-2023-20231302.pdf

quarter, then dropping to 4.5% in the second quarter, indicating a positive trend. However, the rate increased again in the third quarter to 5.4%.

Domestic Inflation Rates

- **Headline inflation**: The Bulletin[14] reported that inflation increased from 4.9% in June 2022 to 8% in November 2022.

- Over the period June to November 2022, **core inflation,** which omits the volatile food component, increased from 4.1% to 6.6%[15]. This occurred as a result of price increases in transport, household furnishings and communication sub-indices, to name a few[16]. According to the Bulletin, the communication sub-index increased to 2.7% in November 2022, compared to 2.3% in June of the same year, due to price increments for telecommunications services, registered in November 2022[17].

- **Food inflation** moved from 7.8%o 13.8% from June to November 2022[18]. This marked increase reflected higher food import prices coupled with domestic supply shocks as a result of adverse weather conditions.

Fiscal Operations

The Trinidad and Tobago government's *Review of the Economy 2022*[19] referenced that the government had budgeted revenues of $43,333.1 million, which accounted for 27.7% of GDP. The budget was based on an assumed oil price of US$65 per barrel and a natural gas price of US$3.75 per million of British thermal units (mmBtu).

At the end of 2022, total expenditure was estimated to be $54,074.1 million, which indicates an increase of 9%, or $4,456.9 million higher than the expenditure recorded in fiscal 2021. Total

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[14]https://www.central-bank.org.tt/sites/default/files/page-file-uploads/economic-bulletin-january-2023-20231302.pdf

[15]Ibid.

[16] Observed price increases for services at hotels, cafes and restaurants were also captured in the calculated increase in core inflation in November 2022.

[17] https://www.central-bank.org.tt/sites/default/files/reports/economic-bulletin-january-2023-20231302.pdf

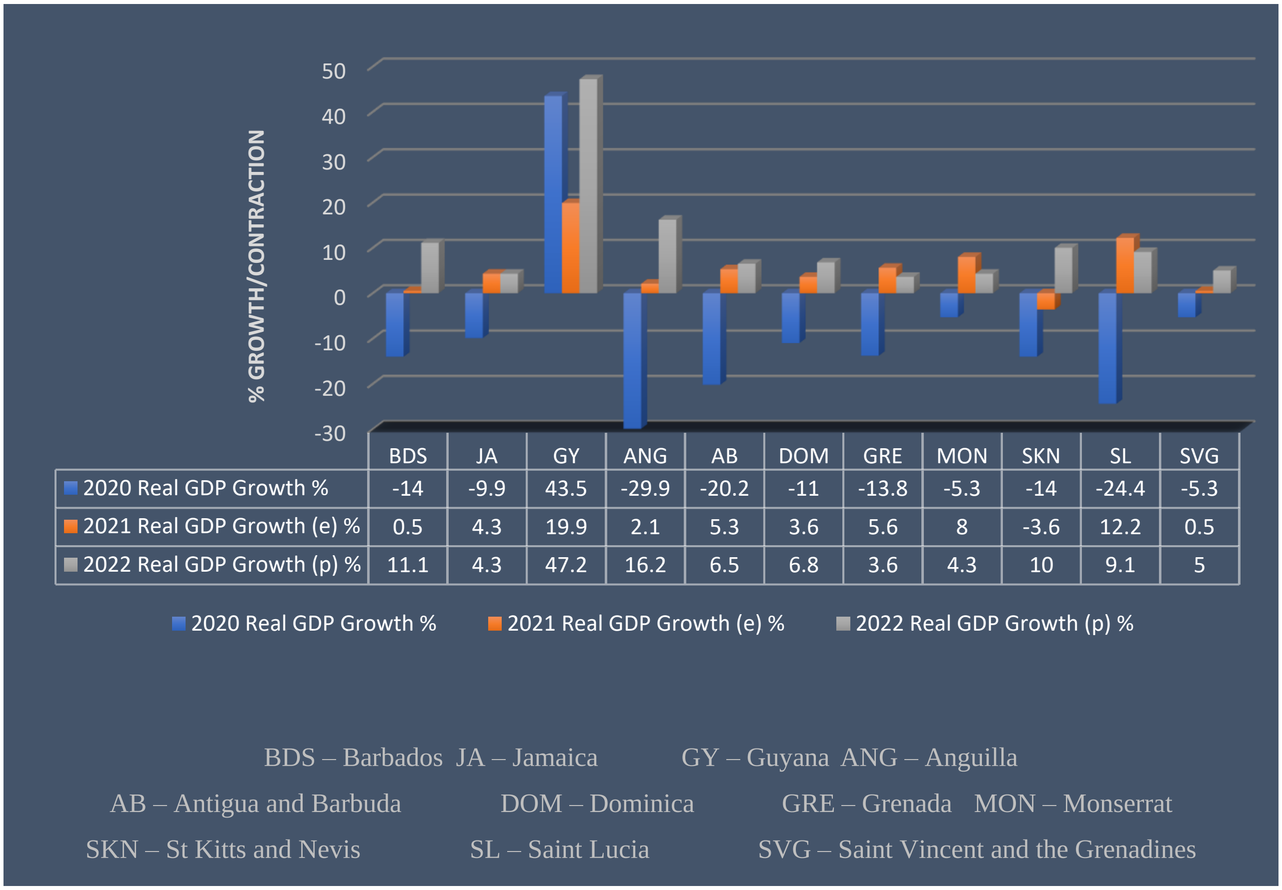
[18] https://www.central-bank.org.tt/sites/default/files/reports/economic-bulletin-january-2023-20231302.pdf

[19] https://www.finance.gov.tt/wp-content/uploads/2022/09/Review-of-the-Economy-2022.pdf

Revenue and Grants estimate for fiscal 2022 was $51,641.1 million. The current account surplus was reported at $465.2 million and the overall deficit was $2,433 million.

Real GDP Growth – A Regional Comparison (CARICOM States)

Figure 1 - Macroeconomic Indicators for Selected CARICOM Economies



	BDS	JA	GY	ANG	AB	DOM	GRE	MON	SKN	SL	SVG
2020 Real GDP Growth %	-14	-9.9	43.5	-29.9	-20.2	-11	-13.8	-5.3	-14	-24.4	-5.3
2021 Real GDP Growth (e) %	0.5	4.3	19.9	2.1	5.3	3.6	5.6	8	-3.6	12.2	0.5
2022 Real GDP Growth (p) %	11.1	4.3	47.2	16.2	6.5	6.8	3.6	4.3	10	9.1	5

Figure 1 presents a comparison (by percentage) of real GDP growth among regional economies from 2020 to 2022. While 2020 saw only Guyana experiencing growth, 2021 brought positive news for almost all countries, as there was an uptick in economic activity. Furthermore, 2022 proved to be a great year for all economies, with each country reporting positive real GDP growth.

Foreign Exchange

The official reserve position of Trinidad and Tobago declined by approximately 1% year on year in 2022. The contraction in the reserve position saw import cover, i.e., the measurement of the months of imports that can be purchased by foreign exchange held with the Central Bank, remain constant in 2022, growing by 0.2% year on year.

Key Economic Performance Indicators

Economic Indicator	2018	2019	2020	2021	2022
[20]Real GDP Growth (constant 2012 prices, % Δ)	-0.9	0.1	-7.7	-1.0[p]	2.0[f]
[21]Energy Sector (constant 2012 price % Δ)	-3.2	-4.3	-12.2	-2.7 [p]	2.3 [f]
[22]Non-energy Sector (constant price % Δ)	-0.2	3.0	-6.2	-1.2 [f]	3.6 [f]
[23]Inflation Rate (%)	1.0	1.0	0.6	2.1	5.6 (Jan-Nov 2022))
[24]Unemployment Rate (%)	3.9	4.3	5.7	5.4	5.0 (Jan-Nov 2022)
[25]Current Account Balance % of GDP	6.7	4.3	-6.4	10.2	20.6 ((Q2 2020)
[26]Overall BOP (US$ m)	-794.7	-646.1	24.8	-74.2	N/A
[27]Moody's Ratings	Ba1	Ba1	Ba1	Ba2	Ba2
[28]Standard and Poor's Global Rating (S&P)	BBB+/ A-2(-)	BBB/ A-2	BBB-/ A3	BBB-/ A-3	BBB- A-3
[29]CariCRIS	CariAA+/ ttAAA	CariAA+/ ttAAA	CariAA+/ ttAAA	CariAA/ ttAAA	CariAA/ ttAAA
[30]Exchange Rate (USD)	6.78	6.78	6.78	6.78	6.78 (Up to August 2022)
[31]Population (000s)	1,359	1,363	1,366	1,367	1,366 [p]

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[20] Source: TT Ministry of Finance Review of the Economy 2022

[21] Ibid.

[22] Source: TT Ministry of Finance Review of the Economy 2022

[23] Source: Economic Bulletin January 2023

[24] Ibid.

[25] Ibid.

[26] Source: TT Ministry of Finance Review of the Economy 2022

[27]Source:https://www.moodys.com/search?keyword=the%20government%20of%20trinidad%20and%20tobago&searchfrom=GS Accessed on 7th March 2023

[28] Source: TT Ministry of Finance Review of the Economy 2022

[29] Source: TT Ministry of Finance Review of the Economy 2022/CariCRIS press release (2nd November 2022)

[30] Source: Central Bank of Trinidad and Tobago, US buying rate https://www.central-bank.org.tt/statistics/data-centre/exchange-rates-annual

[31] Source: TT Ministry of Finance Review of the Economy 2020

[32]**Net Official Reserves (US$ m)**	7,575.0	6,929.0	6,953.8	6,879.6	6,832.4
[33]**Import Cover (Months)**	8.0	7.7	8.4	8.4	8.6
[34]**GDP (current prices - TT$ m)**	164,680.6	161,087.0	142,173.3	165,315.0[p]	190,770.8[f]

[32] Source: Central Bank of Trinidad and Tobago website: https://www.central-bank.org.tt/statistics/data-centre/foreign-reserves-annual

[33] Ibid.

[34] Source: TT Ministry of Finance Review of the Economy 2022 Notes: p: Provisional f: Ministry of Finance forecast

2022 ANNUAL MARKET REPORT

FIXED VOICE MARKET

GROWTH 2021-2022

FIXED VOICE MARKET

326,500 SUBSCRIPTIONS — Decrease of 4.4% over 2021

FIXED VOICE PENETRATION — **24 per 100 inhabitants**

FIXED VOICE PENETRATION — **71 per 100 households**

TT$332.7 M

FIXED VOICE MARKET REVENUE

4.6% decrease from 2021

2 Fixed Voice Market Review

As at December 2022, there were 16 operators authorised by the Authority to provide domestic fixed telecommunications services to the public, over wired and/or wireless facilities. In 2022, the following seven operators offered domestic fixed voice services:

1. Amplia Communications Limited
2. Columbus Communications Trinidad Limited (CCTL)
3. Digicel (Trinidad & Tobago) Limited
4. Lisa Communications Limited
5. Prism Services (Trinidad) Limited[35]
6. Open Telecom Limited
7. Telecommunications Services of Trinidad and Tobago Limited (TSTT)

TSTT offered fixed voice services through its public switched telephone network and is migrating customers from its legacy copper network to either its fixed wireless network or the network of its fully owned subsidiary Amplia Communications Limited.

CCTL offered fixed voice services primarily via its Hybrid Fibre-Coaxial Network, and Amplia Communications Limited and Digicel (Trinidad & Tobago) Limited provided fixed voice services using their Gigabit Passive Optic Networks (GPON).

Open Telecom Limited[36] and Lisa Communications Limited offered fixed voice services via their fixed wireless networks.

[35] Prism Services (Trinidad) Limited provides fixed voice services to business customers only
[36] Open Telecom Limited had not supplied data at the time of publication.

2.1 Annual Fixed Voice Subscriptions

Figure 8 illustrates the trend in fixed voice subscriptions from 2018 to 2022. There were 326,500 fixed voice subscriptions in 2022 – a 4.4% decrease from 2021.

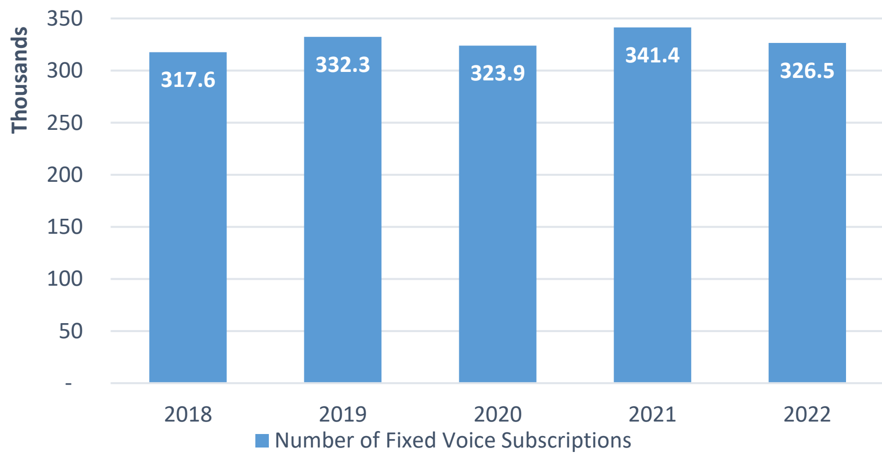


Figure 8 Fixed voice subscriptions from 2018 to 2022

Figure 9 categorises the fixed voice market into residential and business subscriptions from 2018 to 2022 (inclusive of companies subscribing to system services, e.g., PBX trunks). In 2022, there were 283,200 residential subscriptions and 43,200 business subscriptions. Compared to 2021, residential subscriptions decreased by 7,000 subscriptions, or 2.4%. Business subscriptions also decreased in 2022, recording 8,100 fewer subscriptions – a 15.6% decrease from the previous year.

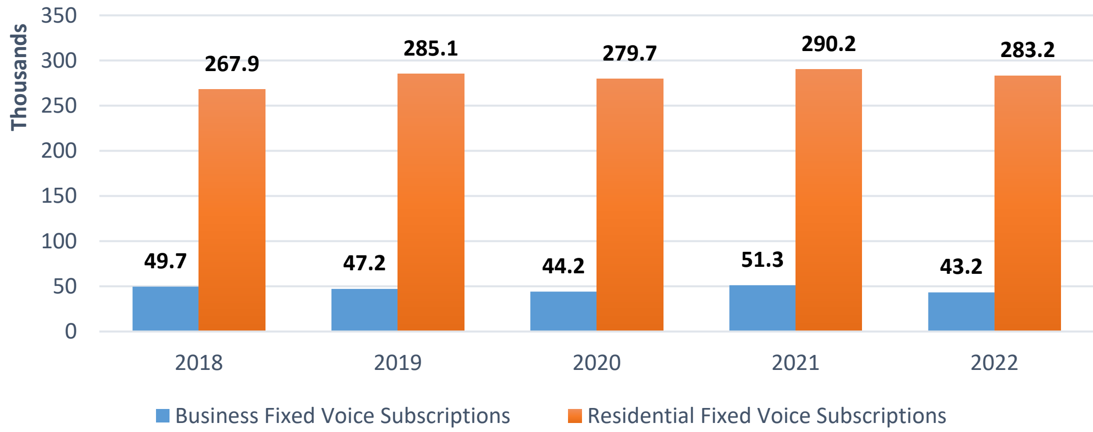


Figure 9 Fixed voice subscriptions by type for 2018 to 2022

As depicted in Figure 10, residential fixed voice subscriptions accounted for 86.8% of the total market, with the remaining 13.2% coming from the business sector.

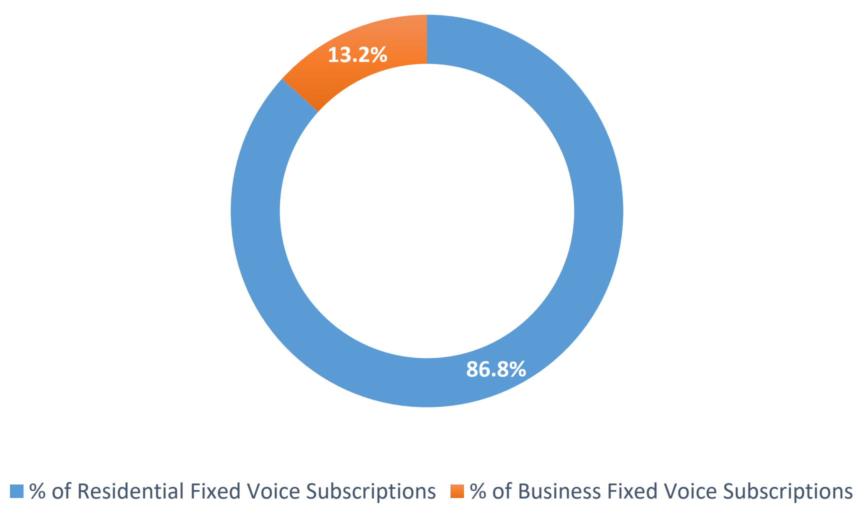


Figure 10 Proportion of fixed voice subscriptions by type for 2022

2.2 Quarterly Fixed Voice Subscriptions

The number of fixed voice subscriptions peaked in the first quarter of 2022, with 334,100, and declined consistently across the remaining quarters, as highlighted in Figure 11.

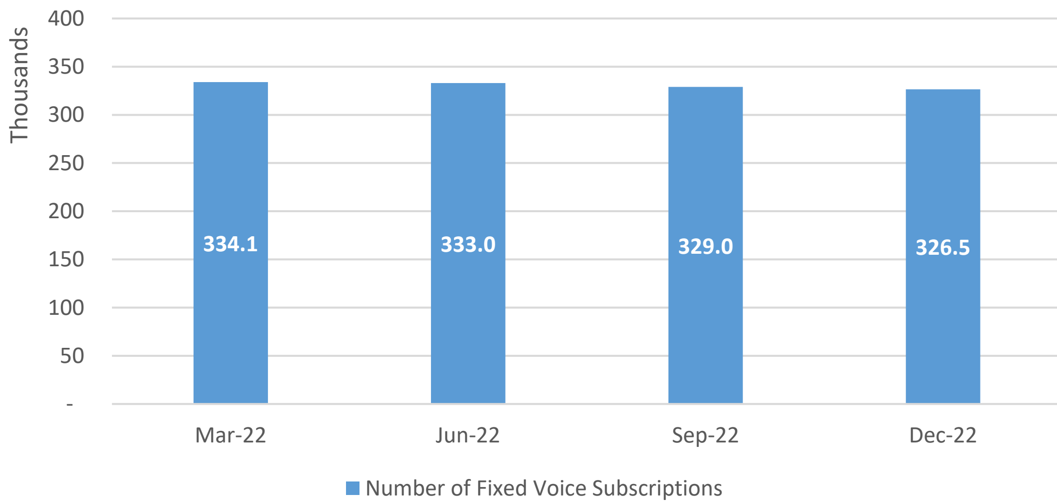


Figure 11 Quarterly fixed voice subscriptions in 2022

A comparison of quarterly fixed voice subscriptions for the years 2021 and 2022 is provided in Figure 12. All quarters of 2022 recorded fewer subscriptions when compared to the corresponding periods of 2021, with 14,000 fewer subscriptions, on average, per quarter.

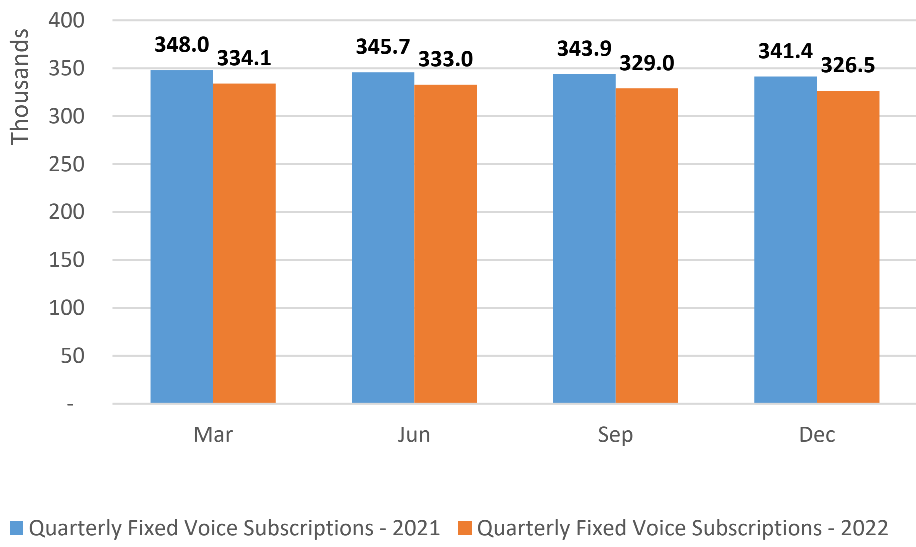


Figure 12 Quarterly fixed voice subscriptions for 2021 and 2022

The percentage breakdown of residential and business fixed voice subscriptions remained relatively stable throughout 2022, as shown in Figure 13.

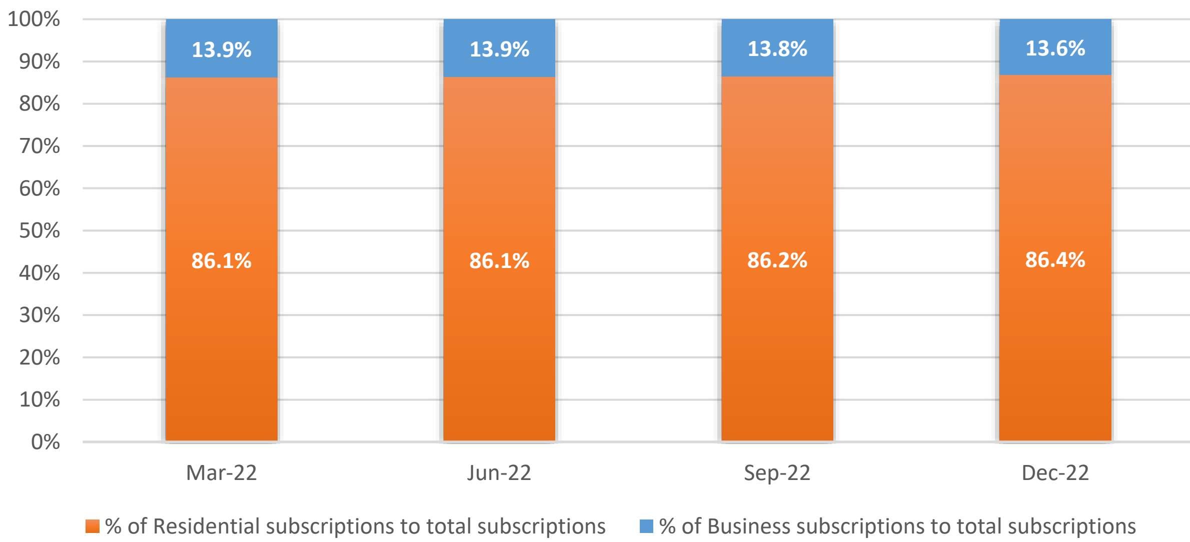


Figure 13 Proportion of quarterly fixed voice subscriptions by type

As Figure 14 shows, the total number of fixed voice subscriptions remained stable in 2018 and fluctuated from 2019 to 2020. In the first quarter of 2021, there was a sharp increase, which was then followed by a gradual decrease throughout the remaining quarters of 2021 and all of 2022.

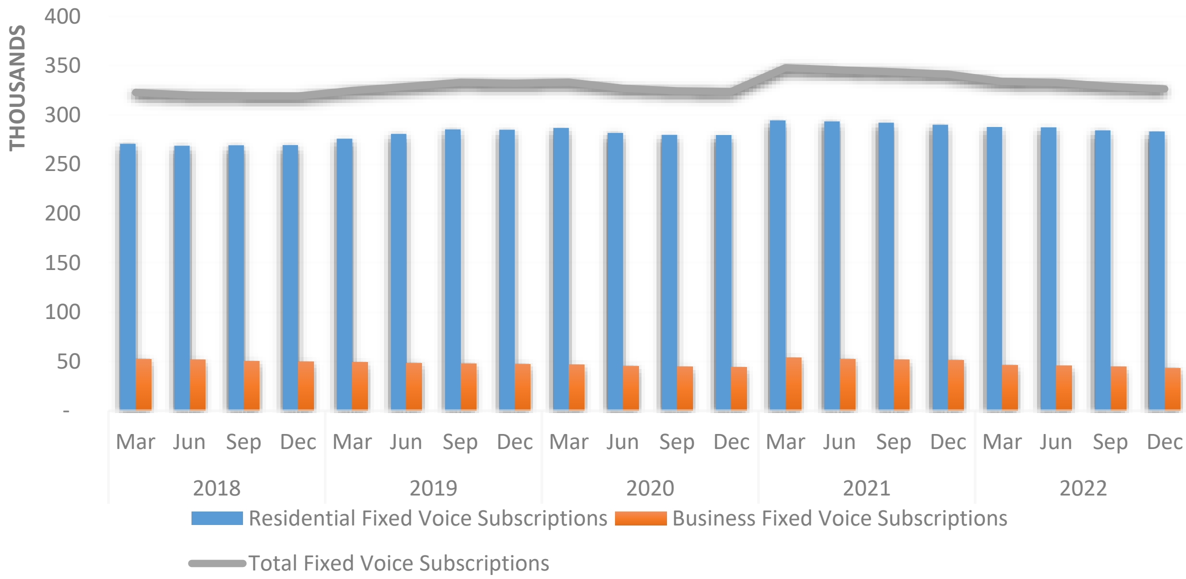


Figure 14 Quarterly fixed voice subscriptions from 2018 to 2022

2.3 Fixed Voice Penetration

Fixed voice penetration[37], the standard metric recognised by the International Telecommunication Union (ITU)[38] for measuring the adoption of fixed voice services, is defined as the number of fixed voice subscriptions per 100 inhabitants of the population. The fixed voice penetration rates from 2018 to 2022 are provided in Figure 15.

[37] Fixed voice penetration is calculated using the number of residential fixed voice subscriptions, divided by the total population, multiplied by 100. The total population figure used is based on the CSO's 2022 mid-year population estimate.

[38] ITU is a specialised agency of the United Nations, responsible for all matters relating to information and communications technology (ICT).

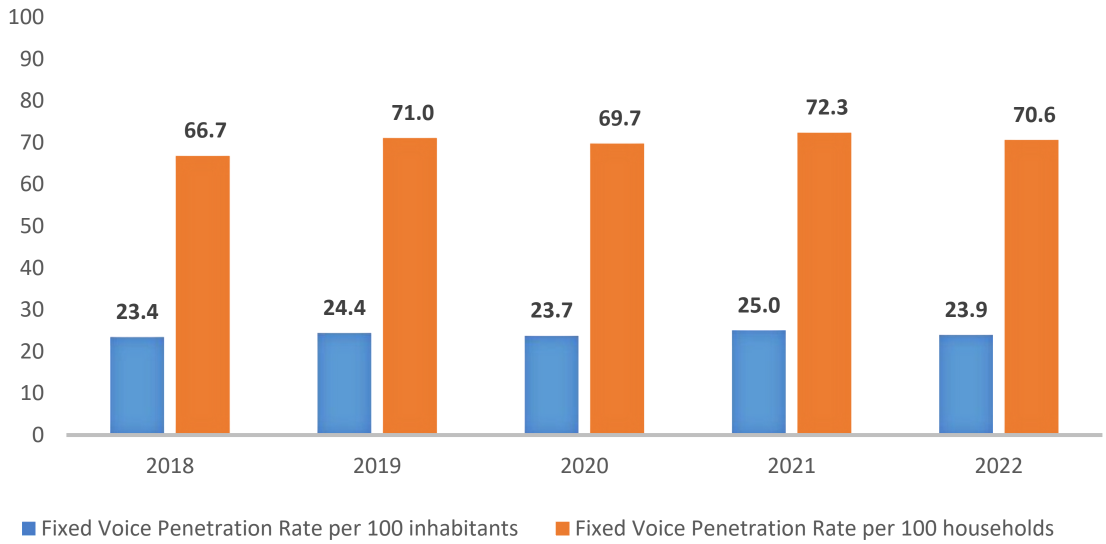


Figure 15 Fixed voice penetration rates from 2018 to 2022

With 326,500 subscriptions and a population of approximately 1.37 million persons, the fixed voice penetration rate was calculated to be 23.9 as at December 2022. This indicates that there were approximately 24 fixed voice subscriptions to every 100 persons within Trinidad and Tobago.

Fixed household penetration[39] was also calculated, to assess the number of households with fixed voice telephone services. This was determined to be 70.6 and indicates that, out of every 100 households, approximately 71 subscribed to fixed voice services.

Across the period 2018 to 2022, the average penetration rate per 100 inhabitants was 24 while the average penetration rate per 100 households was 70.

[39] Fixed voice household penetration is calculated similarly to fixed voice penetration but uses the number of households in the country.

2.4 Domestic Fixed Voice Traffic

Domestic fixed voice traffic refers to the number of domestic minutes or calls originating on local fixed networks. This traffic can be classified into several types, as seen in Figure 16.

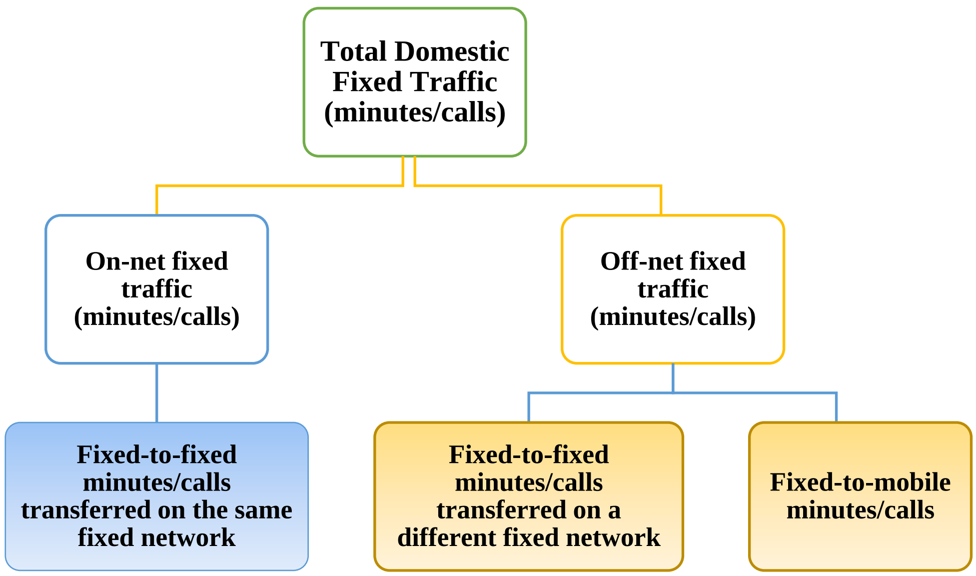


Figure 16 Classification of domestic fixed voice traffic

2.4.1 Annual Domestic Fixed Voice Traffic in Minutes

In 2022, there were approximately 361.9 million minutes generated in fixed voice traffic – a decrease of 17.6% from 2021. Of that total, 142.24 million minutes were on net[40] while 219.5 million were off net[41], as illustrated in Figure 17. Fixed-to-fixed minutes transferred on a different network (off net) amounted to 21 million, while fixed-to-mobile recorded 198.5 million. In 2022, on-net traffic accounted for 39.4%, decreasing from 43% recorded in 2021. Off-net traffic represented 60.6%, comprising fixed-to-mobile minutes (54.8%) and fixed-to-fixed minutes (5.8%), as shown in Figure 18.

[40] On-net fixed traffic refers to traffic originating on a service provider's fixed network and terminating on the same fixed network.

[41] Off-net fixed traffic refers to traffic originating on a service provider's fixed network and terminating on another network (intra and inter service provider). For example, a call originating on TSTT's fixed network and terminating on bmobile's, Digicel's or Flow's network will be included in these minutes.

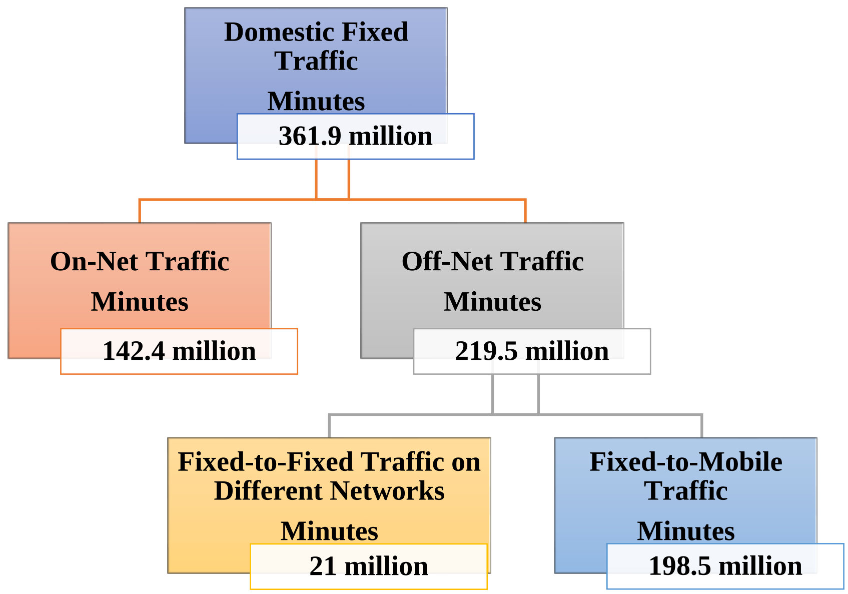


Figure 17 Breakdown of domestic fixed voice traffic in 2022

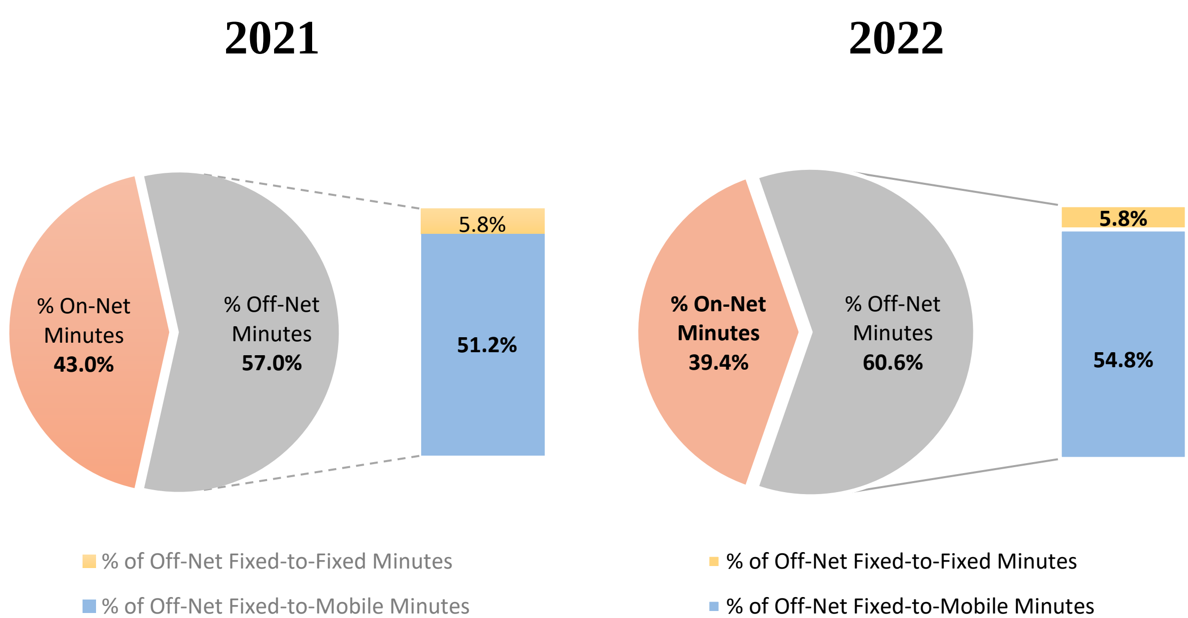


Figure 18 Total domestic fixed voice traffic minutes by type for 2021 and 2022

2.4.2 Quarterly Domestic Fixed Voice Traffic in Minutes

As indicated in Figure 19, the number of fixed minutes was relatively stable during the first three quarters of 2022, averaging approximately 93 million per quarter. The number dropped sharply in the fourth quarter to 83.3 million. The total number of off-net minutes was highest in the third quarter (57.6 million), while on-net minutes were highest in the second quarter (37.5 million).

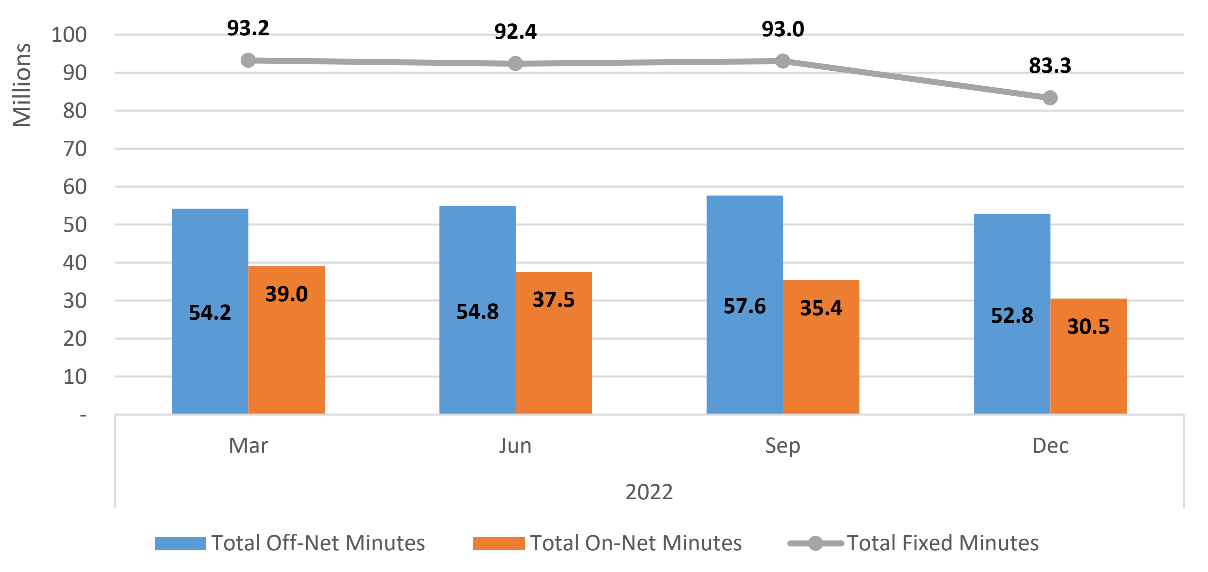


Figure 19 Quarterly fixed voice traffic minutes for 2022

2.4.3 Annual Domestic Fixed Voice Call Volumes

A comparison of domestic call volumes by traffic type for the past two years is provided in Figure 20. Domestic voice calls fell to 125.3 million in 2022 – a decrease of 12.4% from the 143.1 million calls made in 2021.

In 2022, total on-net calls accounted for 36.3 million (27.4%) of total fixed voice calls and total off-net calls accounted for 91.0 million (72.6%). On-net calls decreased by 22% from the previous year, while the number of off-net calls fell by 8.2%.

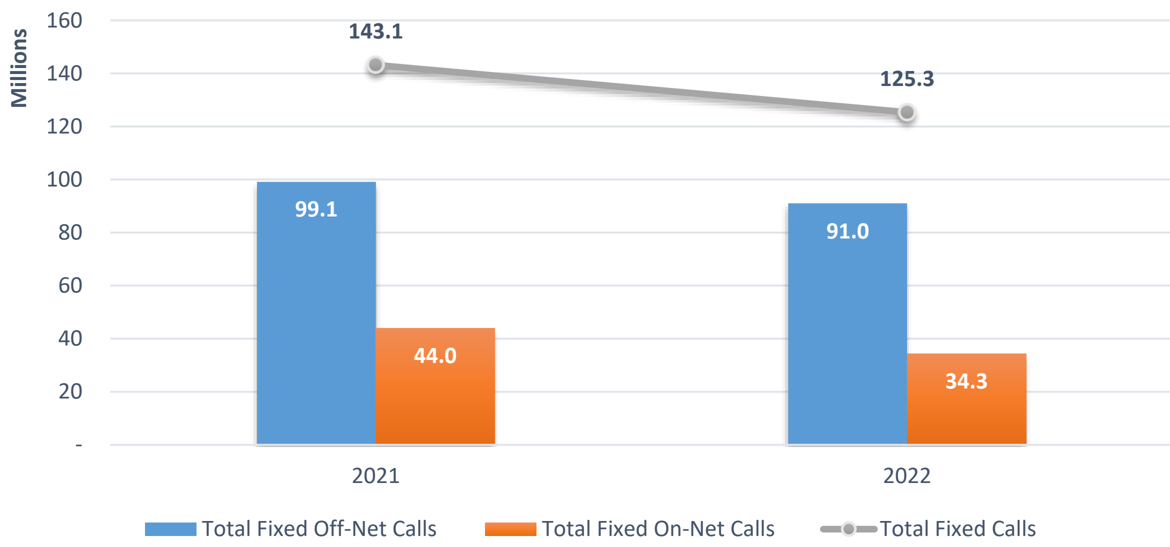
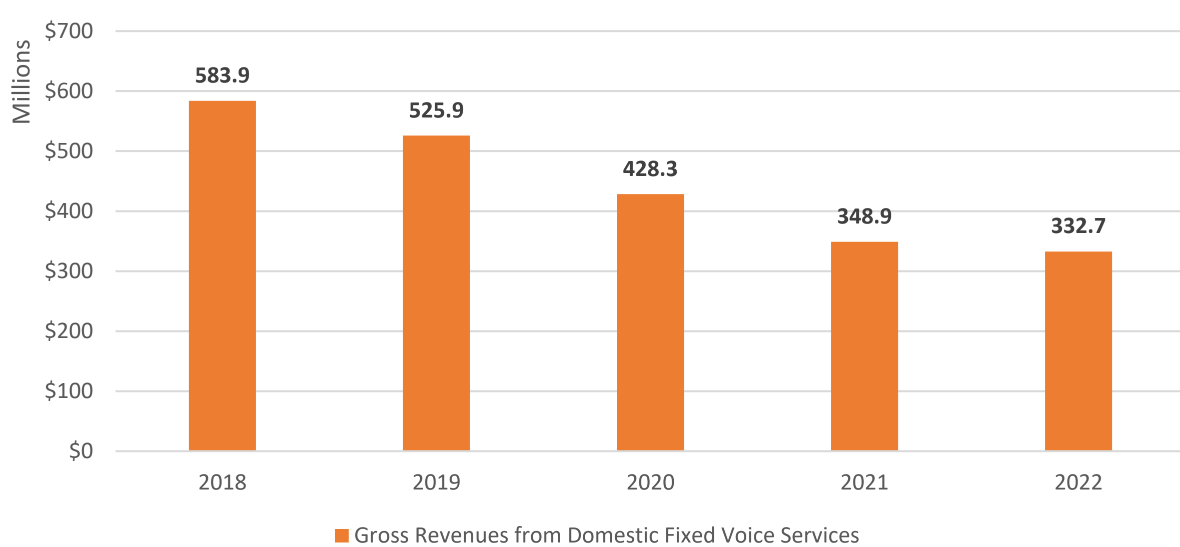


Figure 20 Comparison of domestic call volumes by traffic type for 2021 and 2022

2.5 Fixed Voice Revenues

Figure 21 portrays the steady decline in gross revenues of the fixed voice market over the past five years. The market amassed $332.7 million in 2022 – a reduction of $16.2 million, or 4.6%, from 2021.

Figure 21 Fixed voice revenues from 2018 to 2022



The 2022 quarterly fixed voice revenues are shown in Figure 22.

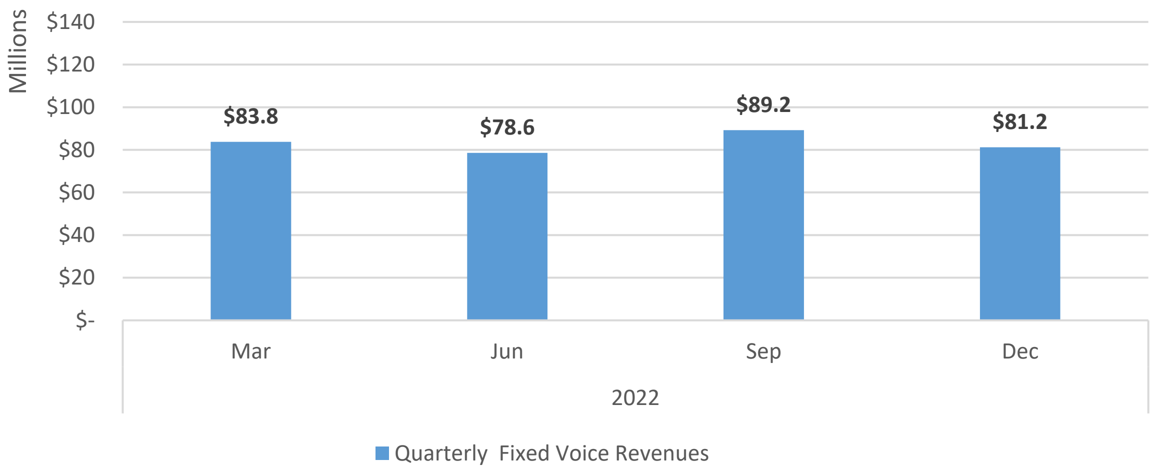


Figure 22 Quarterly fixed voice revenues for 2022

Revenues in the first quarter amounted to $83.8 million and dropped to $78.6 million in the second quarter. Revenues in the third quarter increased to $89.2 million but fell by 9% in the final quarter, to $81.2 million.

2.6 Fixed Voice Market Concentration

The Herfindahl-Hirschman Index (HHI) is a tool which measures the concentration of firms within a market, and ranges from 0 to 10,000. It is calculated as the sum of the squares of the market share[42] of all firms within that market.

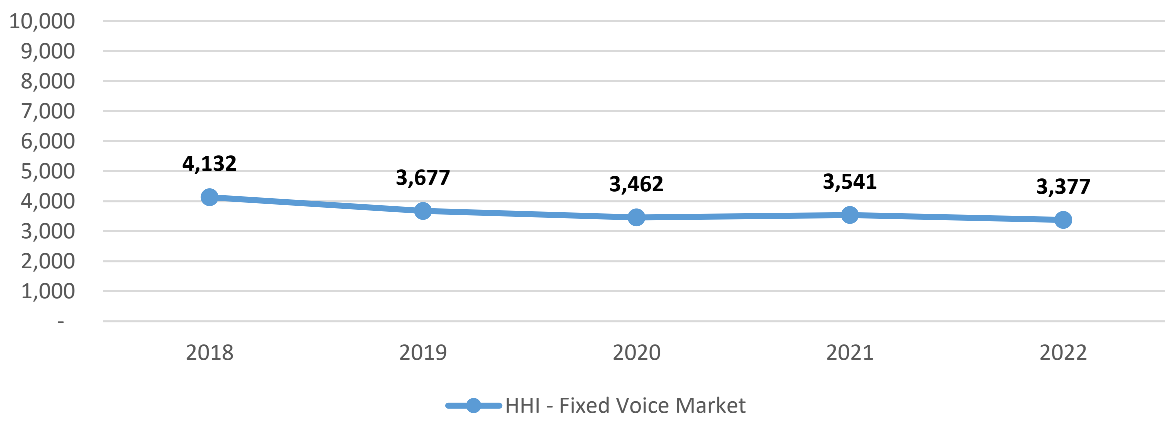


Figure 23 HHI for the fixed voice market from 2018 to 2022

[42] The market share for the fixed voice market is based on the number of subscriptions.

Figure 23 demonstrates that there was a consistent downward trend in the HHI values for the fixed voice market from 2018 to 2020. This trend changed in 2021, increasing to 3,541, but the value dropped to a new low of 3,377 in 2022.

Figure 24 shows that the first quarter of 2022 recorded an HHI of 3,448, which decreased by the second quarter to 3,438. The level of concentration continued to decline across the third and fourth quarters.

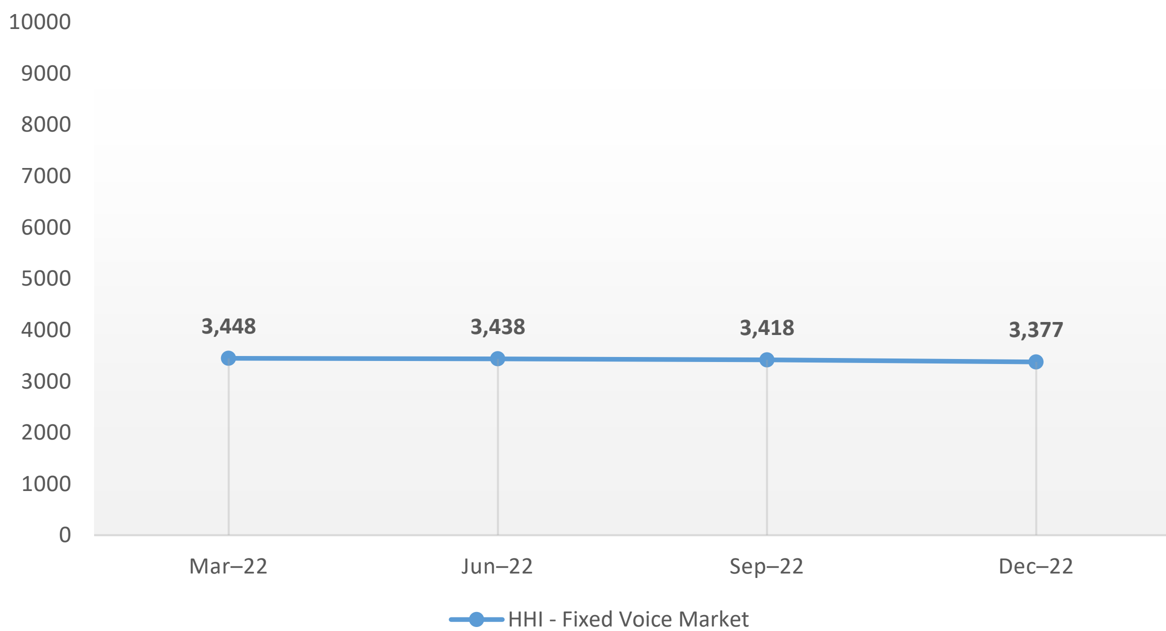


Figure 24 Quarterly HHI for the fixed voice market in 2022

2.7 Fixed Voice Average Revenue per User (ARPU)

ARPU is a measure of the average revenue generated by a subscriber and is calculated as total revenues divided by the total number of fixed voice subscriptions.

On average, each subscription to fixed voice services generated $1,005 in 2022. This represents a reduction of $6, or 0.5%, from the 2021 ARPU. Given the gradual decline in fixed voice revenues over the past five years, the ARPU has trended in a similar manner, as shown in Figure 25.

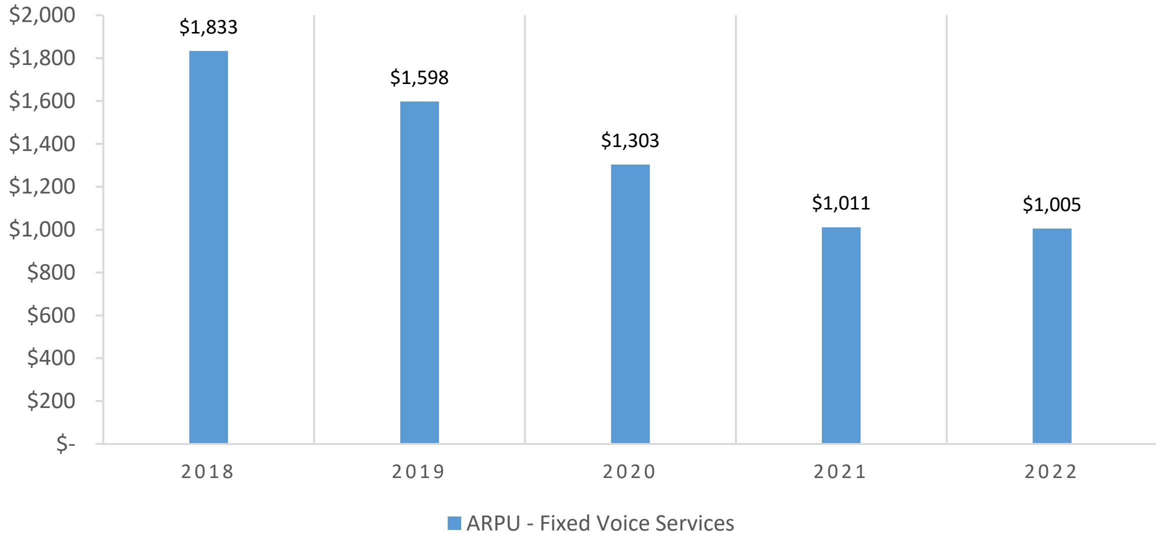


Figure 25 ARPU of the fixed voice market from 2018 to 2022

2022 ANNUAL MARKET REPORT
MOBILE VOICE MARKET

Key Indicators for the Mobile Voice Market
GROWTH 2021-2022

MOBILE VOICE MARKET

MOBILE VOICE PENETRATION

146 per 100 inhabitants

2 M SUBSCRIPTIONS
Increase of 0.1% over 2021

POSTPAID SUBSCRIPTIONS

24.3%

PREPAID SUBSCRIPTIONS

75.7%

TT$948.1 M
MOBILE VOICE MARKET REVENUES

1.1%
decrease over
2021

3 Mobile Voice Market Review

For the period January to December 2022, mobile voice and Short Messaging Service (SMS) telecommunications services were offered by the following two authorised mobile service providers:

1. Telecommunications Services of Trinidad and Tobago Limited (bmobile)

2. Digicel (Trinidad & Tobago) Limited

These operators currently use the following technologies for the provision of mobile voice services in Trinidad and Tobago:

I. **Global System for Mobile communication (GSM)**

   GSM networks continue to be phased out as the primary network for voice services, and their use is focussed on machine-to-machine and point-of-sale systems, in conjunction with GSM data enhancements, GPRS and EDGE in rural areas.

II. **Universal Mobile Telecommunications Service (UMTS)**

   UMTS networks are currently deployed for voice services, in conjunction with UMTS data enhancements, HSPA and HSPA+.

This chapter presents an overview of the mobile voice market in Trinidad and Tobago, which was compiled using data submitted by the two mobile operators.

3.1 Mobile Voice Subscriptions

3.1.1 Annual Mobile Voice Subscriptions

Figure 26 illustrates the trend in mobile subscriptions for the last five years. The number of subscriptions for 2022 stood at 2 million, which is the same as the previous year.

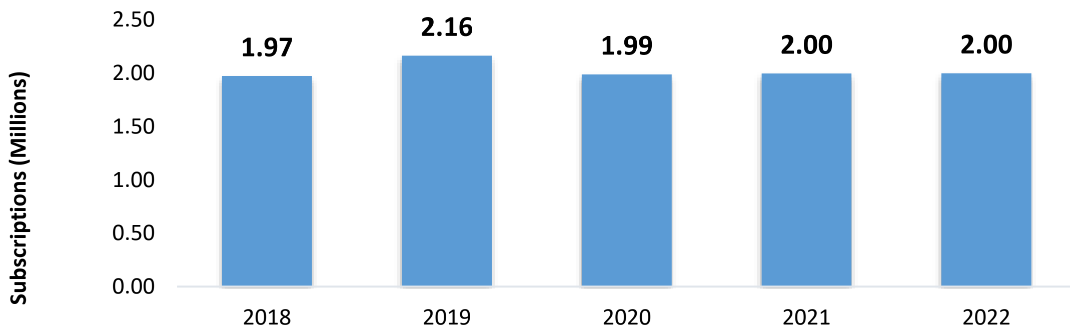


Figure 26 Number of mobile voice subscriptions from 2018 to 2022

Mobile voice subscriptions are classified into two categories: prepaid and postpaid. Prepaid customers purchase credit prior to use of the service, while postpaid customers enter into a contractual billing agreement with their respective service provider. In 2022, there were approximately 1.51 million prepaid subscriptions and 0.49 million postpaid subscriptions. The number of prepaid subscriptions decreased by 600, or 0.04%, from the previous year. However, postpaid subscriptions rose by 2,900, or 0.6%, in comparison to 2021. Figure 27 shows the trend of prepaid and postpaid mobile voice subscriptions for the period 2018 to 2022.

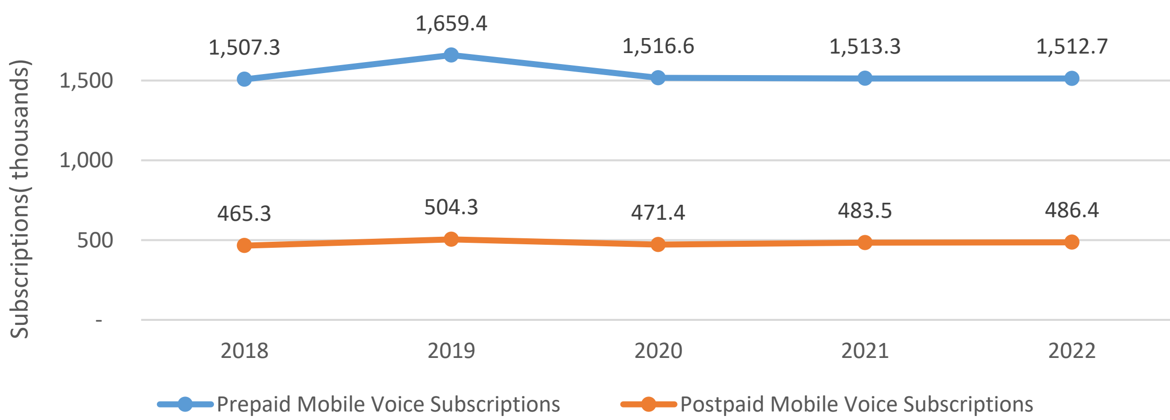


Figure 27 Mobile voice prepaid and postpaid subscriptions from 2018 to 2022

As Figure 28 illustrates, prepaid subscriptions in 2022 accounted for 75.7% of total mobile voice subscriptions, decreasing from 75.8% in 2021. The percentage of postpaid subscriptions increased only slightly, from 24.2% in 2021 to 24.3% in 2022.

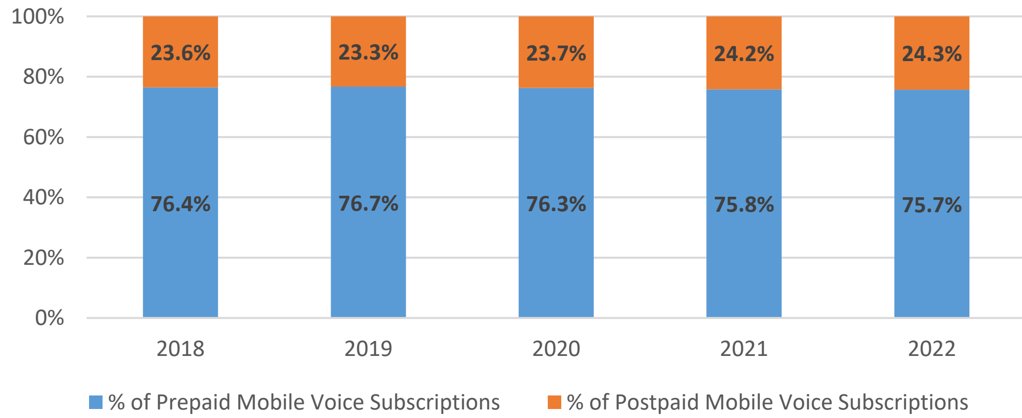


Figure 28 Percentage of prepaid and postpaid subscriptions from 2018 to 2022

The switching patterns for prepaid and postpaid service options spanning 2018 to 2022 are illustrated in Figure 29[43].

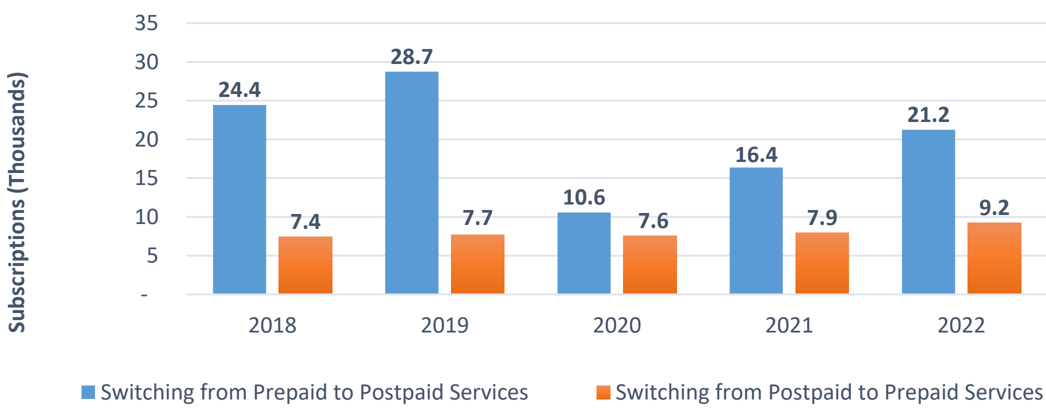


Figure 29 Number of mobile prepaid and postpaid subscriptions switched between 2018 and 2022

A greater number of mobile voice subscription plans were switched from prepaid to postpaid than from postpaid to prepaid during the last five years. In 2022, the number of subscriptions that were switched from prepaid to postpaid increased by 4,800, or 29.7% from 2021, to record 21,200 subscriptions. The number of subscriptions that were switched from postpaid to prepaid also increased year-on-year in 2022, by 1,300, or 16.2%.

[43] The number of mobile prepaid and postpaid subscriptions switched was revised for 2021.

Figure 30 depicts the quarterly trend in the switching patterns for prepaid and postpaid services during 2022. The number of subscriptions switched from prepaid to postpaid increased steadily from the first quarter to the fourth quarter. The fourth quarter recorded the highest figure of the year, with 6,800, while the first quarter had the lowest figure, of 4,400 switched subscriptions. Subscriptions converted from postpaid to prepaid stood at approximately 3,100 in the first quarter of 2022 and decreased to approximately 2,000 in quarters two, three and four.

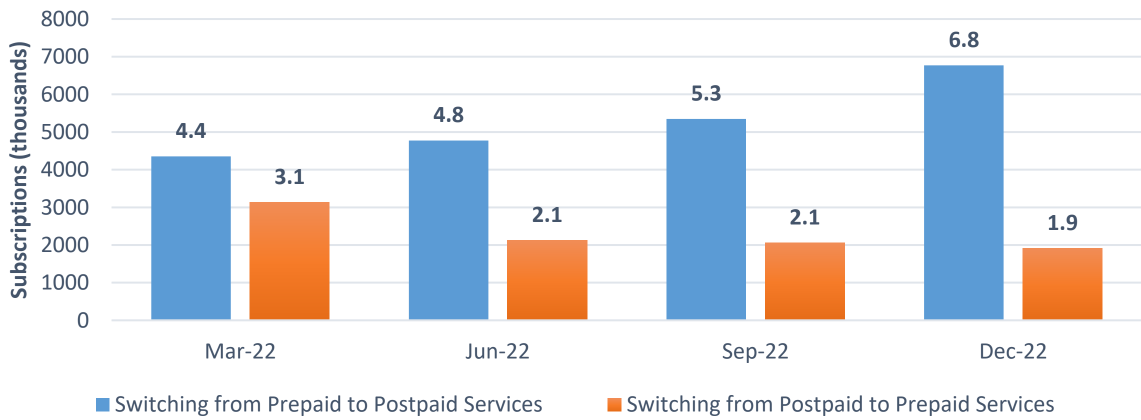


Figure 30 Number of mobile prepaid and postpaid subscriptions switched in 2022

3.1.2 Quarterly Mobile Voice Subscriptions

Figure 31 shows the quarterly trend in mobile voice subscriptions for 2022.

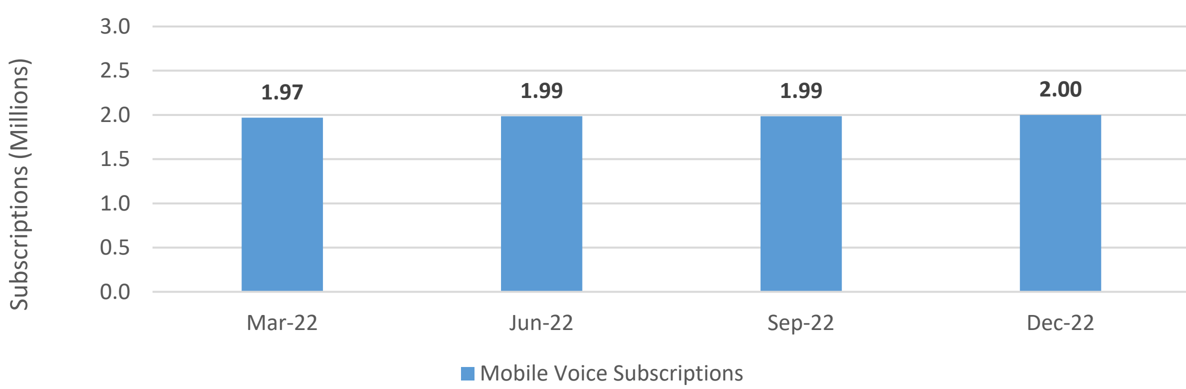


Figure 31 Quarterly mobile voice subscriptions in 2022

The first quarter recorded 1.97 million subscriptions, with 1.99 million observed in the second and third quarters. Subscriptions then peaked at 2 million in the final quarter.

The quarterly trends comparing the 2021 and 2022 prepaid and postpaid mobile subscriptions are illustrated in Figures 32 and 33, respectively.

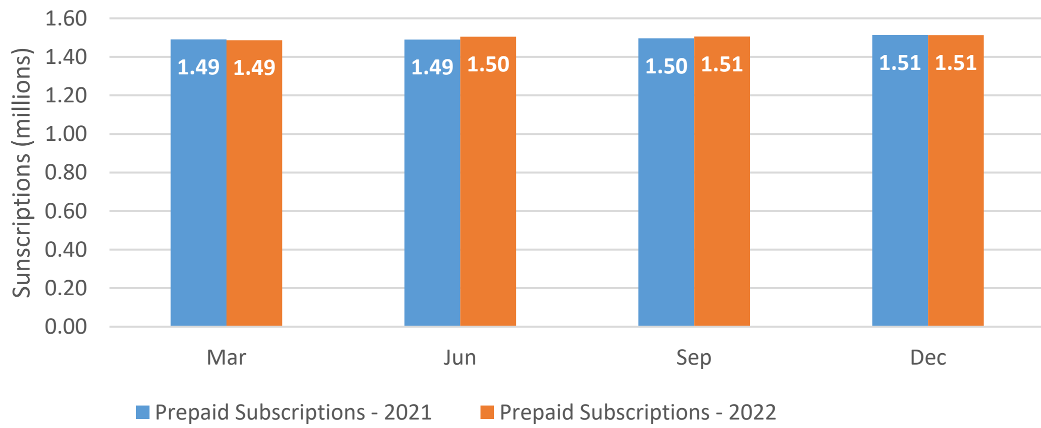


Figure 32 Quarterly mobile prepaid subscriptions for 2021 and 2022

In 2022, prepaid subscriptions totalled 1.49 million across the first and second quarters and rose across the remaining quarters to end the year at 1.51 million. Compared to 2021, prepaid subscriptions were relatively the same in each corresponding period of 2022.

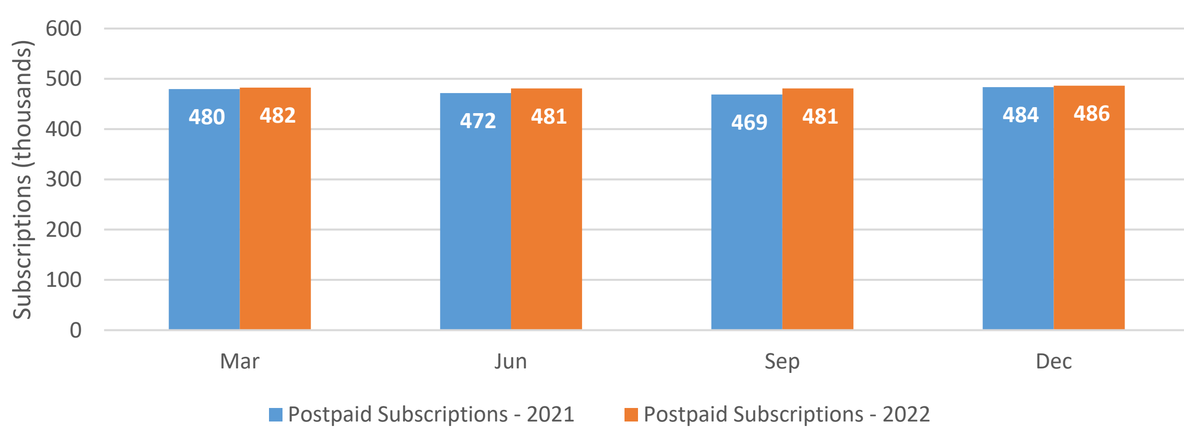


Figure 33 Quarterly mobile postpaid subscriptions for 2021 and 2022

In the first quarter of 2022, 482,000 postpaid subscriptions were recorded. There was a decline across the second and third quarters, followed by an uptick in the final quarter, with 486,000 subscriptions. All quarters of 2022 had a greater number of postpaid subscriptions compared to the same periods in 2021.

3.2 Mobile Penetration

3.2.1 Domestic Mobile Voice Penetration Rate

Figure 34 presents the mobile voice penetration rates per 100 inhabitants[44] for the period 2018 to 2022.

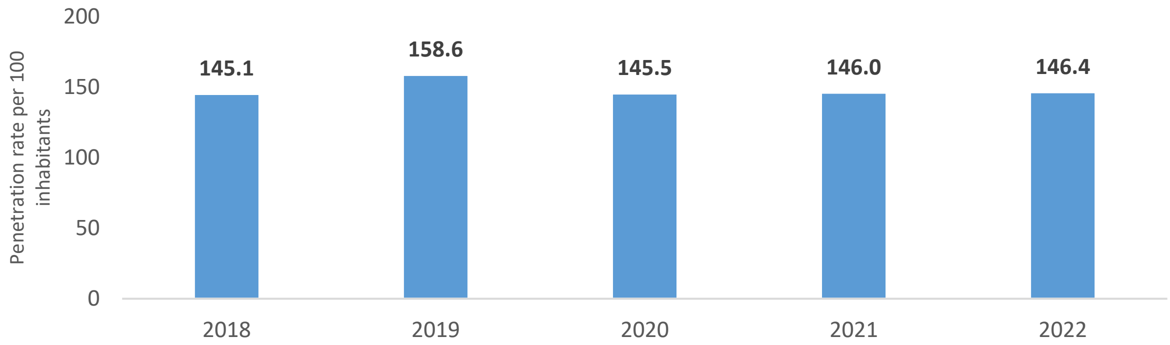


Figure 34 Mobile voice penetration per 100 inhabitants for 2018 to 2022

The mobile penetration rate increased from 145.1 in 2018 to a five-year high of 158.6 in 2019. Penetration declined to 145.5 in 2020 before rising to 146 in 2021 and to 146.4 in 2022.

Figure 35 depicts the quarterly trend in mobile voice penetration for 2022.

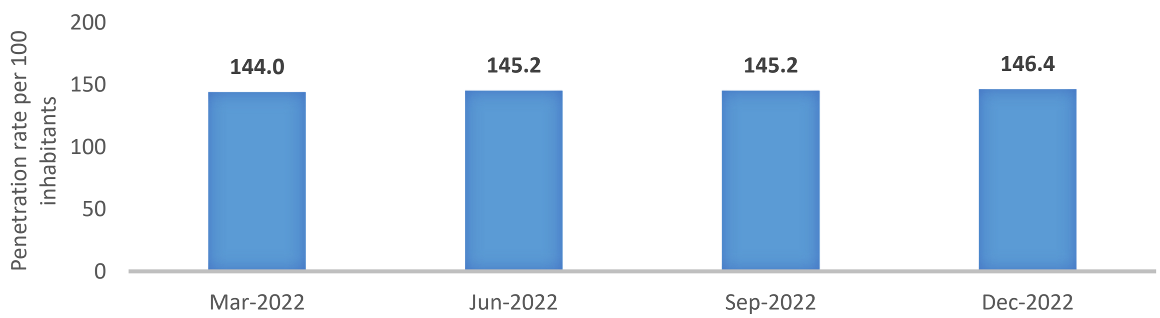


Figure 35 Quarterly mobile voice penetration rates per 100 inhabitants for 2022

The first quarter recorded a rate of 144, which rose to 145.2 in both the second and third quarters. The rate at year end was 146.4.

[44] Mobile voice penetration rate per 100 inhabitants is calculated as the number of mobile subscriptions divided by the total population, multiplied by 100.

3.3 Domestic Voice Traffic

There are several categories of domestic mobile voice traffic, as shown in Figure 36. They represent the types of calls made by consumers and, hence, the minutes originated and terminated on the domestic mobile networks.

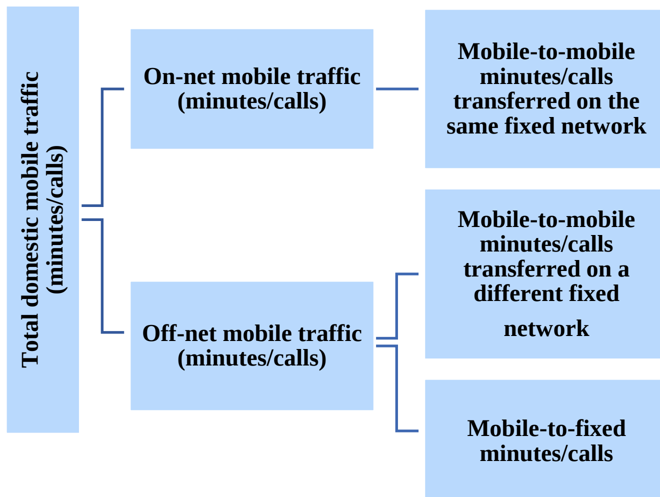


Figure 36 Classification of domestic mobile voice traffic

In 2022, the total number of mobile phone calls made by consumers decreased by 1.9% from the previous year, to record approximately 2.15 billion. The number of minutes generated from these calls was approximately 3.20 billion – a decrease of 9.2% in comparison to 2021.

3.3.1 Annual Domestic Mobile Voice Traffic in Minutes

Figure 37 shows a breakdown of domestic mobile minutes for 2022, while Table 3 provides a comparison of domestic mobile voice minutes for 2021 and 2022.

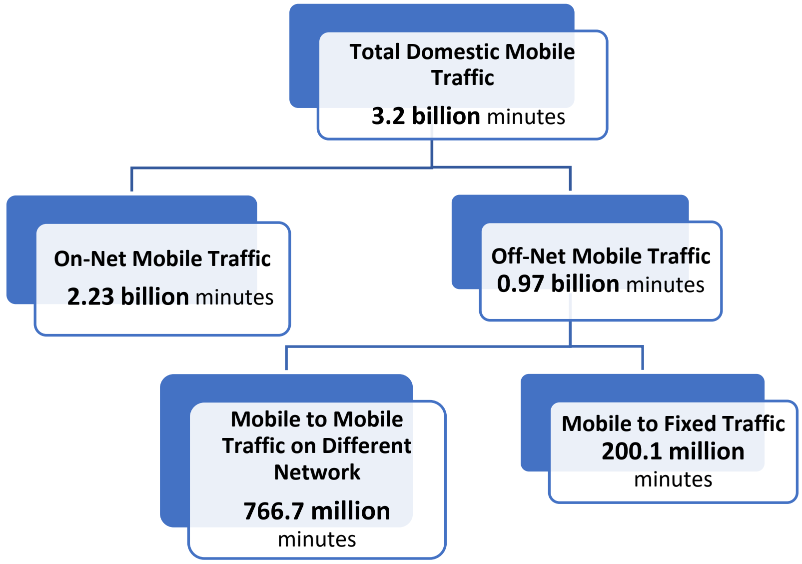


Figure 37. Breakdown of domestic mobile minutes for 2022

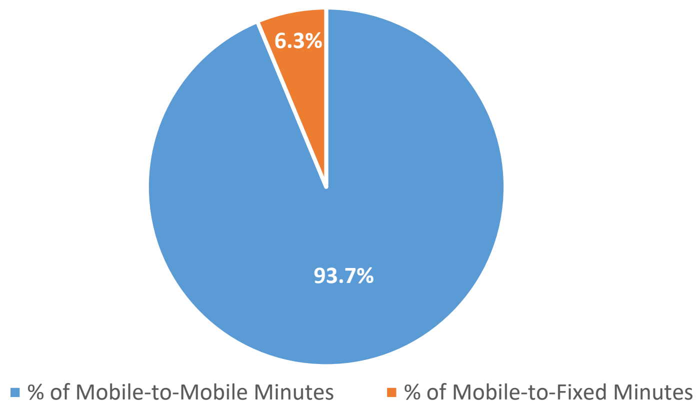
The 3.20 billion minutes of domestic traffic for 2022 are the summation of both on-net and off-net[45] minutes, which amounted to 2.23 billion and 0.97 billion, respectively. Compared with 2021, the number of mobile on-net minutes for 2022 decreased by 10.8%, while the number of off-net minutes decreased by 5.1%.

The 0.97 billion off-net minutes comprised 766.7 million mobile-to-mobile minutes transferred on a different mobile network and 200.1 million mobile-to-fixed minutes. From 2021 to 2022, mobile-to-mobile off-net minutes decreased by 23.6 million minutes, or 3% while mobile-to-fixed off-net minutes decreased by 28.7 million, or 12.5%.

Table 3 Breakdown of domestic mobile minutes for 2021 and 2022

	2021	2022	Difference	Percentage change
On-net mobile traffic minutes (billions)	2.50	2.23	-0.27	-10.8%
Off-net mobile traffic minutes (billions)	1.02	0.97	-0.05	-4.9%
Mobile-to-mobile traffic minutes on different networks (millions)	790.3	766.7	-23.60	-3%
Mobile-to-fixed traffic minutes (millions)	229.5	200.1	-29.40	-12.8%
Total domestic mobile traffic minutes (billions)	3.52	3.20	-0.32	-9.1%

[45] Off-net mobile traffic refers to traffic originating on a service provider's mobile network and terminating on another network, e.g., a call originating on Digicel's network and terminating on TSTT's network.



Figure

38Figure 38 illustrates the percentage of mobile-to-mobile and mobile-to-fixed minutes for 2022. Mobile-to-mobile minutes represented a share of 93.7% of all domestic mobile minutes, with mobile-to-fixed minutes accounting for 6.3%.

Figure 38 Percentage of mobile-to-mobile and mobile-to-fixed minutes for 2022

3.3.2 Annual Domestic Mobile Voice Call Volumes

In 2022, there was a total of 2.15 billion domestic mobile voice calls – a decrease of 1.8% from the previous year. Compared to 2021, the number of on-net calls fell by 2.5% and the number of off-net calls increased by 0.4%.

Table 4 gives a comparison of domestic mobile voice calls for 2021 and 2022 while Figure 39 highlights the percentage of on-net and off-net calls for 2022.

Table 4 Breakdown of domestic mobile voice calls for 2021 and 2022

	2021	2022	Difference	Percentage change
On-net mobile traffic calls (billions)	**1.51**	**1.46**	**-0.05**	**-3.3%**
Off-net mobile traffic calls (millions)	**684.00**	**686.41**	**2.41**	**0.4%**
Mobile-to-mobile calls (millions)	**569.20**	**583.65**	**14.45**	**2.5%**
Mobile-to-fixed traffic calls (millions)	**114.80**	**102.76**	**-12.04**	**-10.5%**
Total domestic mobile voice calls (billions)	**2.19**	**2.15**	**-0.04**	**-1.8%**

From January to December 2022, there were 1.46 billion on-net calls, representing approximately 68.1% of all mobile voice calls. The remaining 31.9%, or 686 million calls, were off-net, which can be sub-divided into mobile-to-mobile and mobile-to-fixed off-net calls. There were 114.8 million mobile-to-fixed off-net calls made in 2021, representing 5.2% of all domestic mobile calls, and 569.2 million mobile-to-mobile off-net calls – a share of 26%.

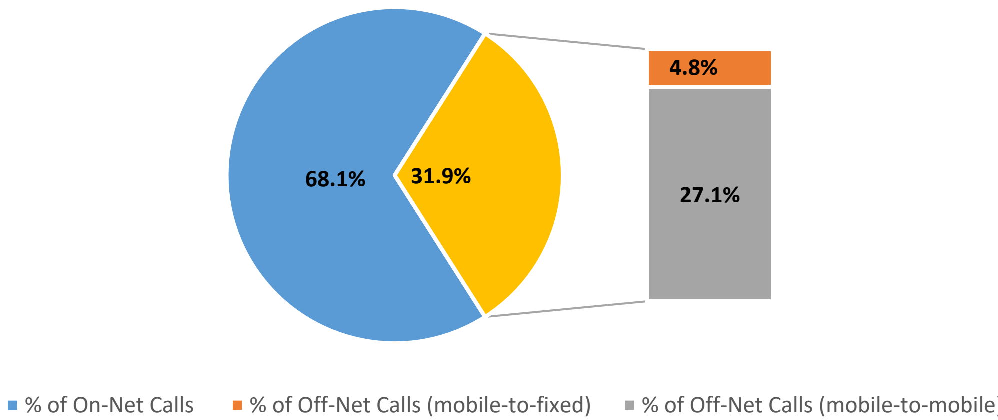


Figure 39 Percentage of domestic mobile voice calls for 2022

3.3.3 Quarterly Domestic Mobile Voice Minutes

The number of minutes recorded for each quarter of 2022 is presented in Figure 40. The first quarter registered 826.7 million minutes which fell to 798.5 million by the second quarter. There was a steady decrease in minutes across the final two quarters, to end the year with 784.4 million minutes.

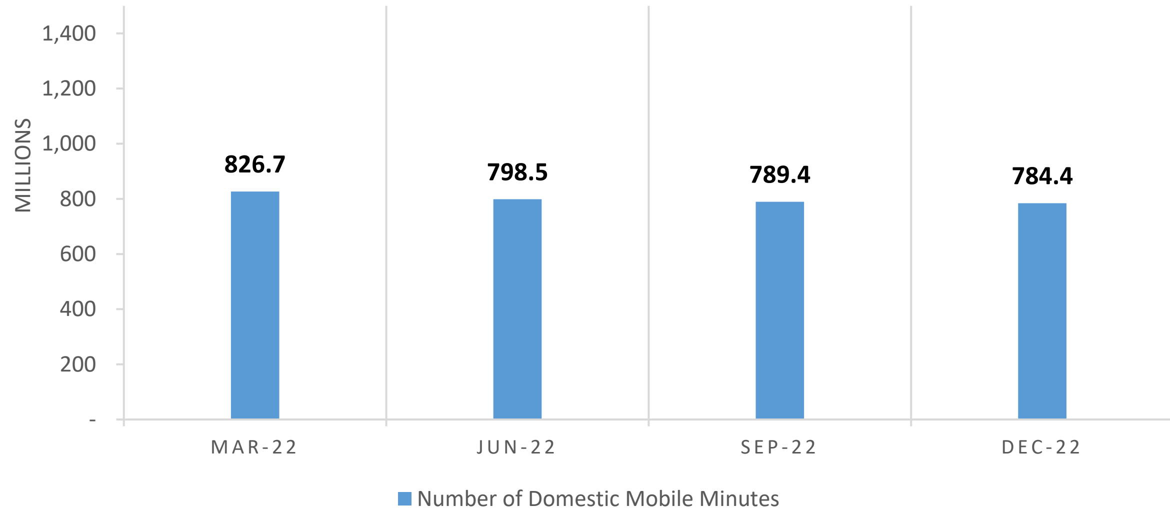


Figure 40 Number of quarterly mobile voice minutes in 2022

Figure 41 portrays the percentage of quarterly mobile voice minutes by type for 2022. Mobile-to-fixed minutes comprised the largest share of mobile-to-fixed minutes, with approximately 94% for each quarter of 2022.

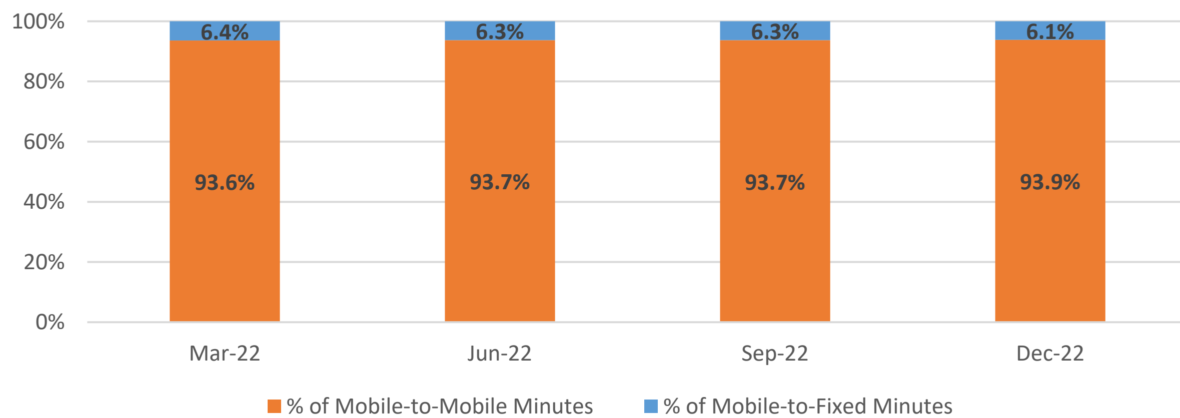


Figure 41 Percentage of quarterly mobile voice minutes by type for 2022

3.3.4 Short Messaging Services (SMS)

Figure 42 shows that, from 2021 to 2022, there was a reduction in the total number of SMS sent – from 119.2 million to 102.4 million – representing a 14% decrease. SMS were categorised as either on-net or off-net, with 2022 figures of 74.2 million and 28.3 million, respectively. From 2021 to 2022, on-net SMS dropped by 15.4% and off-net by 10.2%.

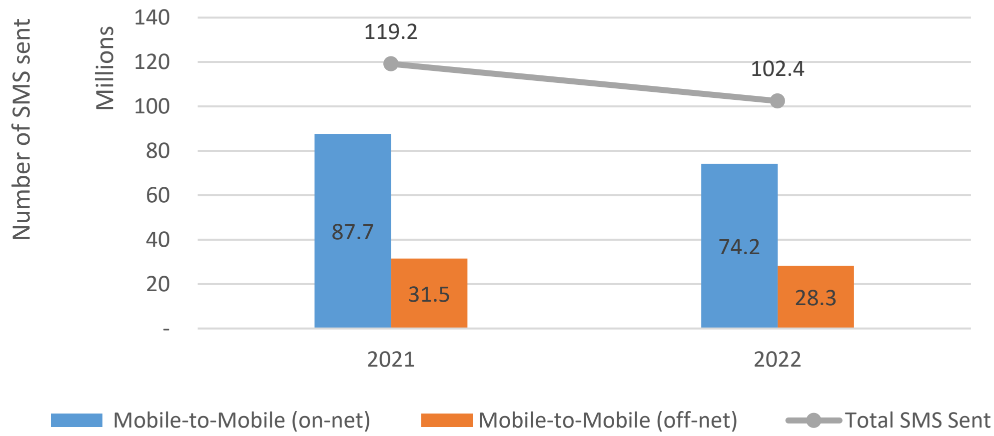


Figure 42 Number of on-net and off-net SMS sent in 2021 and 2022

3.4 Mobile Voice Revenues

3.4.1 Annual Revenues from Mobile Voice Services[46]

Figure 43 outlines the annual trend in mobile voice revenues[47] from 2018 to 2022. Mobile voice services generated revenues of $948.1 million – a decrease of $10.1 million, or 1.1%, from 2021.

[46] These revenues exclude mobile Internet revenues, which are reported on in section 4: Internet Market Review.

[47] Mobile voice revenues comprise revenues from mobile voice, SMS services and other mobile services, such as equipment sales, SIM card sales and administrative charges.

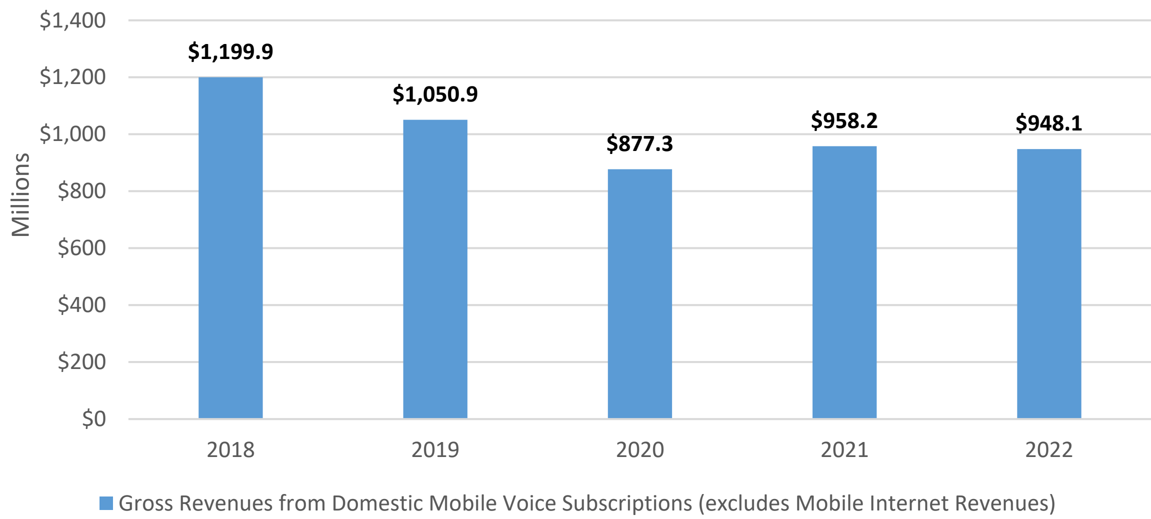


Figure 43 Annual revenues from mobile voice services from 2018 to 2022

Table 5 highlights the percentage changes in mobile revenues from 2018 to 2022. Over this period, the greatest decline was observed from 2017 to 2018, which had a percentage decrease of 23.3%.

Table 5 Percentage changes in mobile revenues from 2018 to 2022

Year	Percentage Change (from previous year)
2018	**-23.3%**
2019	**-12.4%**
2020	**-16.5%**
2021	**9.2%**
2022	**-1.1%**

Mobile voice revenues comprise earnings from prepaid, postpaid and other mobile services. Figure 44 compares revenues earned by service type for the past five years, while Figure 45 depicts the percentage share of mobile voice revenues by service type for 2022.

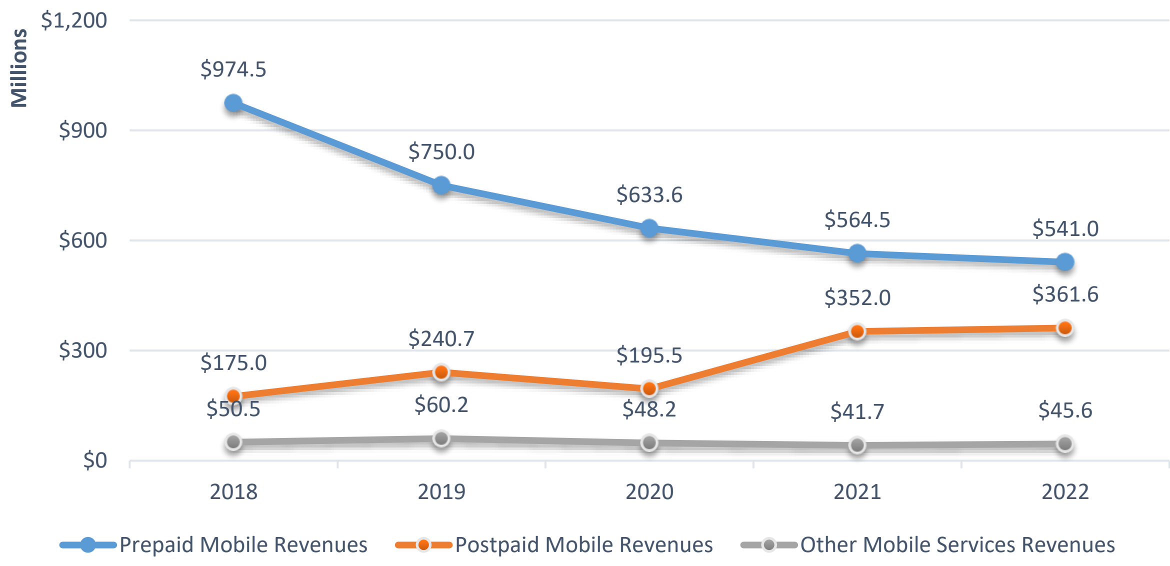


Figure 44 Mobile voice revenues by service type for 2018 to 2022

In 2022, prepaid services produced $541 million in revenue, while postpaid generated $361.6 million, representing 57.1% and 38.1% of gross revenues, respectively. Revenues from other mobile services amounted to $45.6 million, or 4.8% of total revenues.

Prepaid revenue fell by 4.2% in 2022, continuing the downward trend observed over the past five years. There has been an overall upward trend in postpaid revenues over the past five years, despite the decrease observed in 2020. In 2022, postpaid revenues continued to increase, generating 2.7% more revenues than in 2021. Revenues for other mobile services fluctuated over the past five years, increasing by 9.3% in 2022.

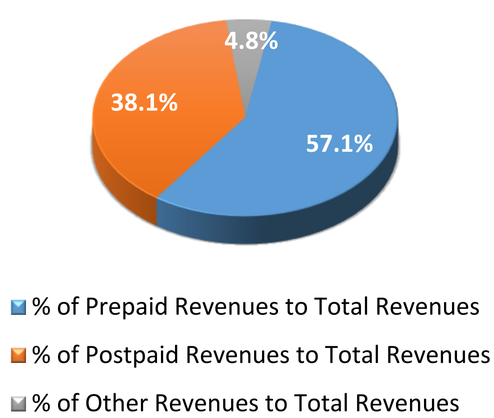


Figure 45 Percentage breakdown of mobile voice revenues by service type for 2022

3.4.2 Quarterly Revenues from Mobile Voice Services

Figure 46 illustrates the quarterly trend in mobile voice revenues for 2022. The first quarter recorded revenues of $246 million. The third quarter had the lowest figure of the year, with $225.8 million. Revenues rose in the last quarter to end 2022 with a figure of $242.4 million.

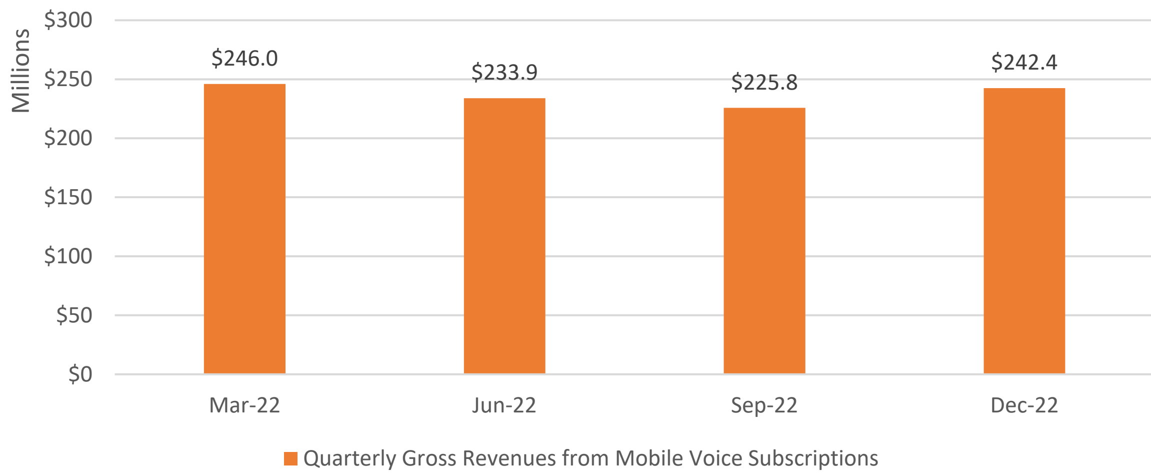


Figure 46 Quarterly revenues from mobile voice services in 2022

Figure 47 provides a breakdown of quarterly revenues by service type for 2022.

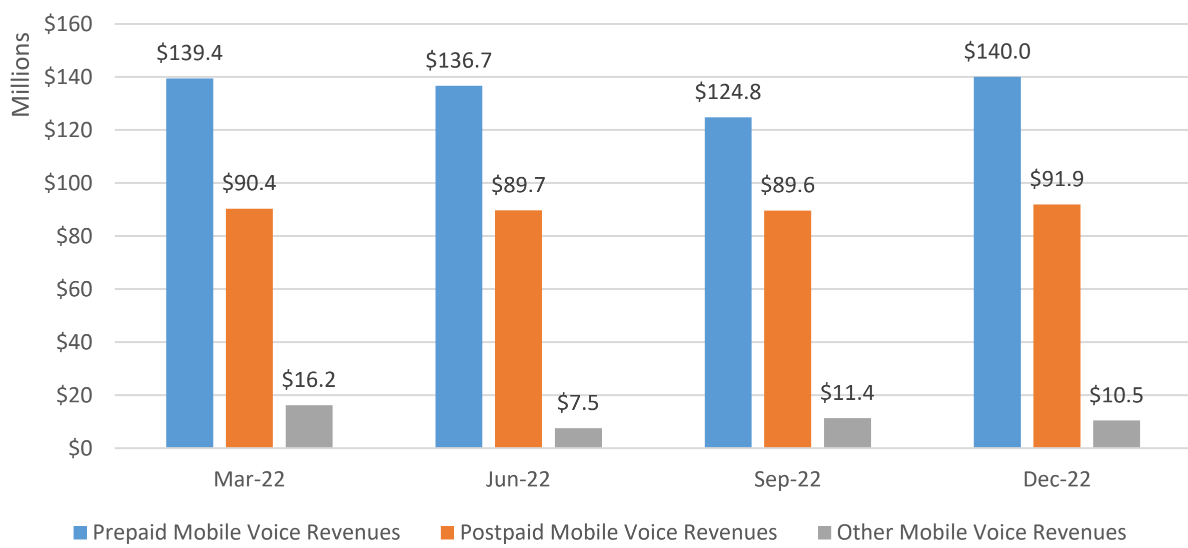


Figure 47 Quarterly mobile voice revenues by service type for 2022

Prepaid revenues fell from $139.4 million in the first quarter to $136.7 million in the second quarter and further to $124.8 million in the third quarter. Revenues increased in the fourth quarter, recording $140 million – the highest prepaid amount of the year.

With regard to postpaid revenues, the third quarter recorded the lowest quarterly figure at $89.6 million, while the fourth quarter had the highest, at $91.9 million.

Revenues from other mobile services peaked in the first quarter, at $16.2 million – the largest quarterly figure of the year. Revenues decreased in the second quarter to $7.5 million, increased to $11.4 million in the third quarter, and then decreased to $10.5 million in the fourth quarter.

Figure 48 compares the percentage share of revenues earned in 2022, by service type. Prepaid revenues accounted for the largest share of mobile voice revenues, with an average of 57%. Postpaid revenues averaged 38.2% per quarter, while the "Other" mobile services category held an average share of 4.8%.

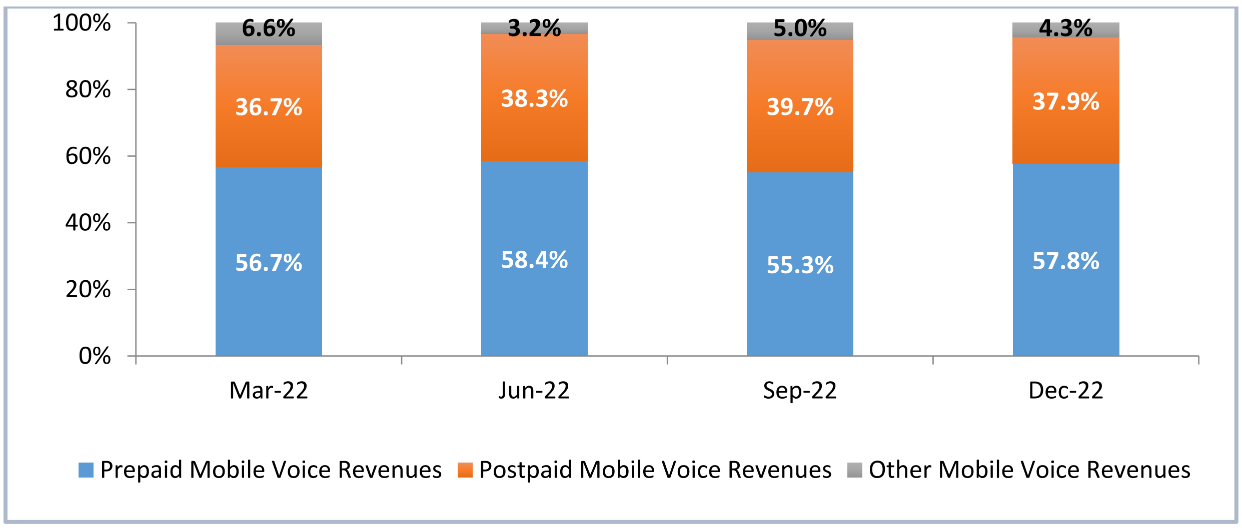


Figure 48 Percentage share of revenues by service type for 2022

3.5 Mobile Voice Market Concentration

Figure 49 depicts the level of concentration in the domestic mobile voice market using the HHI[48] for the period 2018 to 2022.

[48] The number of mobile subscriptions was used to determine the market share of the service providers.

There were consecutive increases in the HHI across 2019 and 2020, followed by a decline to 5,146 in 2021. In 2022, the HHI was 5,196, an increase of 1.0% from the previous year.

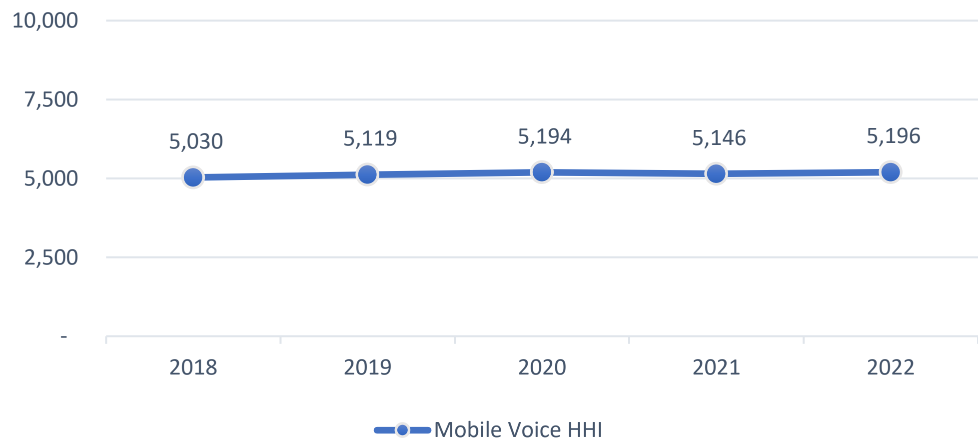


Figure 49 HHI for the mobile voice market from 2018 to 2022

The quarterly trend for the mobile voice market for 2022 is depicted in Figure 50. The first quarter had an HHI of 5,177, which increased consistently across all quarters, to end the year at 5,196.

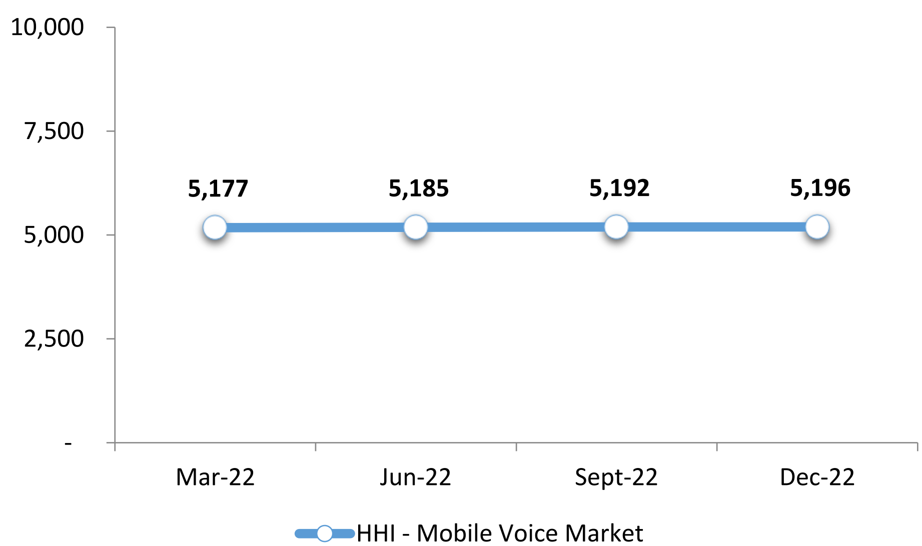


Figure 50 Quarterly HHI for the mobile voice market in 2022

3.6 Average Revenue per User for Mobile Voice Services

The ARPU for mobile voice services decreased by 1.2% from the previous year, registering $474 in 2022. This indicates that the average expenditure per subscriber of mobile voice services decreased by $6 from 2021. Figure 51 shows the trend in the mobile service ARPU for the past five years.

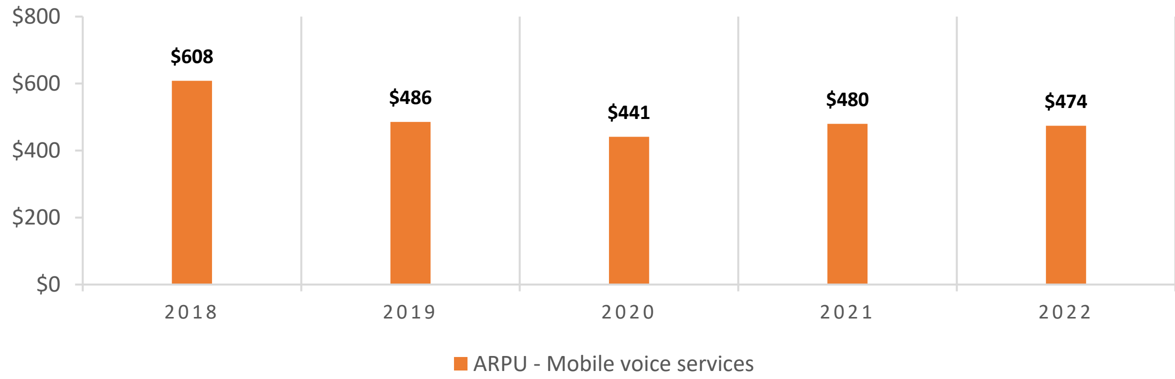


Figure 51 ARPU for mobile voice services from 2018 to 2022

Figure 52 presents a comparison of the ARPU for both prepaid and postpaid mobile services for the period 2018 to 2022.

Over the last five years, there was a steady decline in ARPU for prepaid subscriptions, while the ARPU for postpaid subscriptions fluctuated. In 2022, the prepaid ARPU decreased by $15, or 4.1%, while postpaid rose by $15, or 2.1%, relative to 2021.

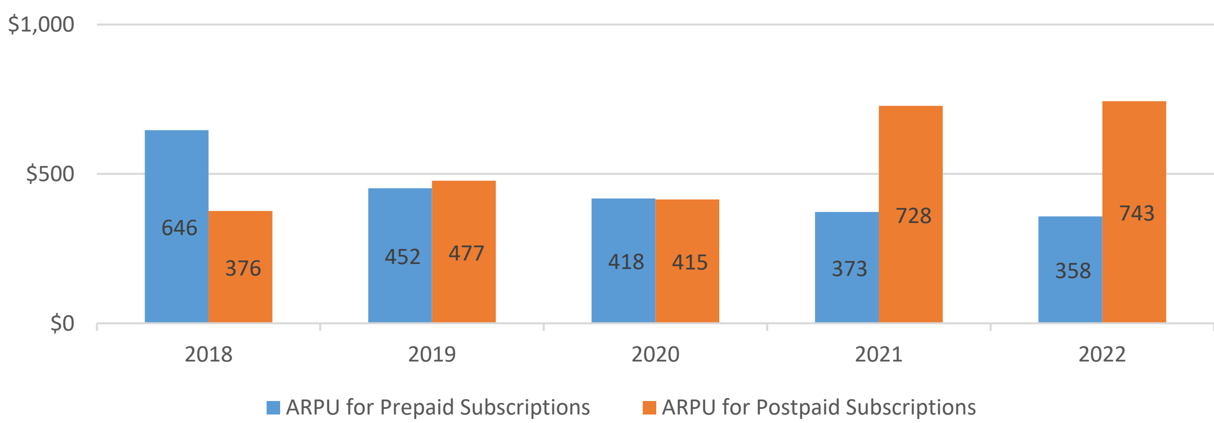


Figure 52 ARPU for prepaid and postpaid mobile voice subscriptions from 2018 to 2022

2022 ANNUAL MARKET REPORT

INTERNET MARKET

GROWTH 2021-2022

MOBILE INTERNET MARKET

MOBILE INTERNET REVENUES
TT$989.4 Million
Increase of 6.2% over 2021

859,100 SUBSCRIPTIONS
Increase of 4.8% over 2021

INTERNET PENETRATION
63 per 100 inhabitants

FIXED INTERNET MARKET

FIXED INTERNET REVENUES
TT$1,254.6 Million
Increase of 2.3% over 2021

389,600 SUBSCRIPTIONS
Increase of 5% over 2021

INTERNET PENETRATION
29 per 100 inhabitants

INTERNET PENETRATION
92 per 100 households

4 Internet Market Review

This review of Trinidad and Tobago's Internet market for 2022 examines the delivery of Internet services over domestic fixed (wired and wireless) and mobile public telecommunications networks.

The country has 16 authorised fixed domestic telecommunications service concessionaires, 12 of which provided fixed Internet services in 2021:

1. Air Link Communications Limited
2. Amplia Communications Limited
3. Columbus Communications Trinidad Limited (CCTL)
4. Digicel (Trinidad & Tobago) Limited
5. Green Dot Limited
6. Lisa Communications Limited
7. PBS Technologies (Trinidad) Limited [formerly Massy Technologies (Infocom) Trinidad Limited]
8. Novo Communications Limited
9. Open Telecom Limited[49]
10. RVR International Limited
11. Telecommunications Services of Trinidad and Tobago Limited (TSTT)
12. Wired Technologies Limited

These operators use a mix of technologies to provide fixed wired and wireless broadband Internet services to the public. Fixed wired broadband Internet services employ ADSL2+ over copper cables, DOCSIS 3.0 technology using Hybrid Fibre Coaxial Networks, as well as a mix of Fibre to the Business (FTTB), Metro-Ethernet or Fibre to the Home (FTTH) topologies, using GPON access networks. Fixed wireless broadband Internet operators employ technologies, such as WiMAX and LTE technologies, to support the need for services demanding higher speeds on the access network.

[49] Open Telecom had not supplied data at the time of publication.

One fixed operator, TSTT, indicated that it is phasing out the use of twisted pair copper cables for the provision of fixed broadband Internet and fixed telephony services. Its fixed wireless network will replace the existing copper access network in the provision of these services.

Two mobile operators were authorised to provide domestic mobile telecommunications services, including the provision of mobile Internet services:

1. Telecommunications Services of Trinidad and Tobago Limited (bmobile)

2. Digicel (Trinidad & Tobago) Limited

Mobile Internet operators offered customers mobile broadband Internet services utilising Evolved High-Speed Packet Access (HSPA+), Long Term Evolution (LTE) as well as Long Term Evolution Advanced (LTE-A). LTE is the main technology employed for the provision of mobile broadband Internet services, with HSPA+ utilised in areas not covered by LTE. Mobile Internet services via 2.5G technology, i.e., Enhanced Data rates for GSM Evolution (EDGE), were also offered in rural areas not yet covered by the 3G and 4G technologies during this reporting period.

4.1 Fixed Internet Subscriptions

Figure 53 illustrates the annual trend in subscriptions to fixed Internet services. Following a contraction in 2021, fixed Internet subscriptions increased by 18,700, or 5%, to record 389,600 in 2022.

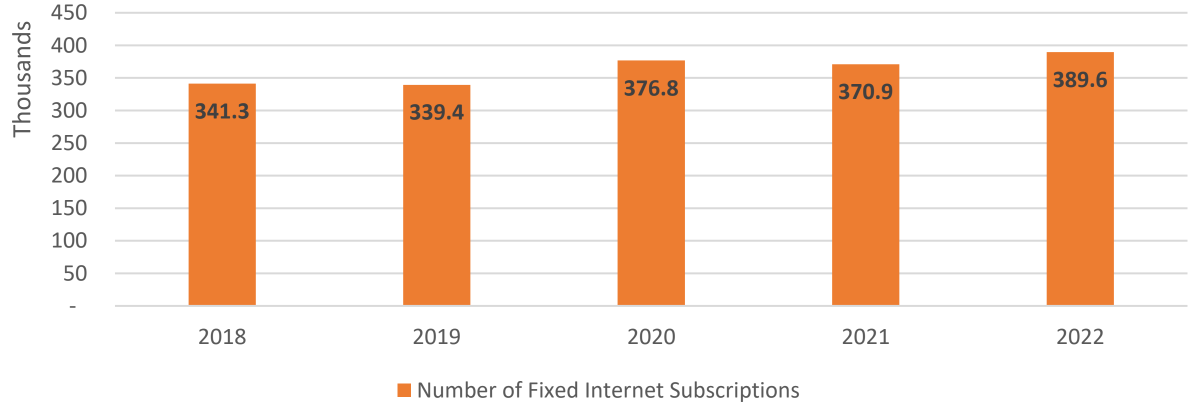


Figure 53 Fixed Internet subscriptions from 2018 to 2022

4.1.1 Fixed Internet Subscriptions by Customer Type

Fixed Internet subscriptions can be classified as either residential or business. Both categories registered increases in 2022. As Figure 54 reveals, the number of residential subscriptions amounted to 370,100 – an increase of 16,900, or 4.8%, from 2021.

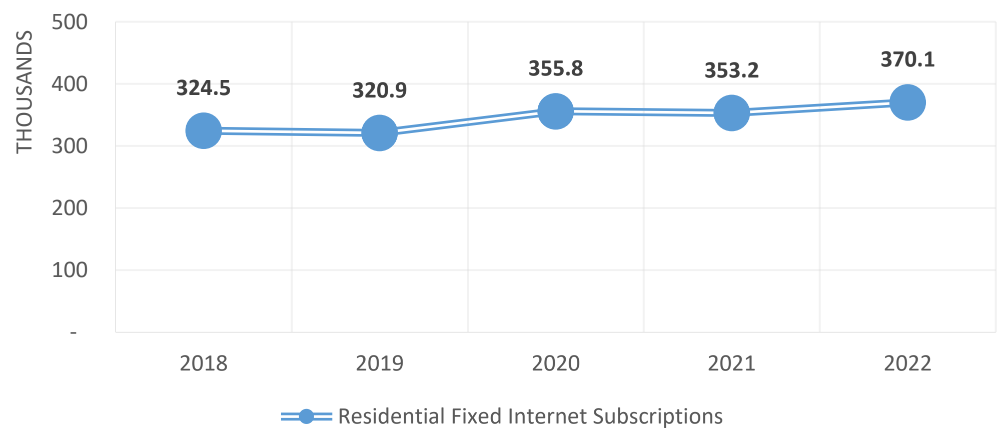


Figure 54 Residential fixed Internet subscriptions from 2018 to 2022

There were 19,500 business Internet subscriptions, as shown in Figure 55, reflecting an increase of 1,800 subscriptions, or 9.8%, from 2021.

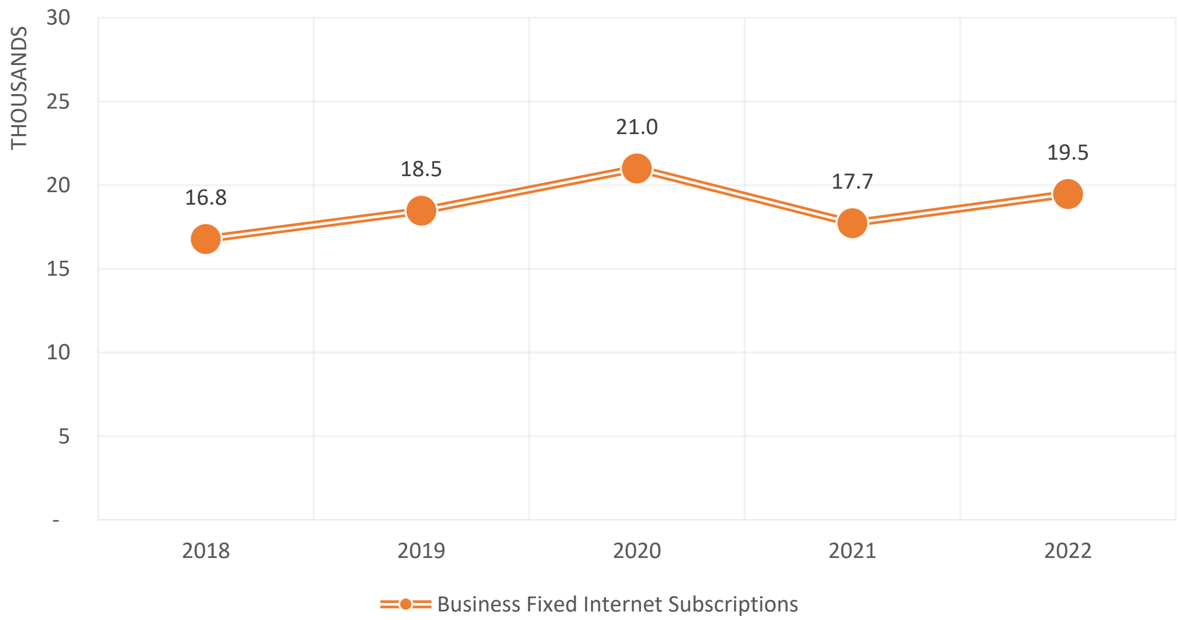


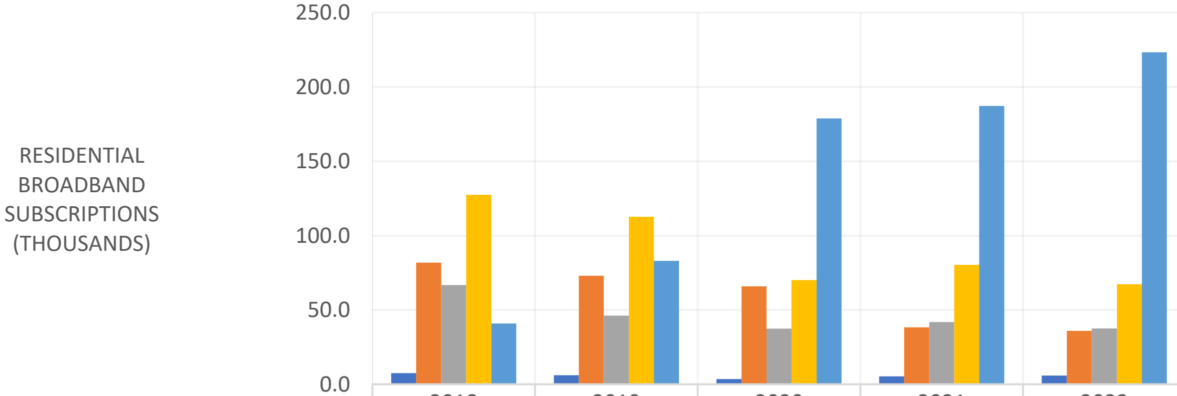
Figure 55 Business fixed Internet subscriptions from 2018 to 2022

4.1.2 Residential Fixed Broadband Internet Subscriptions by Speed Tier

The Internet speeds[50] that residential broadband customers subscribed to in 2022 ranged from 256 kbit/s to 1 Gbit/s. Figure 56 shows these subscriptions by the following speed tiers:

i. 256 kbit/s to less than 2 Mbit/s
ii. 2 Mbit/s to less than 10 Mbit/s
iii. 10 Mbit/s to less than 30 Mbit/s
iv. 30 Mbit/s to less than 100 Mbit/s
v. equal to or above 100 Mbit/s

[50] Refers to advertised speeds by service providers



	2018	2019	2020	2021	2022
256 kbit/s to less than 2 Mbit/s	7.5	6.1	3.5	5.3	5.8
2 Mbit/s to less than 10 Mbit/s	81.9	73.0	65.9	38.3	35.9
10 Mbit/s to less than 30 Mbit/s	66.7	46.2	37.4	41.9	37.5
30 Mbit/s to less than 100 Mbit/s	127.5	112.6	70.1	80.4	67.3
Equal to or above 100 Mbit/s subscriptions	40.8	83.0	178.8	187.3	223.4

Figure 56 Number of residential broadband subscriptions by download speed tier from 2018 to 2022

The *equal to or above 100Mbit/s* category was the most popular choice among residential customers, with 223,400 subscriptions. Subscriptions in this category increased by 36,100, or 19.3%, from 2021.

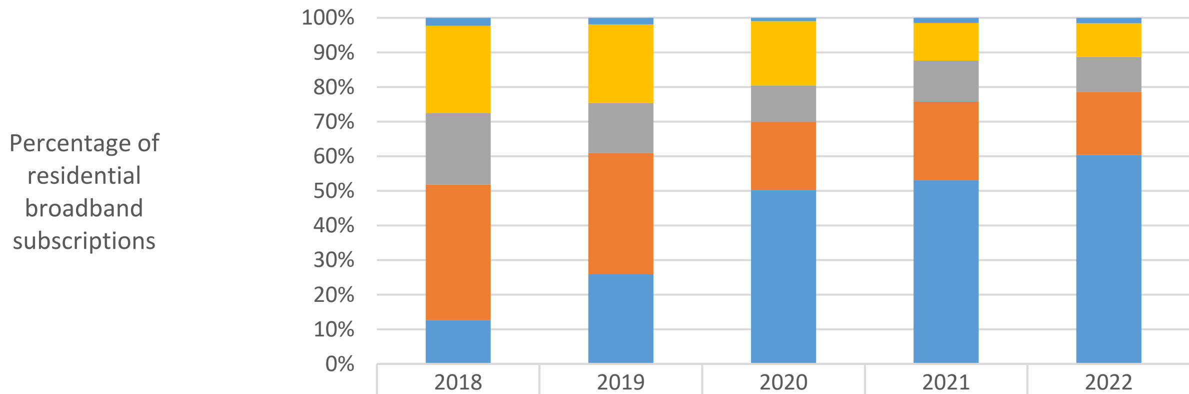
The *30 Mbit/s to less than 100 Mbit/s* category was the second most subscribed to speed tier, with 67,300 subscriptions. Subscriptions in this category decreased by 16.3% from 2021.

There were 37,500 subscriptions to the *10 Mbit/s to less than 30 Mbit/s* – a decrease of 4,400, or 10.4%, from the previous year.

The *2 Mbit/s to less than 10 Mbit/s* speed tier declined by 6.3% from 2021 to record 35,900 subscriptions.

The number of subscriptions to the *256 kbit/s to less than 2 Mbit*/s category increased by 300, or 9.8%, from 2021, and remained the least subscribed to speed tier, with 5,800 subscriptions.

The proportion of residential subscriptions by download speed for the 2018 to 2022 period is shown in Figure 57.



	2018	2019	2020	2021	2022
256 kbit/s to less than 2 Mbit/s	2.3%	1.9%	1.0%	1.5%	1.6%
2 Mbit/s to less than 10 Mbit/s	25.2%	22.7%	18.5%	10.8%	9.7%
10 Mbit/s to less than 30 Mbit/s	20.6%	14.4%	10.5%	11.9%	10.1%
30 Mbit/s to less than 100 Mbit/s	39.3%	35.1%	19.7%	22.8%	18.2%
Equal to or above 100 Mbit/s subscriptions	12.6%	25.9%	50.3%	53.0%	60.4%

Figure 57 Percentage of residential broadband subscriptions by download speed tier from 2018 to 2022

In 2022, the *equal to or above 100Mbit/s* category was the largest, at 60.4%.

The percentage of subscriptions in the *30 Mbit/s to less than 100 Mbit/s* decreased from 22.8% in 2021 to 18.2% in 2022.

The *2 Mbit/s to less than 10 Mbit/s* and *10 Mbit/s to less than 30 Mbit/s* speed tiers held shares of 10.1% and 9.7%, respectively.

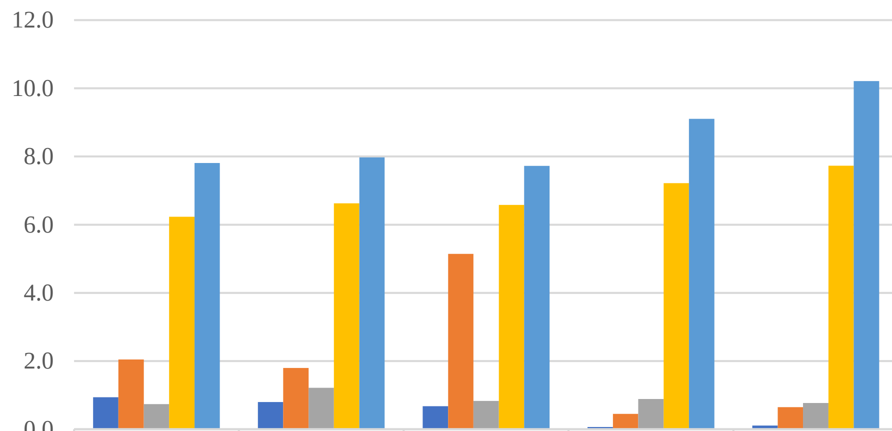
The *256 kbit/s to less than 2 Mbit/s* speed tier retained its position of having the smallest share of the residential broadband Internet market, with 1.6%.

4.1.3 Business Fixed Broadband Internet Subscriptions by Speed Tier

Figure 58 indicates that the *equal to or above 100Mbit/s* tier was also the most subscribed to speed tier by businesses, as observed for residential subscriptions. The number of business subscriptions for this tier rose to 10,200 – an increase of 1,100, or 12.1%, from 2021.

Subscriptions to the *30Mbit/s to less than 100Mbit/s* category increased by 500, or 7.1%, to register a total of 7,700 in 2022.

In comparison to 2021, subscriptions to all other speed categories remained relatively unchanged in 2022.



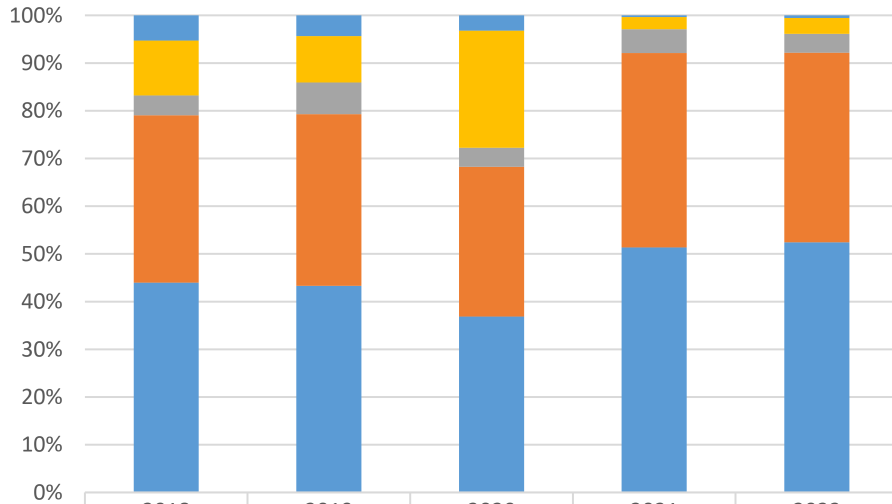
	2018	2019	2020	2021	2022
256 kbit/s to less than 2 Mbit/s	0.9	0.8	0.7	0.1	0.1
2 Mbit/s to less than 10 Mbit/s	2.0	1.8	5.1	0.5	0.6
10 Mbit/s to less than 30 Mbit/s	0.7	1.2	0.8	0.9	0.8
30 Mbit/s to less than 100 Mbit/s	6.2	6.6	6.6	7.2	7.7
Equal to or above 100 Mbit/s subscriptions	7.8	8.0	7.7	9.1	10.2

Figure 58 Number of business broadband subscriptions by download speed from 2018 to 2022

With regard to proportions, the *equal to or above 100Mbit/s* tier was the largest, with 52.4%.

The *30Mbit/s to less than 100Mbit/s* category held a share of 39.7%, while *256 kbit/s to less than 2 Mbit/s* had the smallest proportion, at 0.6%.

These results are shown in Figure 59 and highlight the evolution of business broadband subscriptions by speed tier across the last five years.



	2018	2019	2020	2021	2022
256 kbit/s to less than 2 Mbit/s	5.3%	4.3%	3.2%	0.4%	0.6%
2 Mbit/s to less than 10 Mbit/s	11.5%	9.8%	24.5%	2.6%	3.3%
10 Mbit/s to less than 30 Mbit/s	4.2%	6.6%	4.0%	5.0%	4.0%
30 Mbit/s to less than 100 Mbit/s	35.1%	36.0%	31.4%	40.7%	39.7%
Equal to or above 100 Mbit/s subscriptions	44.0%	43.3%	36.9%	51.4%	52.4%

Figure 59 Percentage of business broadband subscriptions by download speed from 2018 to 2022

4.2 Active Mobile Internet Subscriptions

In 2021, there were 2 million mobile voice subscriptions, with approximately 1.65 million enabled to access mobile Internet services. Of these 1.65 million, there were 859,100 active mobile Internet subscriptions[51] as at December 2022 – an increase of 4.8% from 2021. In keeping with the trend in mobile voice subscriptions, in which prepaid held a greater share of the market, the number of prepaid mobile Internet users also exceeded postpaid users in 2022. There were 570,700 active prepaid mobile Internet subscriptions and 288,400 active postpaid mobile Internet subscriptions.

[51] "Active mobile Internet subscriptions" refers to subscribers who have used mobile Internet service within the last three months.

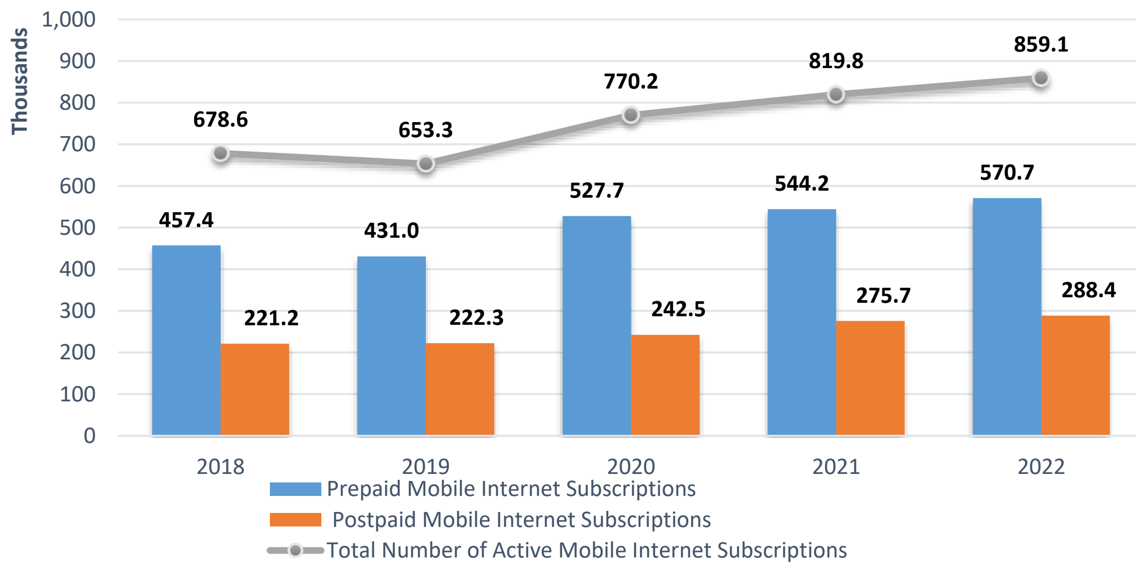


Figure 60 Prepaid and postpaid Internet subscriptions from 2018 to 2022

Figure 61 compares prepaid and postpaid subscriptions by type of service, classified as either "mobile voice only" users or "both mobile voice and mobile Internet" users. As reported in section 3.1.1, there were 1.51 million prepaid and 486,400 postpaid mobile voice subscriptions recorded in 2022. Of the 1.51 million prepaid subscribers, 62.3% used both mobile voice and Internet services, while the remaining 37.7% used only mobile voice. Of the 486,400 postpaid mobile subscribers, 59.3% used both mobile voice and Internet, while 40.7% used only mobile voice.

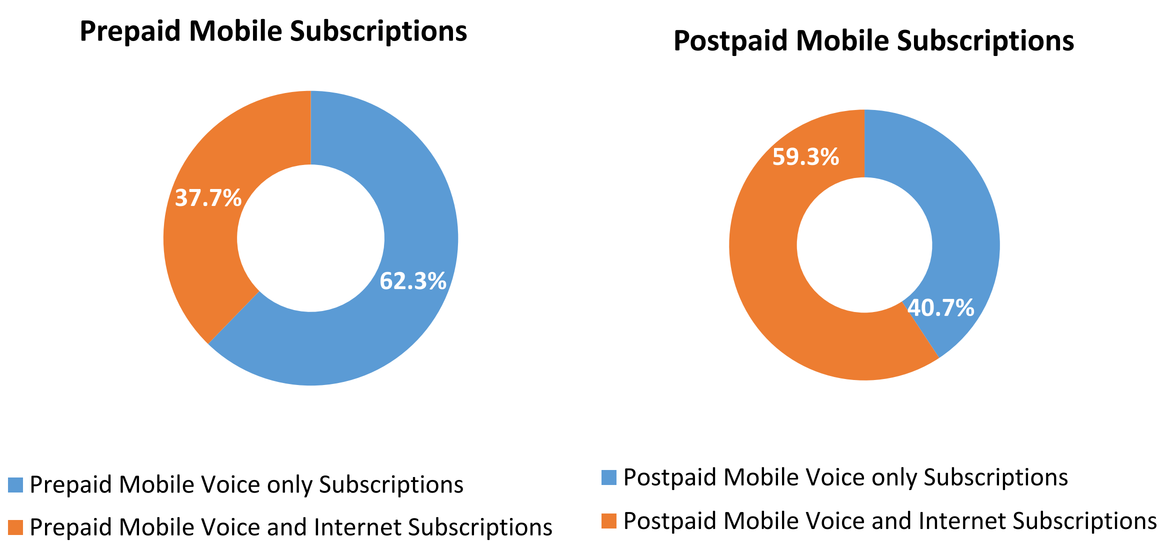


Figure 61 Comparison of prepaid and postpaid mobile Internet subscriptions for 2022

In 2022, there were approximately 837,700 mobile broadband Internet subscriptions and 21,400 mobile narrowband Internet subscriptions, as depicted in Figure 62.

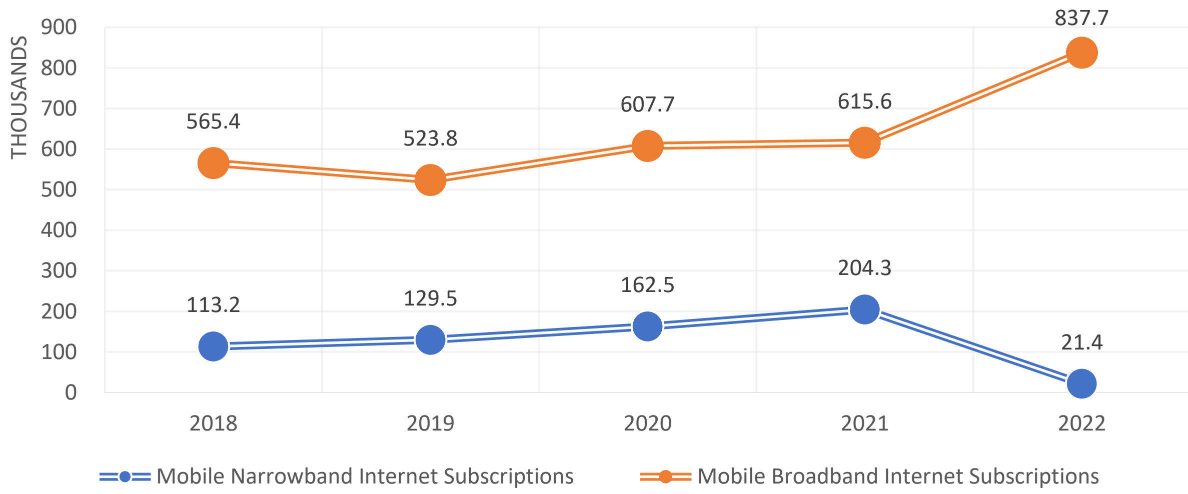


Figure 62 Mobile narrowband and broadband Internet subscriptions from 2018 to 2022

Compared to 2021, mobile broadband figures rose by 222,100 subscriptions, or 36.1%, while narrowband subscriptions registered 182,800 fewer subscriptions – an 89.5% decrease. As Figure 63 illustrates, the proportion of mobile broadband Internet subscriptions increased from 75.1% in 2021 to 97.5% in 2022. Conversely, the percentage of mobile narrowband Internet subscriptions declined from the previous year's 24.9%, to a record 2.5%.

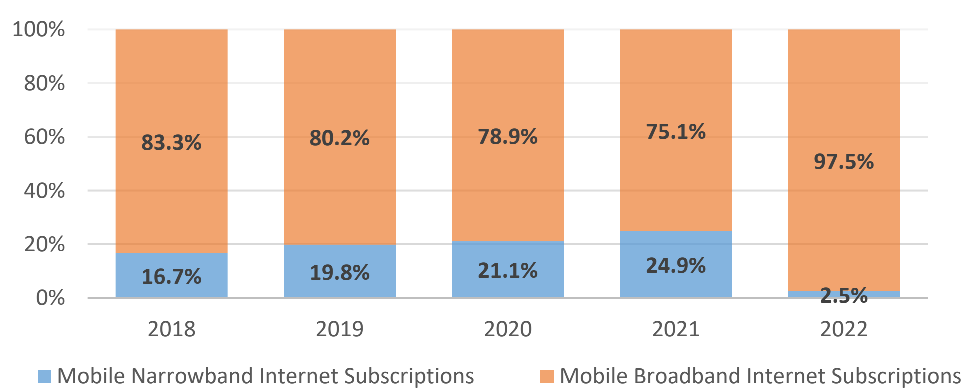


Figure 63 Proportion of mobile narrowband and broadband Internet subscriptions from 2018 to 2022

4.3 Internet Penetration Rates: Fixed and Mobile

Figure 64 shows the fixed Internet and mobile Internet penetration rates for the period 2018 to 2022.

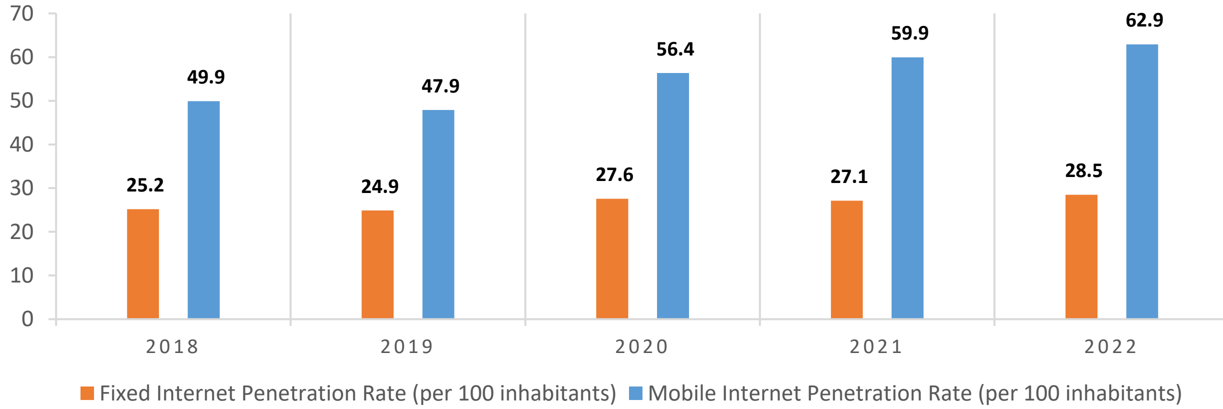


Figure 64 Fixed and mobile Internet penetration rates from 2018 to 2022

The fixed Internet penetration rate per 100 inhabitants for 2022 stood at 28.5, indicating that 29 out of every 100 individuals had a fixed Internet subscription. The mobile Internet penetration rate rose from 59.9 in 2021 to 62.9, suggesting that approximately 63 of every 100 persons utilised mobile Internet services in 2022.

Internet household penetration[52] is used as a key indicator to estimate the percentage of households with a fixed Internet subscription.

As can be seen in Figure 65, 92 out of every 100 households subscribed to a fixed Internet service in 2022 – the second highest rate within the last five years.

[52] Internet household penetration is calculated as the number of residential fixed Internet subscriptions divided by the total number of households, multiplied by 100.

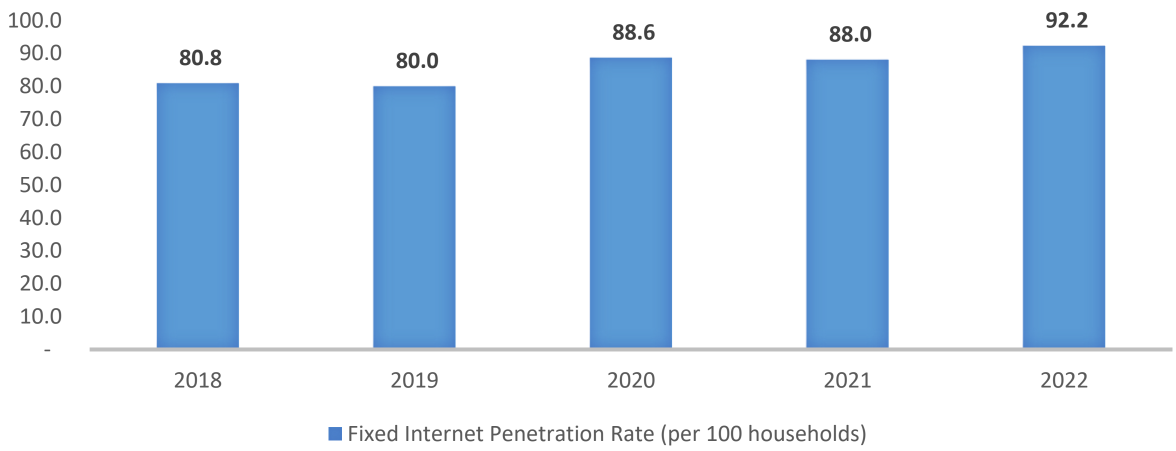


Figure 65 Fixed Internet household penetration from 2018 to 2022

4.4 Fixed and Mobile Internet Revenues

4.4.1 Total Internet Revenues

As illustrated in Figure 66, the combined revenues of fixed and mobile Internet in 2022 totalled $2,244 million. This represents an increase of $86.5 million, or 4%, from 2021.

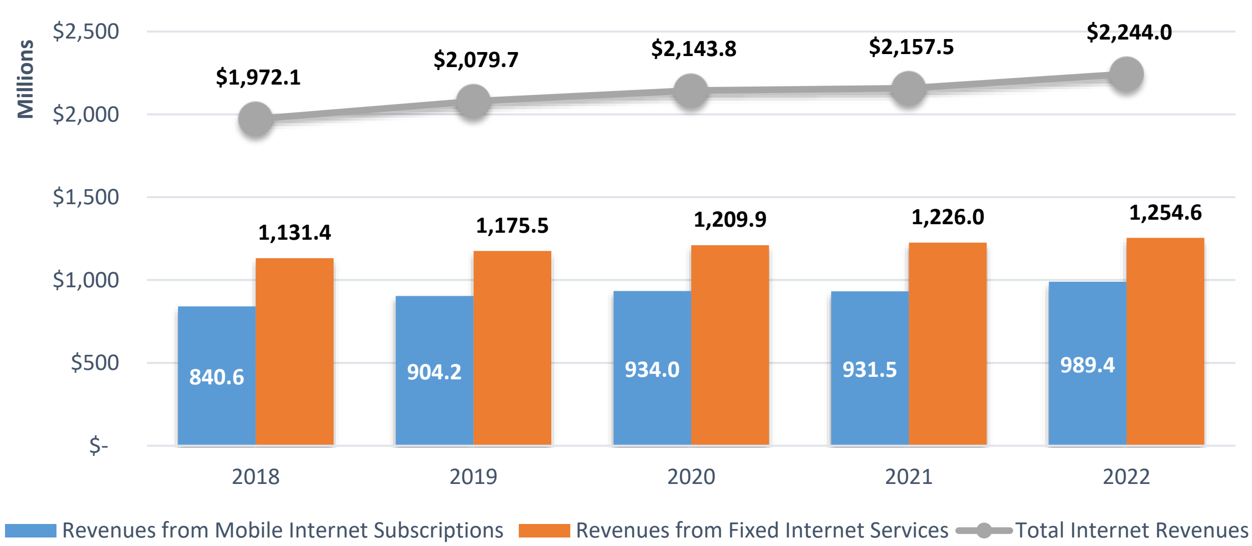


Figure 66 Internet revenues from 2018 to 2022

Figure 67 shows that, in 2022, the proportions of fixed and mobile Internet revenues were 55.9% and 44.1%, respectively.

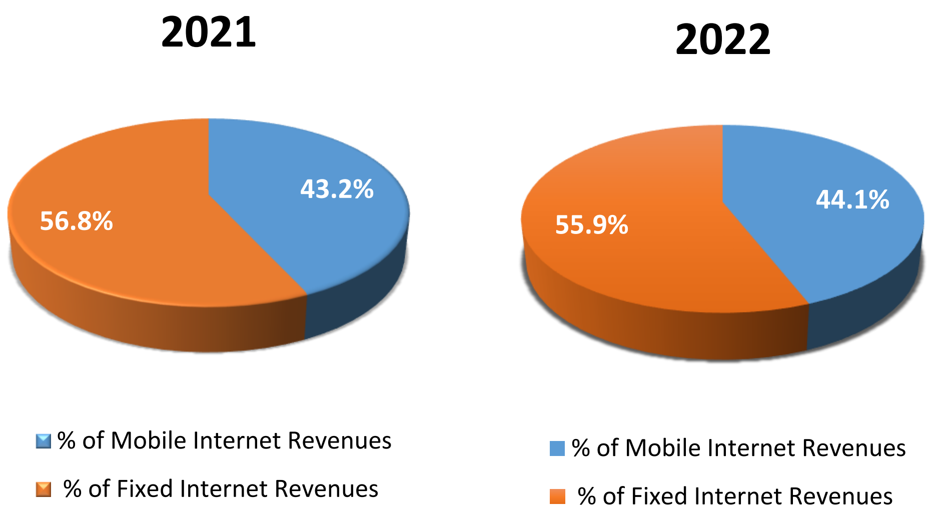


Figure 67 Percentage of fixed and mobile Internet revenues in 2021 and 2022

4.4.2 Fixed Internet Revenues

Fixed Internet revenues earned in 2022 amounted to $1,254.6 million[53], reflecting an increase of $28.6 million, or 2.3%. Figure 68 illustrates the upward trend of revenues derived from fixed Internet over the last five years.

[53] Fixed Internet revenues include revenues from both fixed narrowband and broadband Internet.

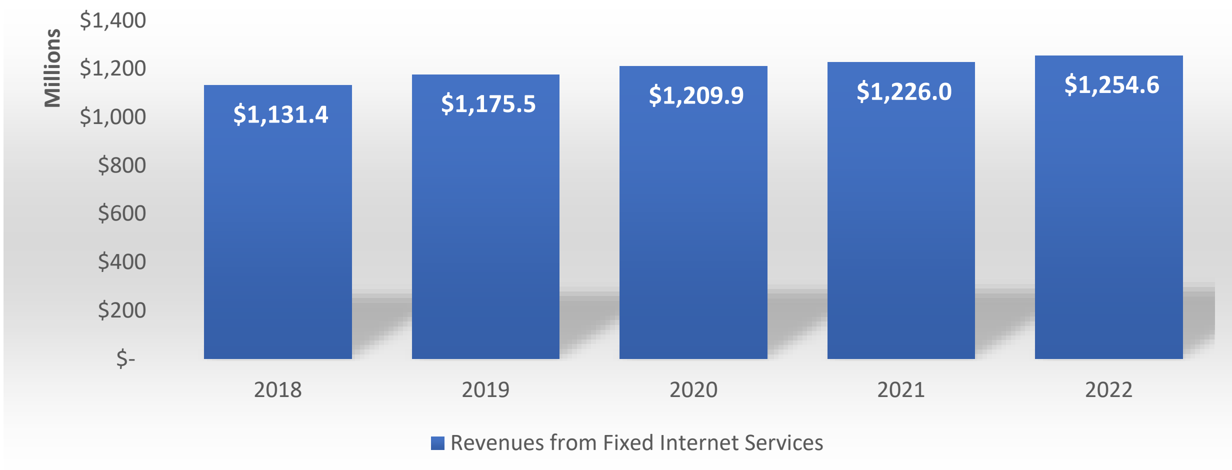


Figure 68 Fixed Internet revenues from 2018 to 2022

As depicted in Figure 69, fixed Internet revenues earned from broadband Internet totalled $1,244.8.

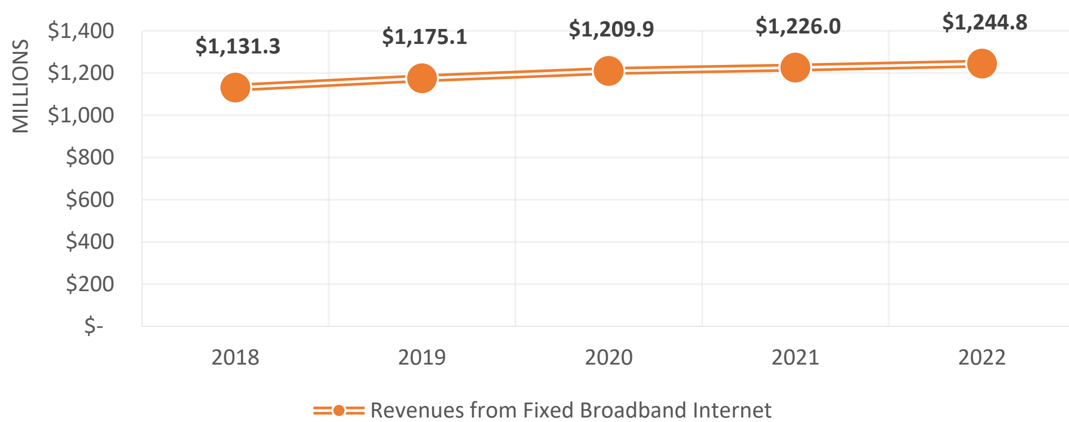


Figure 69 Fixed broadband Internet revenues from 2018 to 2022

Fixed broadband Internet revenues can also be categorised into residential and business revenues, as highlighted in Figure 70. Residential fixed broadband Internet revenues declined by $5.7 million, or 0.6%, from 2021, to record $892.4 million in 2022. Revenues from business fixed broadband, however, grew by $24 million, or 7.3%, in 2022 from the previous year.

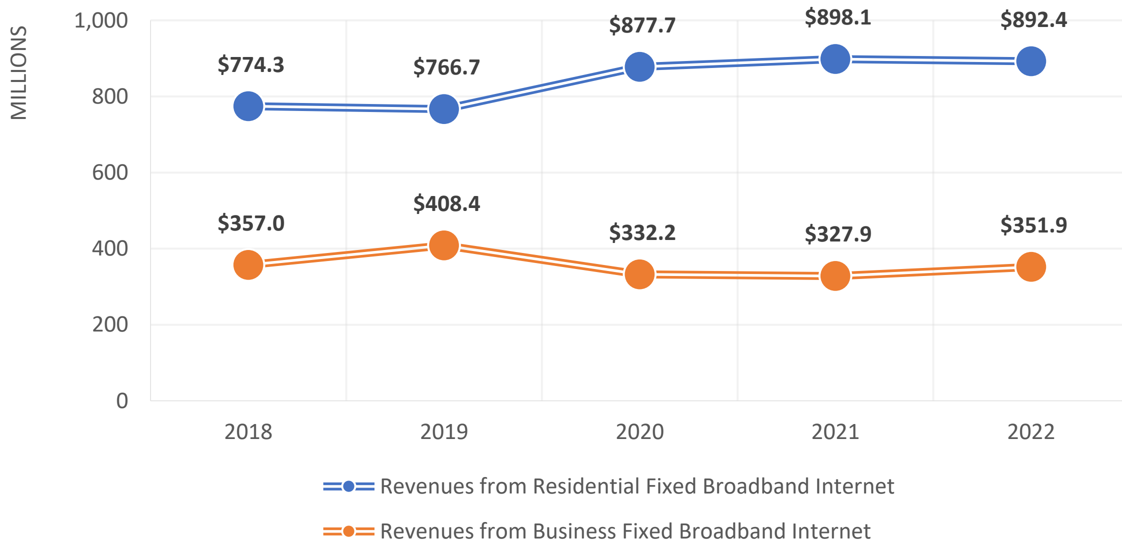


Figure 70 Broadband Internet revenues by type from 2018 to 2022

Residential broadband subscriptions contributed 71.7% of total fixed broadband revenues, with business broadband holding the remaining share of 28.3%.

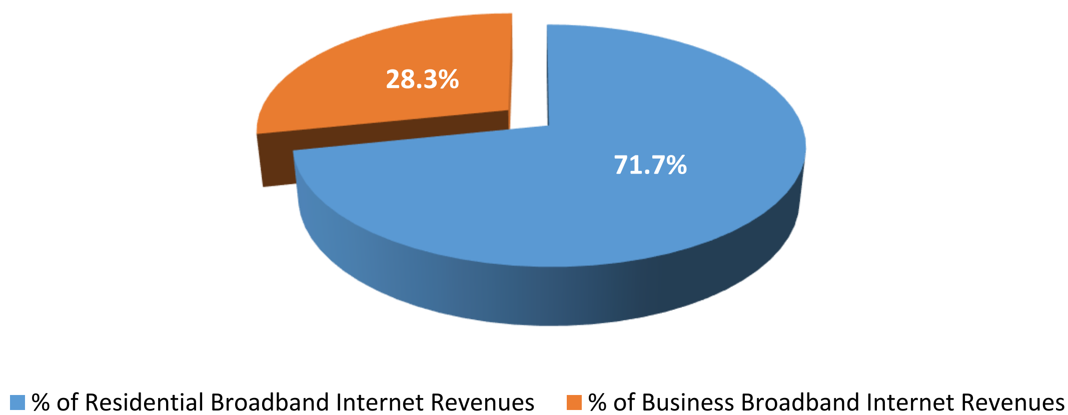


Figure 71 Percentage of residential and business fixed broadband Internet revenues in 2022

4.4.3 Mobile Internet Revenues

Mobile Internet subscriptions remained a significant source of revenue in the Internet market. Figure 72 depicts the trend of mobile Internet revenues over the past five years, with 2022 recording $989.4 million. This marked an increase of $57.9 million, or 6.2%, from 2021.

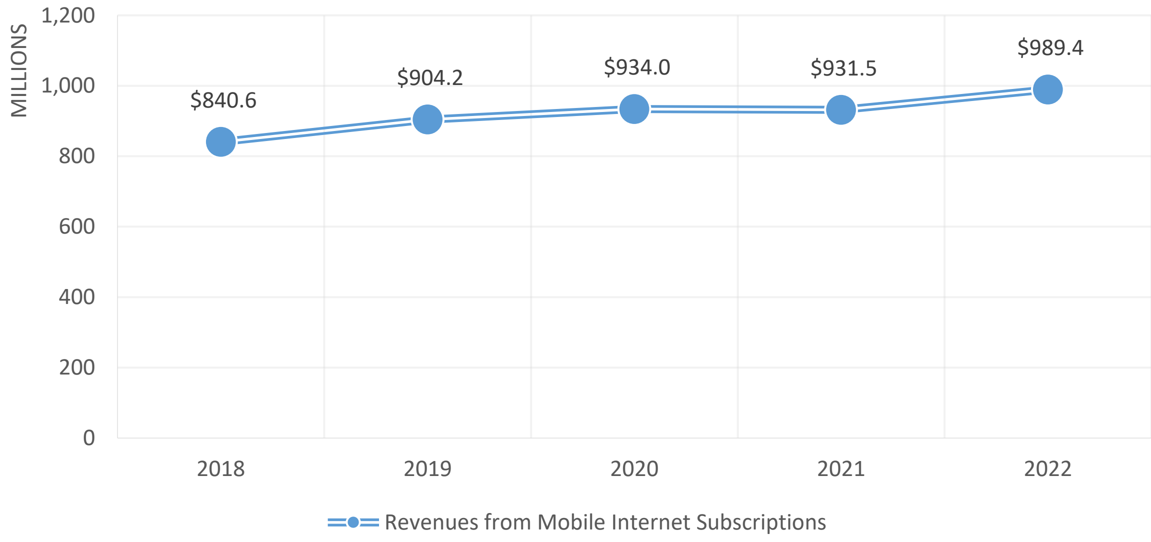


Figure 72 Mobile Internet revenues from 2018 to 2022

Figure 73 presents the revenues generated from prepaid and postpaid mobile Internet subscriptions for the previous five years. In 2022, postpaid mobile Internet revenues increased while prepaid revenues decreased. Prepaid mobile Internet amassed $314.1 million – a decrease of $176.6 million, or 36%, from 2021. Prepaid mobile Internet amassed $675.3 million – an increase of $234.5 million, or 53.2%, from 2021.

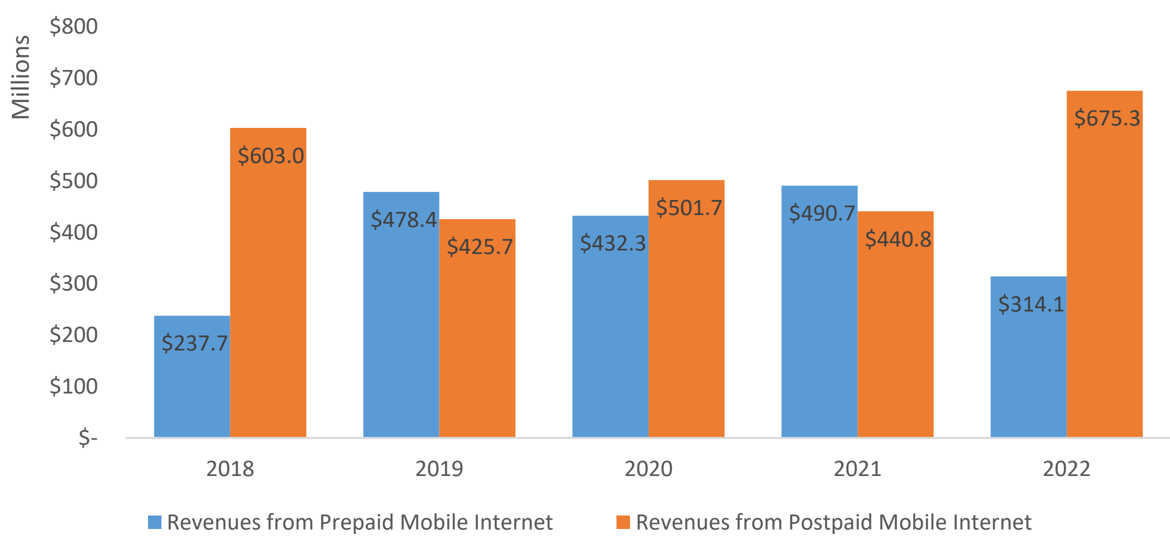


Figure 73 Mobile Internet revenues by type for 2018 to 2022

As illustrated in Figure 74, prepaid services accounted for 68.3% of mobile Internet revenues, while postpaid services contributed 31.7%.

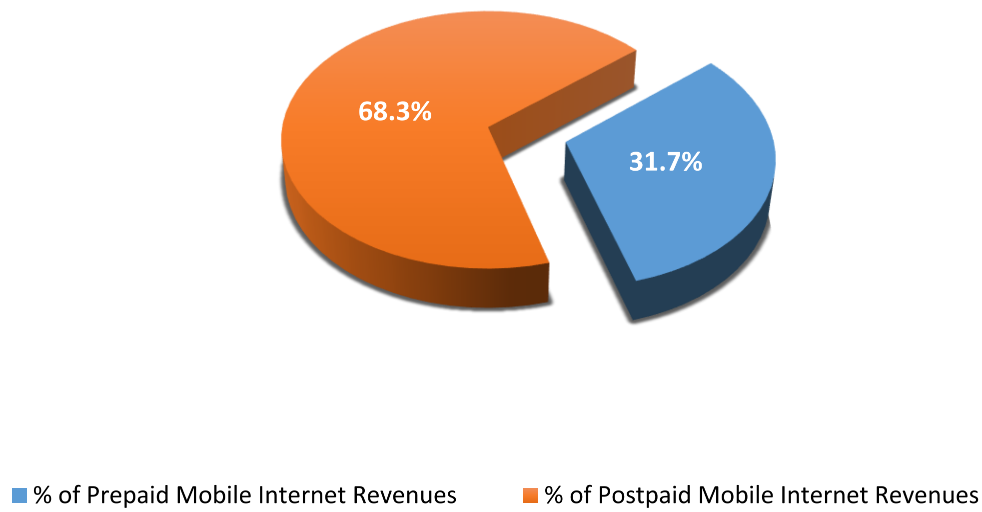


Figure 74 Percentage of prepaid and postpaid mobile Internet revenues in 2022

4.5 Fixed Internet Market Concentration

The Authority used the HHI to gauge the level of concentration in the fixed Internet market[54] for 2022. As depicted in Figure 75, the HHI declined consistently from 2018 to 2020, before increasing to 2,907 in 2021. Concentration levels decreased to 2,816 by the end of 2022 – a fall of 3.1% from the previous year.

[54] Market share based on the number subscriptions was used in the calculation of the HHI.

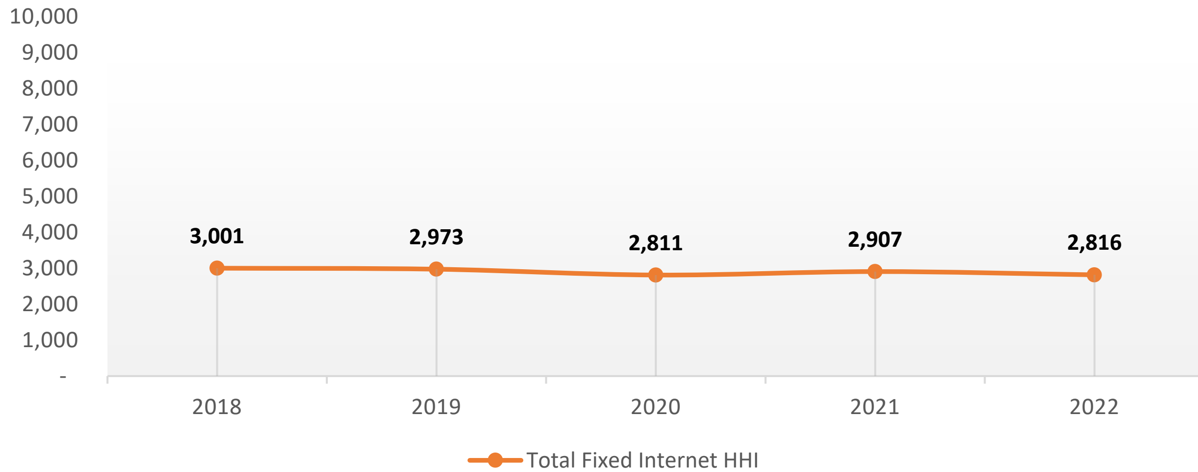


Figure 75 Fixed Internet HHI for 2018 to 2022

There was continuous decline in the HHI across each quarter of 2022, as illustrated in Figure 76. The first quarter registered an HHI of 2,865, with the final quarter recording 2,816.

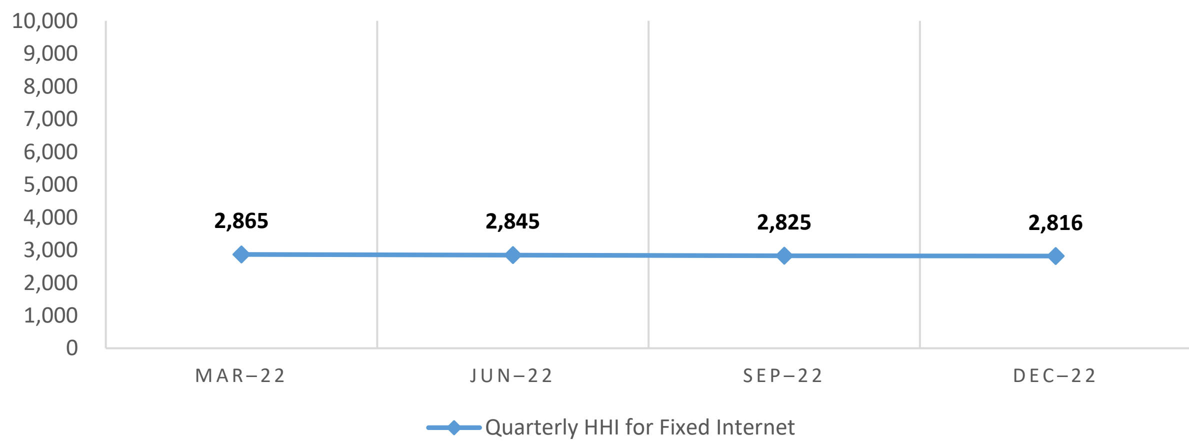


Figure 76 Quarterly HHI for the fixed Internet market in 2022

4.6 Average Revenue per User for Internet Services

In 2022, the fixed Internet ARPU[55] decreased by $85, or 2.6%, compared to the previous year, with each subscription generating an average of $3,220. The ARPU for mobile Internet[56] grew from $1,136 in 2021 to $1,152 – an increase of $16, or 1.4%.

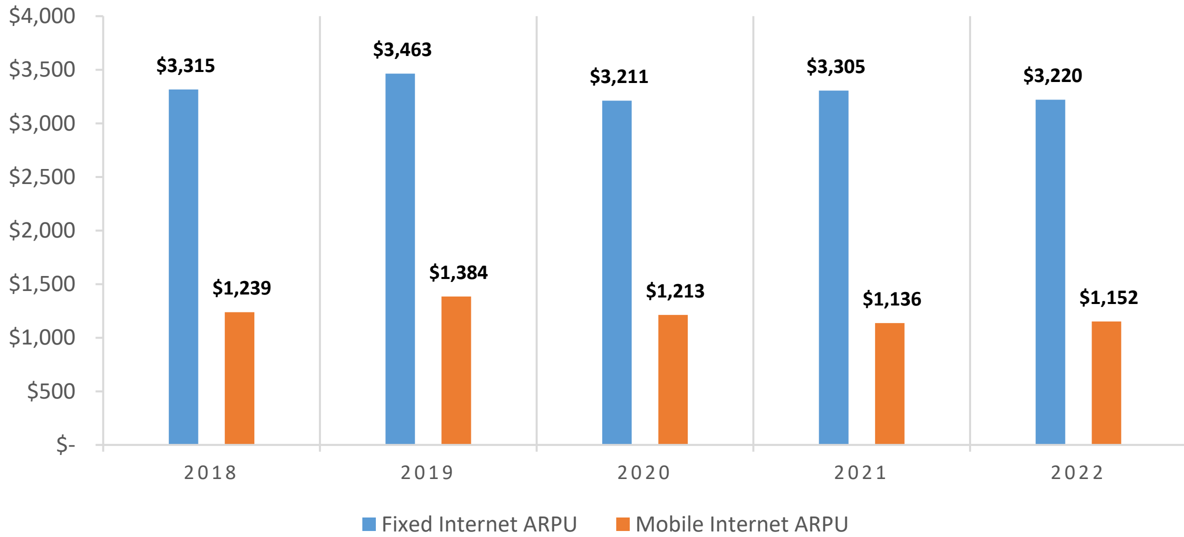


Figure 77 ARPUs for fixed and mobile Internet services from 2018 to 2022

55 The ARPU for fixed Internet services is measured by the average revenue generated by one fixed Internet subscription. It is calculated as the total annual revenues from fixed Internet subscriptions divided by the total number of fixed Internet subscriptions.

56 The ARPU for mobile Internet services is calculated as the total annual revenues from active prepaid and postpaid mobile subscriptions divided by the total number of mobile prepaid and postpaid subscriptions.

2022 ANNUAL MARKET REPORT

INTERNATIONAL VOICE MARKET

Key Indicators for the International Voice Market

GROWTH 2021-2022

INCOMING INTERNATIONAL VOICE MARKET

INCOMING INTERNATIONAL REVENUES
TT$27.4 Million

Decrease of 70.8% over 2021

NUMBER OF MINUTES
44.0 Million Minutes

Decrease of 19.1% over 2021

OUTGOING INTERNATIONAL VOICE MARKET

OUTGOING INTERNATIONAL REVENUES
TT$28.4 Million

Decrease of 30.7% over 2021

NUMBER OF MINUTES
40.5 Million Minutes

Decrease of 19.1% over 2021

TT$55.9 M

INTERNATIONAL VOICE MARKET REVENUE

58.6% decrease over 2021

5 International Voice Market Review

In 2022, there were nine international telecommunications concessionaires. Seven were authorised to provide international telecommunications networks and services, one to provide international voice services only, and one operator was authorised to operate a public international telecommunications network only. These operators were:

1. Amplia Communications Limited
2. Columbus Networks International (Trinidad) Limited
3. Digicel (Trinidad & Tobago) Limited
4. Green Dot Limited
5. Lisa Communications Limited
6. NOVO Communications Limited (Service only)
7. Open Telecom Limited[57]
8. Southern Caribbean Fibre (network only)
9. Telecommunications Services of Trinidad and Tobago Limited

5.1 International Voice Traffic (Incoming and Outgoing Minutes)

For 2022, the number of minutes generated from incoming international calls was 44 million. This is a decrease of 30.6 million minutes, or 41%, from 2021. International outgoing traffic minutes fell to 40.5 million – a contraction of 9.6 million minutes, or 19.1%, from the previous year.

Figures 78 and 79 show the number of international voice minutes from incoming and outgoing calls, respectively.

[57] Open Telecom Ltd. had not supplied data at the time of publication.

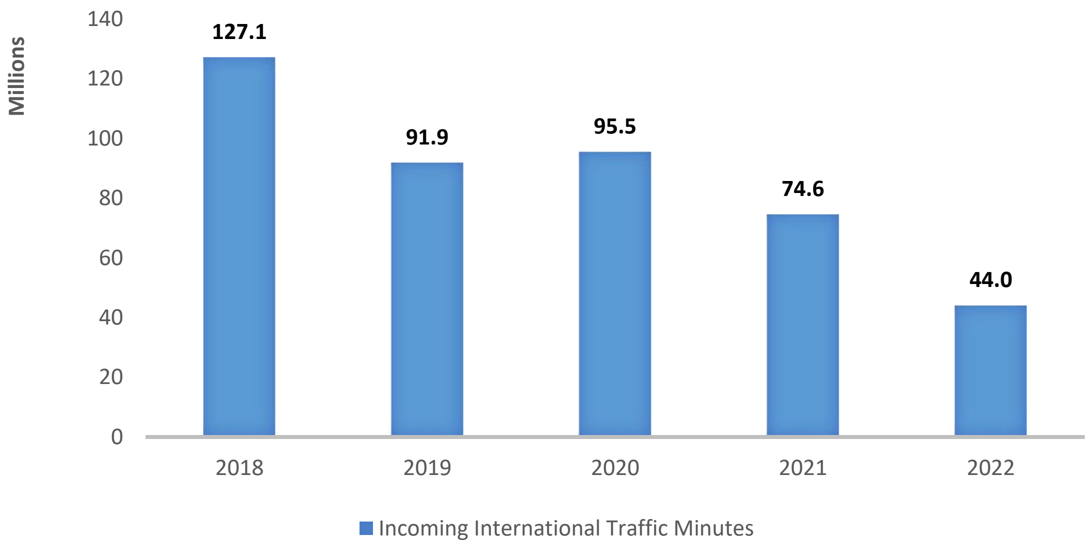


Figure 78 Incoming international voice traffic minutes from 2018 to 2022

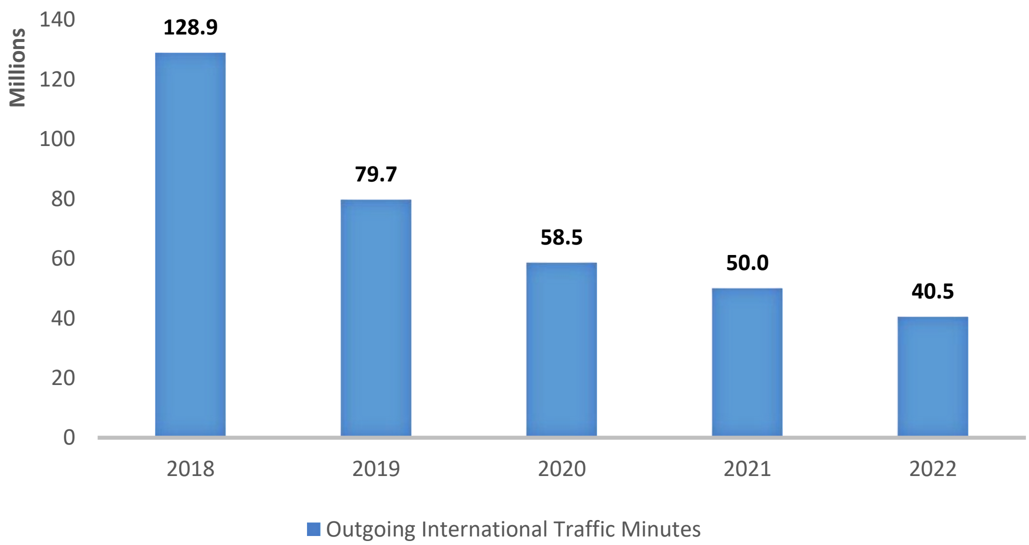


Figure 79 Outgoing international voice traffic minutes from 2018 to 2022

The proportion of incoming and outgoing traffic over the past five years is depicted in Figure 80.

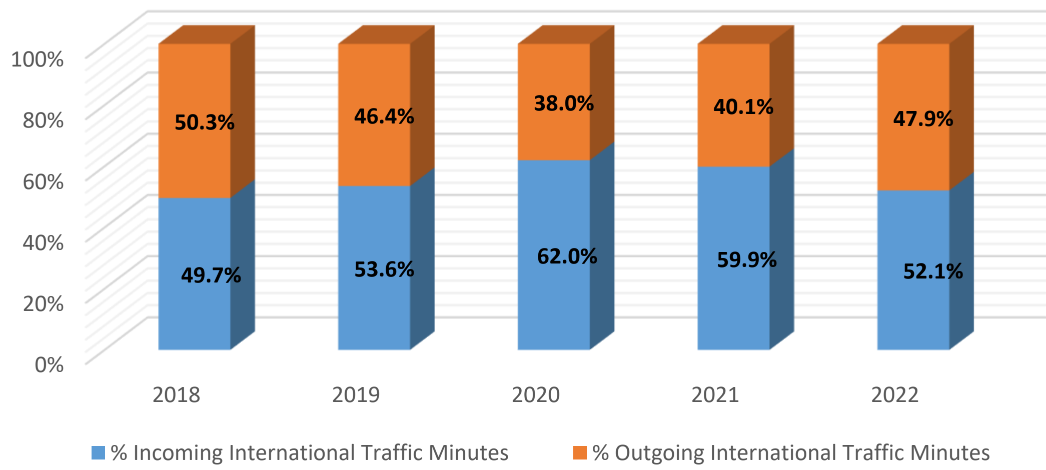


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Figure 80 Percentage of incoming and outgoing international voice traffic (minutes) from 2018 to 2022

In 2022, minutes generated by incoming calls accounted for 52.1% of all international minutes, decreasing from 59.9% recorded in 2021. The share of outgoing international traffic minutes rose from 40.1% in 2021 to 47.9% in 2022.

5.2 International Voice Revenues

The trend in gross revenues generated by the international voice market between 2018 and 2022 is presented in Figure 81. The downward spiral of revenues within this market continued, recording $55.9 million in 2022 – a decrease of $79 million, or 58.6%, from 2021.

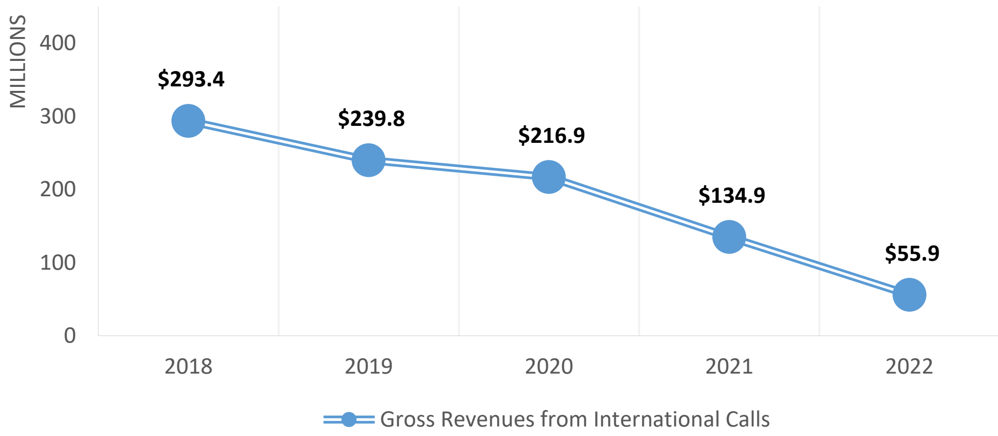

Figure 81 Gross revenues from international calls from 2018 to 2022

Incoming international traffic revenues for the past five years are illustrated in Figure 82. During this period, revenues were highest in 2018, at $198.6 million, before falling to $153.3 million in 2019. This was followed by an uptick in 2020, then drops in 2021 and 2022 to $93.8 million and $27.4 million, respectively. In 2022, there was a decrease of $66.4 million, or 70.8%, in incoming international traffic revenues from the preceding year.

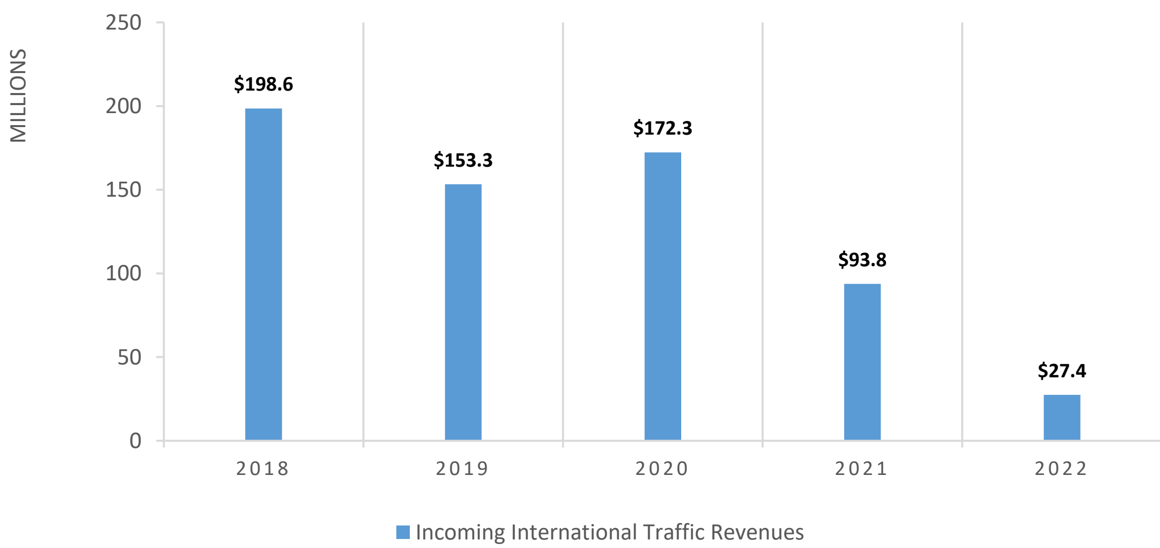

Figure 82 Incoming international traffic revenues

Figure 83 depicts outgoing international voice traffic revenues for the past five years. During this period, revenues were highest in 2019, at $86.5 million, before falling to $44.6 million in 2020.

This was followed by consecutive declines in 2021 and 2022 to $41.1 million and $28.4 million, respectively. The latter figure is a contraction of $12.6 million, or 30.7%, from 2021.

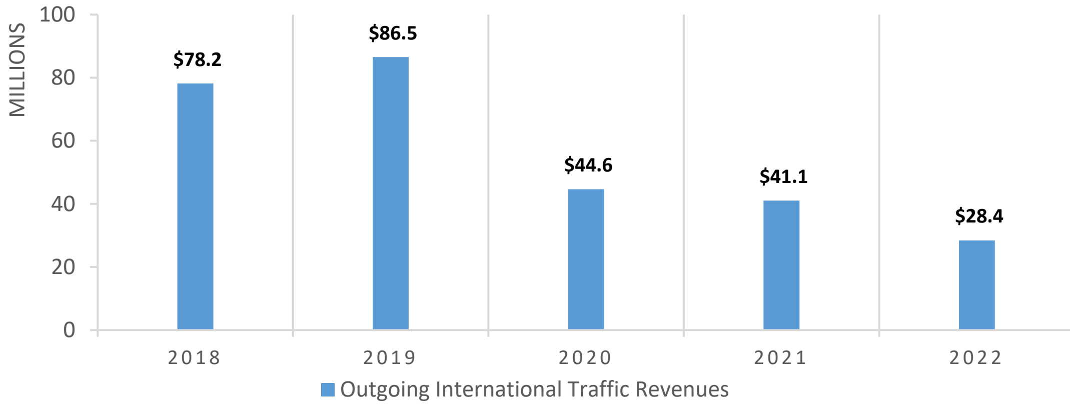

Figure 83 Gross revenues from outgoing international voice traffic from 2018 to 2022

5.3 International Voice Market Concentration

Market concentration for the international voice market is calculated using the number of international incoming and outgoing minutes. As seen in Figure 84, in 2022, the HHI for incoming minutes declined across the first two quarters, before rising in the third and fourth quarters to end the year at 2,891.

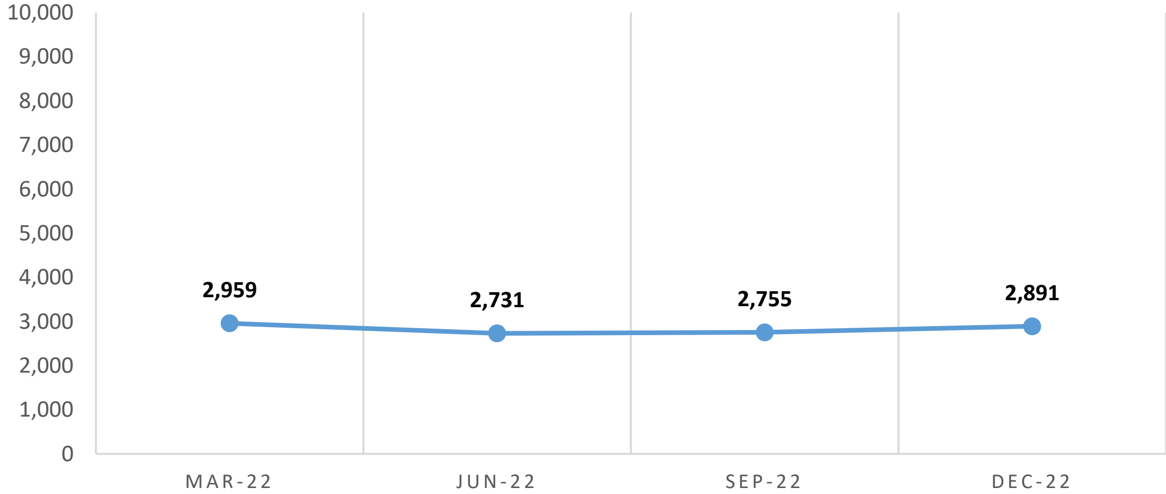

Figure 84 HHI for international incoming minutes in 2022

The HHI for the outgoing minutes market fluctuated in 2022. The first quarter recorded an HHI of 4,392 which increased to 4,469 in the second quarter. The HHI value then decreased to 4,400 in the third quarter, before rising to 4,603 in the final quarter.

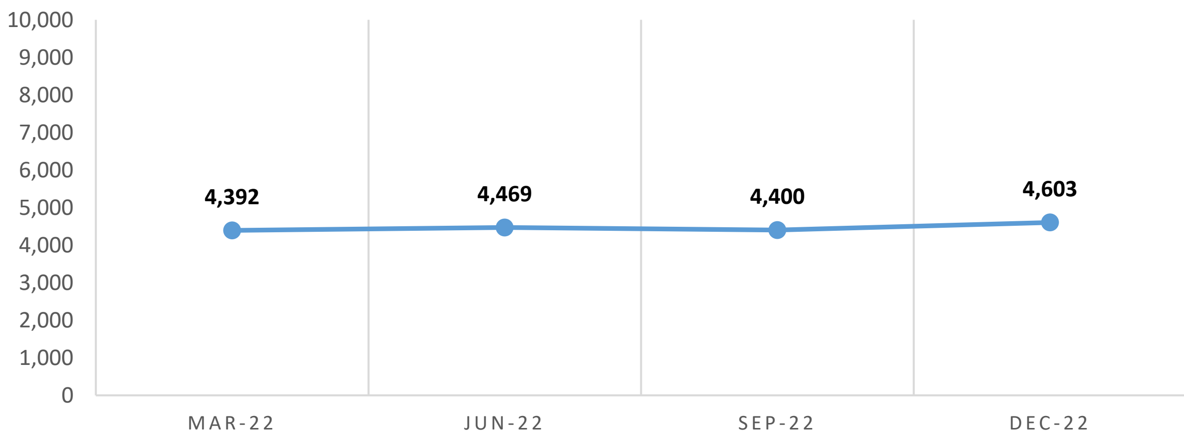

Figure 85 HHI for international outgoing minutes in 2022

2022 ANNUAL MARKET REPORT

BROADCASTING MARKET

Key Indicators for the Broadcasting Market

GROWTH 2021-2022

PAY TV

PAY TV SUBSCRIPTIONS

226,800 SUBSCRIPTIONS

Decrease of 4.6% over 2021

PAY TV PENETRATION

17 per 100 inhabitants

57 per 100 households

BROADCASTING MARKET REVENUES

FREE TO AIR TV REVENUES

TT$62.1 Million

Increase 10.9% over 2021

PAY TV REVENUES

TT$627.7 Million

Decrease 2.4% over 2021

FREE TO AIR RADIO REVENUES

TT$107.7 Million

Increase 8.1% over 2021

TELEVISION BROADCASTING SERVICE VIA CABLE REVENUES

TT$6.7 Million

Decrease 4.3% over 2021

6 Broadcasting Market Review

The broadcasting market is classified based on the following categories:

1. Free-to-air (FTA) television (TV)
2. TV broadcasting services via cable
3. Free-to-air (FTA) radio
4. Subscription TV

Operators are granted a concession to provide broadcasting services to any one of the following geographic regions:

I. National – Trinidad and Tobago
II. Major territorial – Trinidad only
III. Minor territorial – Tobago only
IV. Niche – specific geographic area

Table 6 lists the number of concessions granted in the last five years for the provision of public broadcasting services.

Table 6 Number of concessions in the broadcasting market from 2018 to 2022

Type of Concession	Number of Concessions				
	2018	**2019**	**2020**	**2021**	**2022**
Free-to-Air (FTA) Television	**5**	**5**	**5**	**5**	**5**
National	4	4	4	4	4
Major Territorial	1	1	1	1	1
Subscription Television	**13**	**13**	**13**	**13**	**12**
National	7	7	8	8	8
Major Territorial	1	1	1	1	1
Niche	4	4	3	3	2
Minor Territorial	1	1	1	1	1
TV Broadcasting via Cable	**8**	**14**	**14**	**15**	**14**
National	8	14	14	15	14
Major Territorial	0	0	0	0	0
Free-to-Air (FTA) Radio	**36**	**36**	**37**	**36**	**37**
National	28	29	30	28	29
Major Territorial	6	5	5	5	5
Minor/Niche Territorial	2	2	2	3	3
Total	**62**	**68**	**69**	**69**	**68**

6.1 FTA TV Broadcasting Market

In 2022, the market for FTA TV broadcasting services was served by the following concessionaires:

1. Advance Community Television Network Limited (ACTS 25)
2. CCN Television Limited (CCN TV6)
3. Guardian Media Limited (CNC3)
4. Parliament of the Republic of Trinidad and Tobago
5. TTT Limited

6.1.1 FTA TV Revenues

The FTA TV market generated $62.1 million in 2022 – an increase of $6.1 million, or 10.9%, from 2021.

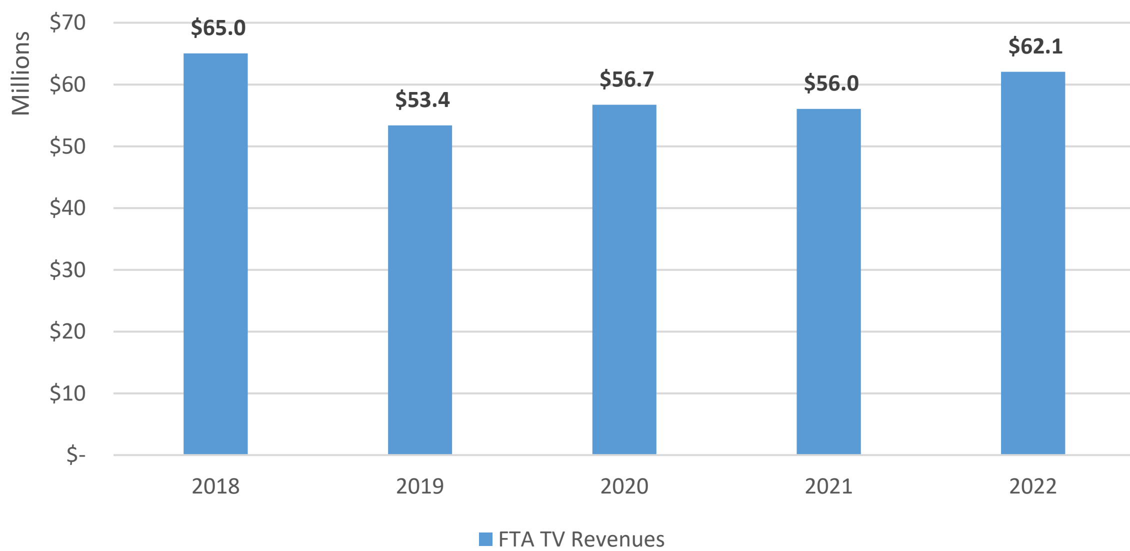

Figure 86 Gross revenues for the FTA TV market from 2018 to 2022

Figure 87 compares the quarterly gross revenues generated in the FTA TV market between 2021 and 2022. Revenues for the first two quarters of 2022 were comparable to the revenues of the corresponding quarters of 2021. Revenues increased from the second quarter to the third quarter of 2022 but were less than the amount reported in the third quarter of 2021. The FTA TV market generated $14.9 million in the third quarter of 2022 – $4.8 million more than the second quarter revenues for that year, but $3.7 less than the second quarter revenues for 2021. The largest difference was seen in the fourth quarter, in which 2022 revenues rose by $11 million, or 73.8%, from the corresponding period in 2021.

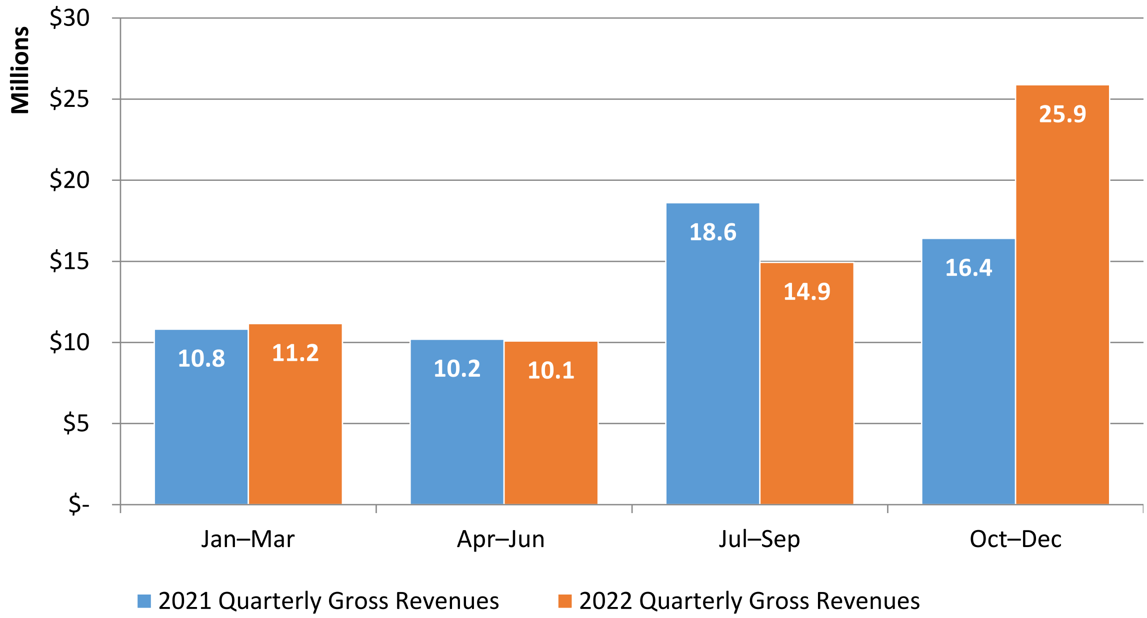

Figure 87 Quarterly gross revenues for FTA TV in 2021 and 2022

6.1.2 FTA TV Market Concentration

The level of concentration in the FTA TV broadcasting market was calculated using the HHI, based on the revenues earned within the market.

As shown in Figure 88, the HHI increased consistently across all four quarters of 2022. The first quarter registered a value of 4,072 which increased to 4,292 in the second quarter. The HHI increased further in the third quarter to 5,301 and then to 6,277 in the fourth quarter.

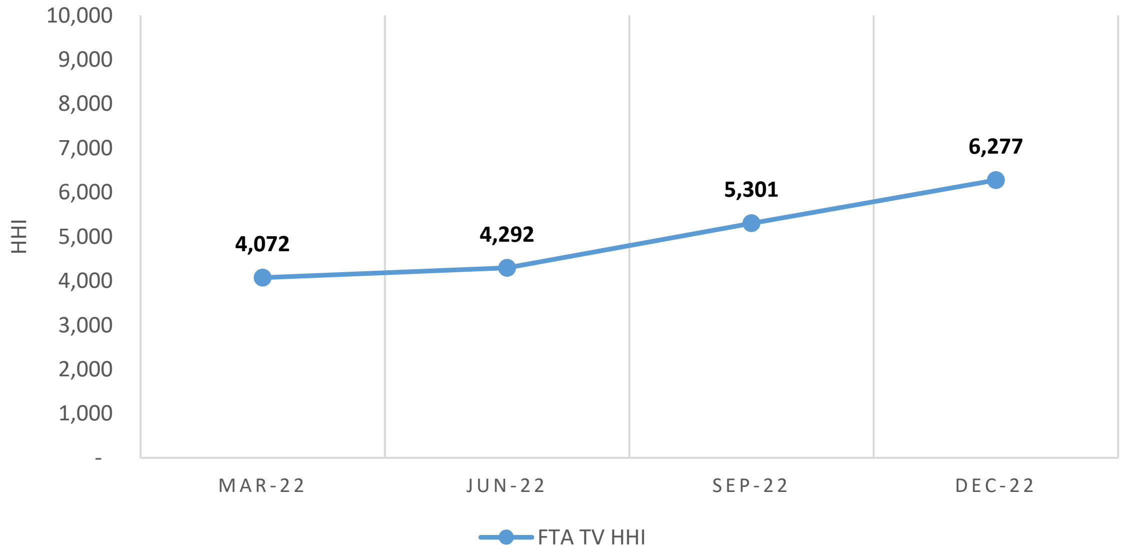

Figure 88 Quarterly HHI for the FTA TV broadcasting market in 2022

Figure 89 depicts the annual trend in HHI for the years 2018 to 2022. During this period, the HHI fluctuated, with the highest HHI value recorded at the end of 2022.

For 2022, the monthly average HHI was 4,499, while the 2021 average was 4,425.

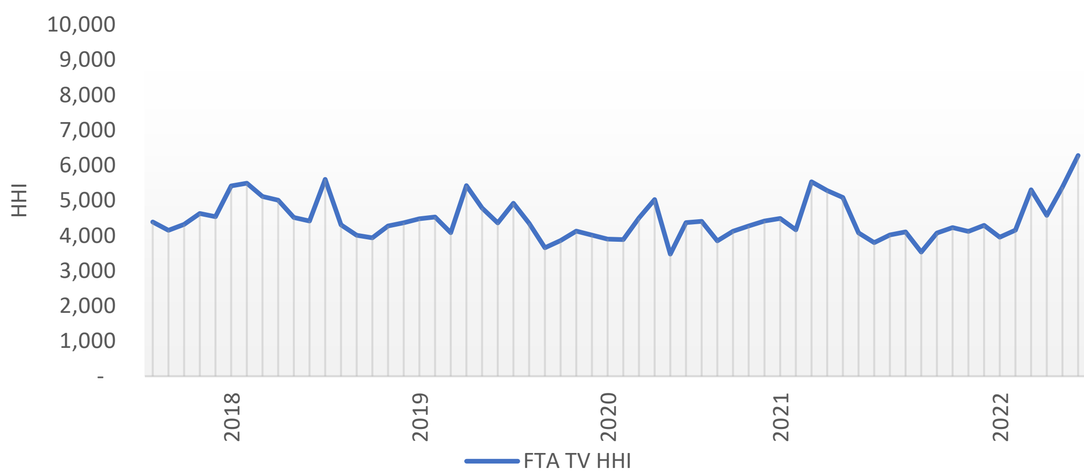

Figure 89 HHI for the FTA TV broadcasting market from 2018 to 2022

6.2 TV Broadcasting Service via Cable Market

The following 14 concessionaires were authorised to provide TV broadcasting services via cable:

1. Central Broadcasting Services Ltd. (Jaagriti TV)
2. Darut Tarbiyah (TIN)
3. Gayelle Limited
4. Guardian Media Limited
5. IBN Communications Company Limited (IBN)
6. Liming Monkey (WESN – The Content Capital)
7. Living Water Community (Trinity TV)
8. Presbyterian Church of Trinidad and Tobago
9. Q Network Limited
10. Sankyha Television Limited
11. Synergy Entertainment Network
12. SWAHA Media Limited (IETV)
13. Twenty-Four Seven News and Sports Limited
14. WI Sports (TTEN)

However, in the period under review, Guardian Media Limited, Presbyterian Church of Trinidad and Tobago, and Q Network had not provided TV broadcasting services via cable to the public.

6.2.1 TV Broadcasting Service via Cable Revenues

The TV broadcasting service via cable market generated $6.7 million in 2022 – a decrease of $0.3 million, or 4.3%, from 2021.

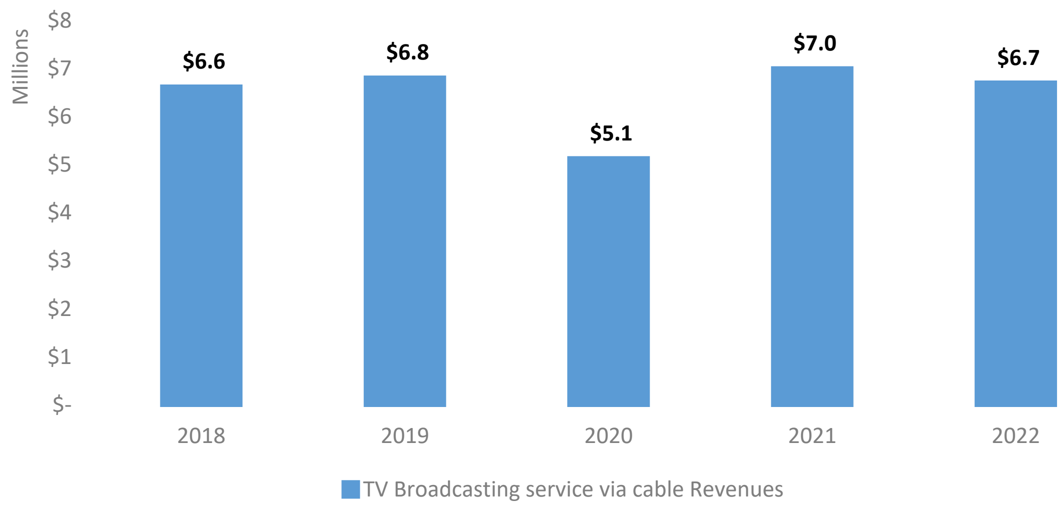

Figure 90 Gross revenues for the broadcasting service via cable market from 2018 to 2022

Figure 91 compares the quarterly gross revenues generated in the TV broadcasting service via cable market between 2021 and 2022. Revenues increased during the first three quarters of 2022, then decreased in the fourth quarter. Compared to 2021, revenues generated were relatively the same for the second and fourth quarters of 2022. In the first and third quarters of 2022, revenues were $1.9 million and $1.4 million, respectively, $0.3 and $0.5 million less than in the corresponding periods in 2021.

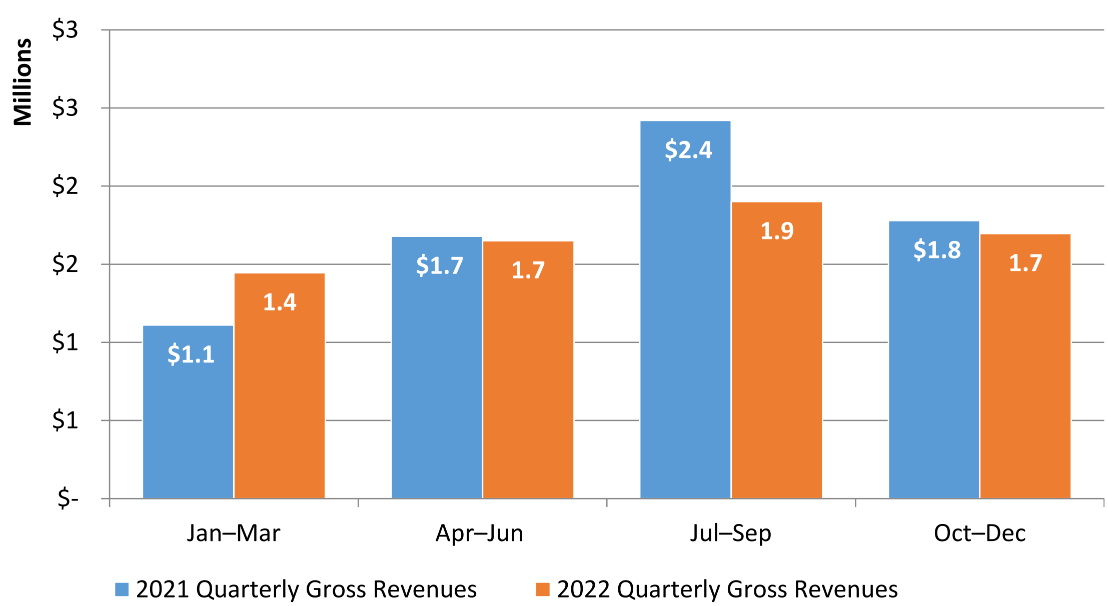

Figure 91 Quarterly gross revenues for broadcasting service via cable in 2021 and 2022

6.2.2 TV Broadcasting Service via Cable Market Concentration

The level of concentration in the TV broadcasting service via cable market was calculated using the HHI, based on the revenues earned within the market in 2022. As shown in Figure 92, the HHI increased from 1,677 in the first quarter to 1,799 in the second quarter. It decreased in the third quarter to 1,529 and then increased to 1,585 in the fourth quarter.

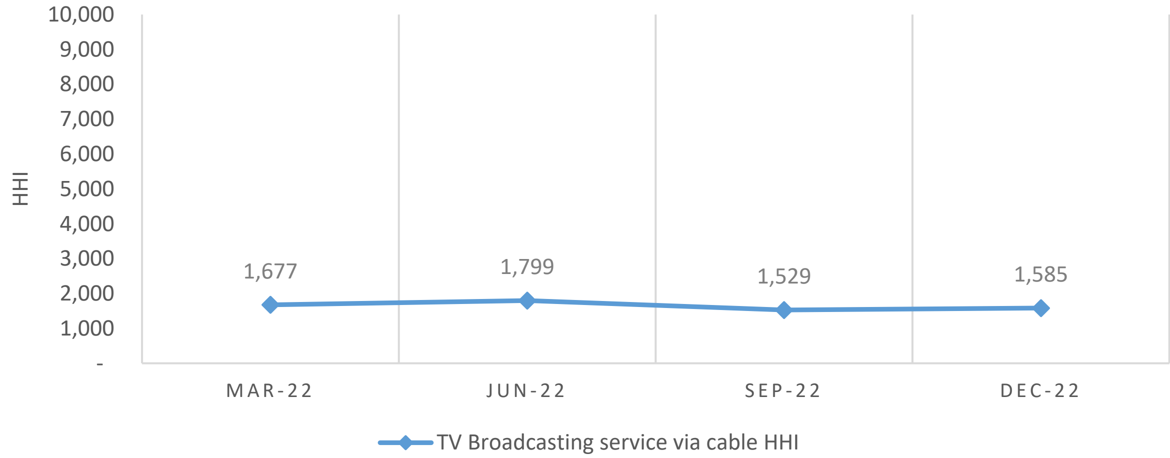

Figure 92 Quarterly HHI for the TV broadcasting service via cable market in 2022

Figure 93 depicts the trend in HHI for the period 2018 to 2022. During these years, the HHI fluctuated between 1,500 and 5,700. For 2022, the monthly average was 1,954, while the 2021 average was 2,258.

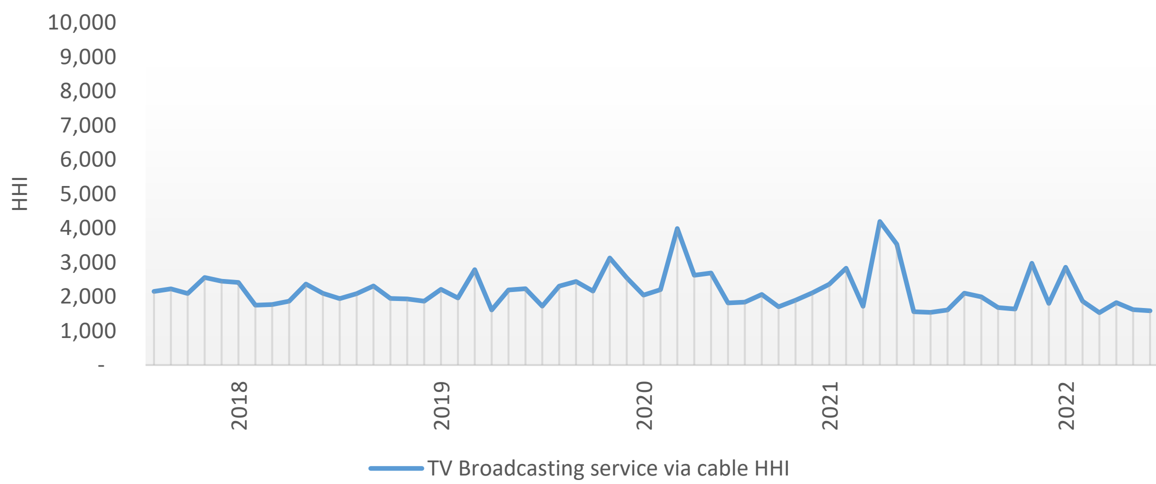

Figure 93 HHI for the FTA TV broadcasting market from 2018 to 2022

6.3 FTA Radio Broadcasting Market

In 2021, the FTA radio broadcasting market comprised 37 radio stations (see Appendix II for a detailed listing). It should be noted that some concessionaires (owners) hold more than one concession and, as a result, operate more than one radio station.

6.3.1 FTA Radio Revenues

Figure 94 illustrates the pattern of falling gross revenues within this market from 2018 to 2019. The market recovered in 2022, earning $107.7 million for the year – an increase of $8.1 million, or 8.1%, from 2021.

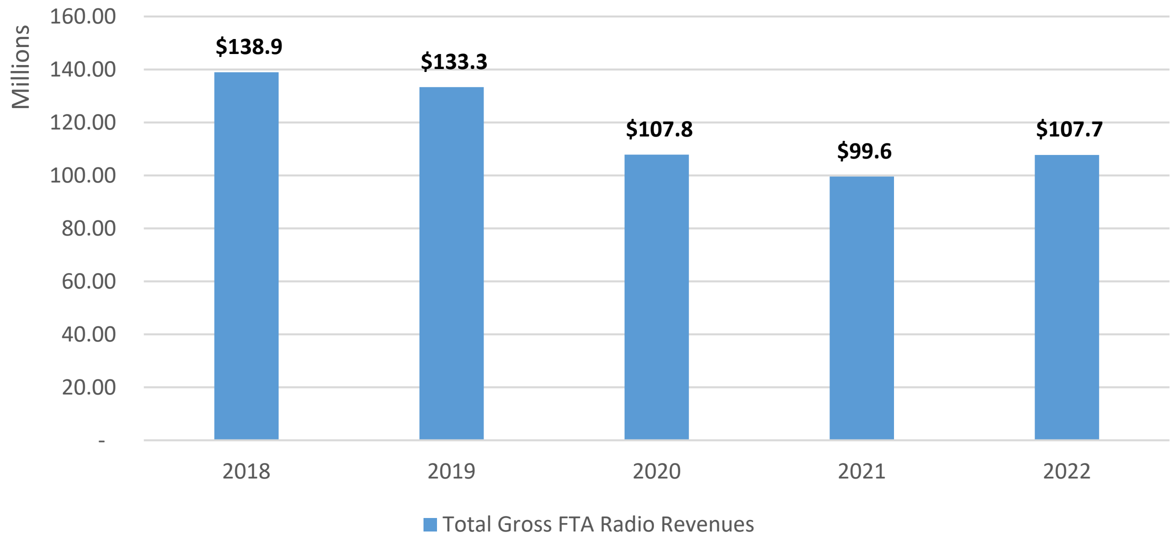

Figure 94 Gross revenues for the FTA radio broadcasting market from 2018 to 2022

Figure 95 highlights the quarterly gross revenues earned in the FTA radio broadcasting market in 2021 and 2022.

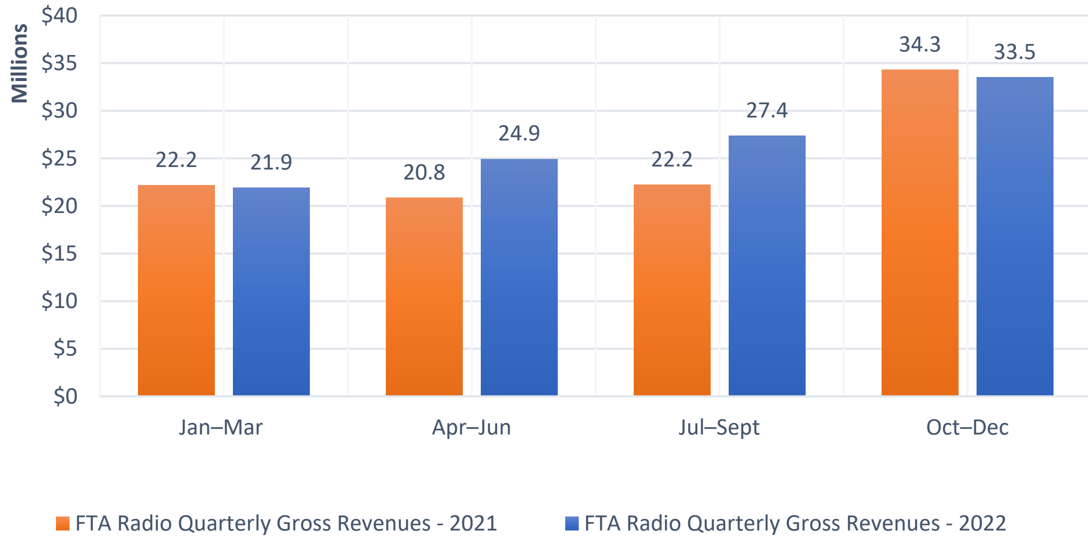

Figure 95 Quarterly revenues for FTA radio in 2021 and 2022

The first quarter of 2022 produced $21.9 million in revenues, which increased to $24.9 million in the second quarter. Revenues rose again to $27.4 million in the third quarter, then climbed further, to record $33.5 million in the final quarter. In comparing both years, the highest variance in revenue was recorded in the third quarter, with an increase of $5.2 million, or 19%, in 2022 compared to 2021.

6.3.2 FTA Radio Market Concentration

Using revenue data, the HHI for the FTA radio market was calculated based on both the number of concessions (radio stations) and the number of concessionaires (owners) in the market.

Figure 96 gives an illustration of the quarterly trends in HHI for both concessionaires and concessions. With respect to HHI by concessionaire, index values increased across all quarters of 2022. The first quarter registered a value of 1,321 – the lowest for the year – which increased to 1,322 in the second quarter. The third quarter recorded a value of 1,412, while the final quarter, with 1,453, had the highest figure for the year.

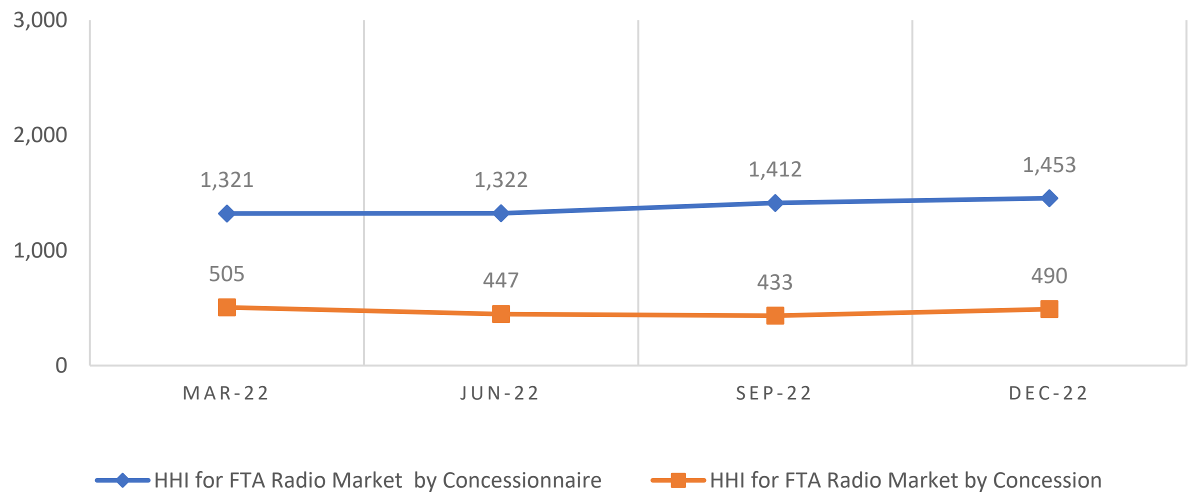

Figure 96 HHI for the FTA radio broadcasting market for 2022

In 2022, the average monthly HHI by concessionaire was 1,430 while the average monthly HHI by concession was 466.

As Figure 97 shows, the HHI based on concessions was relatively stable from 2018 to 2022, while the HHI based on concessionaires had more pronounced variations over the same period.

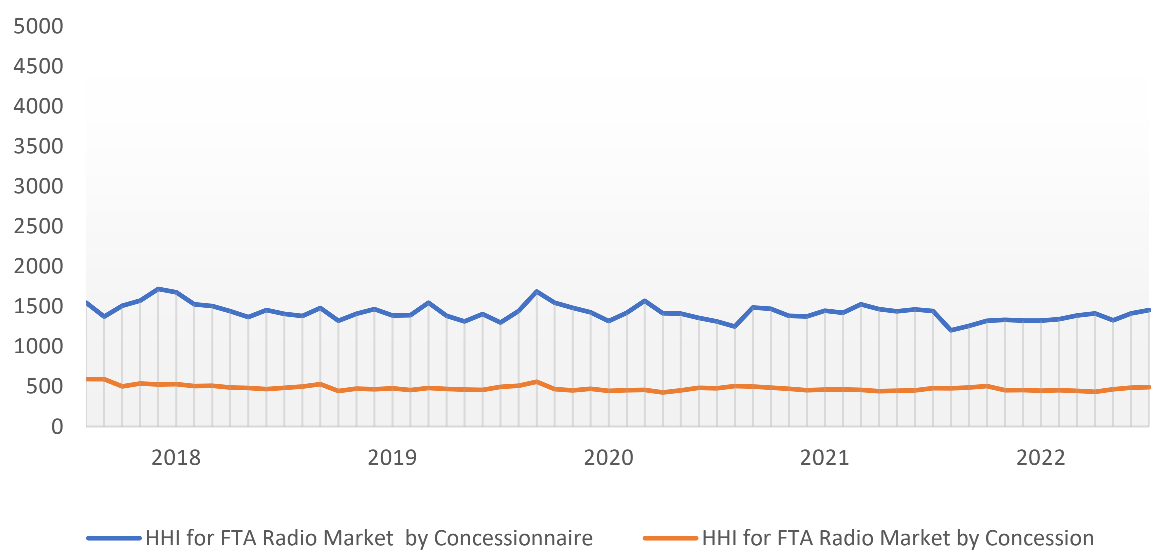

Figure 97 HHI for the FTA radio broadcasting market from 2018 to 2022

6.4 Subscription TV Broadcasting Market

As at December 2022, the subscription TV market comprised 11 authorised service providers, all of whom were operational during the review period. These entities provided services to subscribers within their respective authorised coverage areas. Table 7 lists each service provider, the type of service used to deliver subscription TV services, and their authorised coverage areas.

Table 7 List of subscription TV providers operational in 2022

Name of Provider	Type of Service	Authorised Coverage Area
Amplia Communications Limited	Digital subscription TV (wired)	National
Columbus Communications Trinidad Limited	Digital subscription TV (wired)	
Digicel (Trinidad & Tobago) Limited	Digital subscription TV (wired)	
DirecTV Trinidad Limited	Digital subscription TV (satellite)	
Green Dot Limited	Digital subscription TV (wireless terrestrial)	
RVR International Limited	Digital subscription TV (wired)	
Telecommunications Services of Trinidad and Tobago Limited (TSTT)	Digital subscription TV (wired)	
Independent Cable Network of Trinidad &Tobago (ICNTT)	Analogue subscription TV (wired)	Major territorial
Air Link Communications Limited	Digital subscription TV (wired)	Niche – Princes Town and environs
Wired Technologies Limited (previously Santa Flora Cable Network Ltd)	Digital subscription TV (wired)	Niche – Santa Flora and environs
Trico Industries Limited	Analogue and digital subscription TV (wired)	Minor territorial

6.4.1 Subscription TV Subscriptions

Service providers in the subscription TV market offer different types of basic packages to their customers. Customers subscribed to a basic package of their choice have the option of purchasing additional or premium packages.

As shown in Figure 98, the number of subscription TV subscriptions decreased by 11,000, or 4.6%, from 2021, to record 226,800.

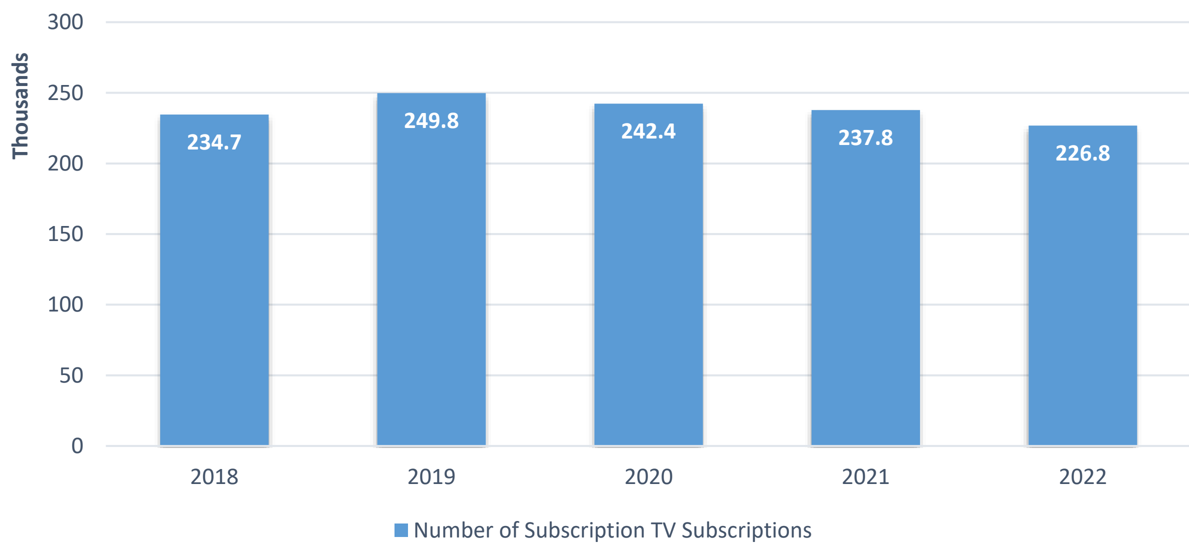

Figure 98 Number of Subscription TV subscriptions from 2018 to 2022

A comparison of subscription TV subscriptions by type of service for the period 2018 to 2022 is given in Figure 99. In 2022, the number of subscriptions using analogue technologies recorded 3,000, a contraction of 44.9% compared to 2021. The number of digital subscriptions dipped from 234,800 in 2021 to 223,800 in 2022 –a decline of 3.7%.

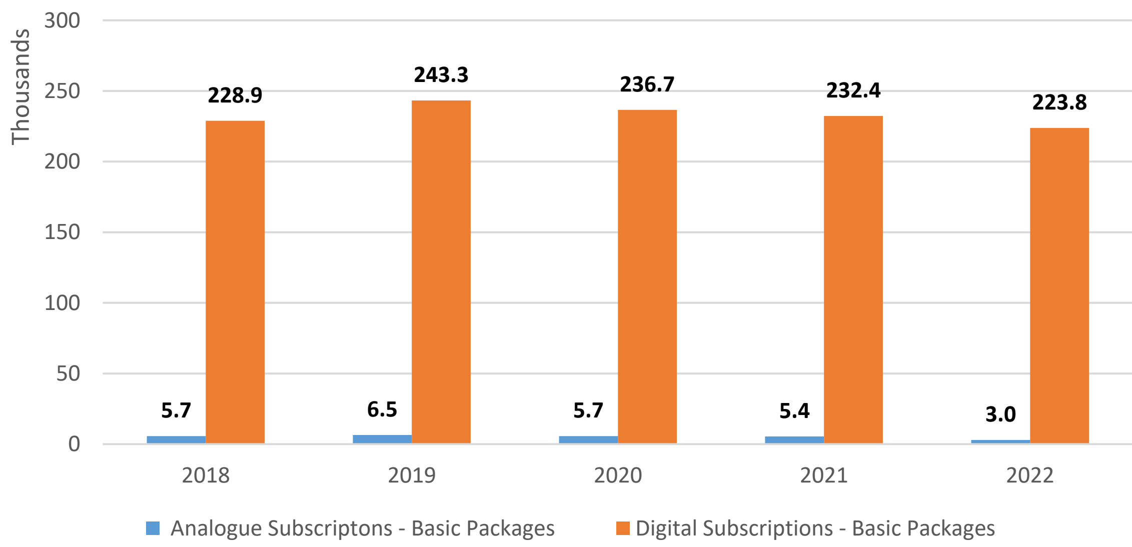

Figure 99 Subscription TV subscriptions by type of service, from 2018 to 2022

The proportion of subscriptions by type of service is depicted in Figure 100. In 2022, 98.7% of all subscription TV subscriptions were digital, while the remaining 1.3% were analogue.

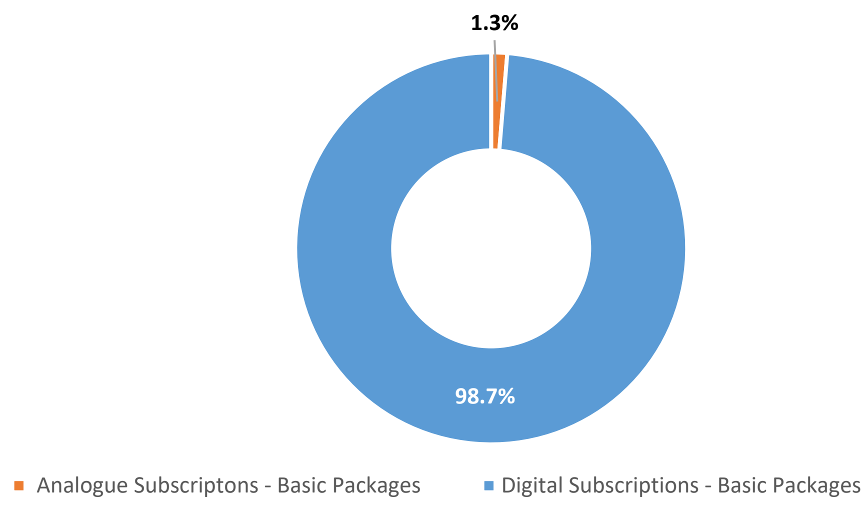

Figure 100 Proportion of subscription TV subscriptions, by type of service, in 2022

6.4.1.1 Premium Package Subscriptions

Premium channels are additional channels, or a group of channels, offered by subscription TV service providers that consumers may subscribe to, alongside their basic package. It should be noted that consumers can subscribe to more than one premium package. Figure 101 presents the number of premium package subscriptions from 2018 to 2022.

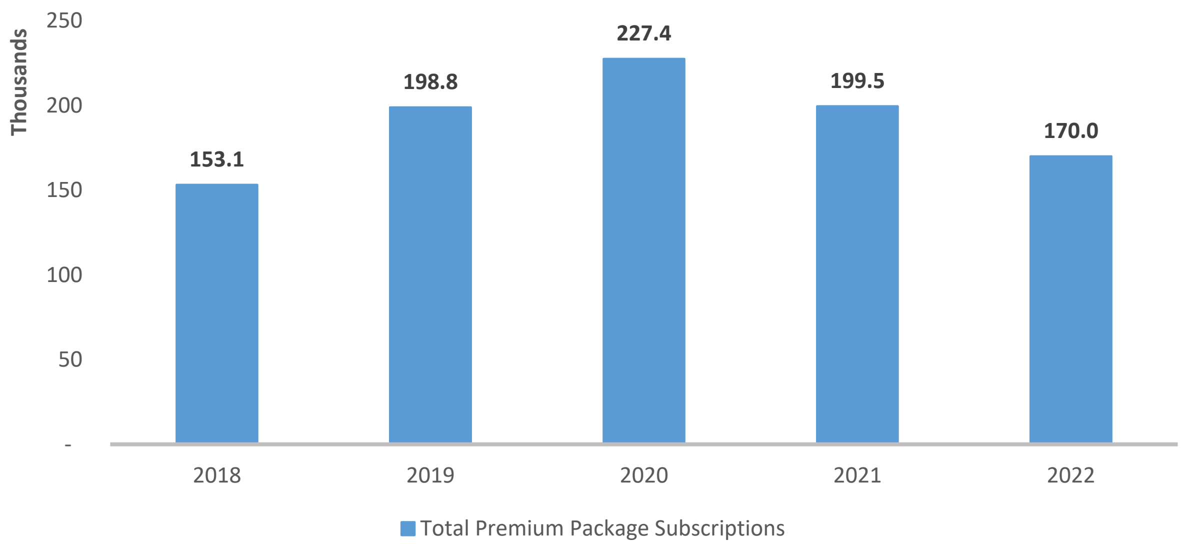

Figure 101 Number of premium package subscriptions from 2018 to 2022

At the end of 2022, the total number of premium package subscriptions stood at 170,000. This is a decrease of 29,600 subscriptions, or 14.8%, from the preceding year. As the figure shows, this is the second consecutive contraction in subscriptions to premium packages.

Table 8 portrays the annual percentage changes in premium subscriptions from 2018 to 2022.

Table 8 Growth rates in premium subscriptions from 2018 to 2022

Year-on-Year	Change in Premium Subscriptions	Year-on-Year Rate of Growth (%)
2017-2018	13,900	10.0%
2018-2019	45,700	29.8%
2019-2020	28,600	14.4%
2020-2021	27,900	-12.3%
2021-2022	29,600	-14.8%

6.4.2 Subscription TV Penetration

The penetration rate for subscription TV services is calculated by dividing the number of subscription TV subscriptions by the population size and multiplying by 100. In 2022, the penetration rate per 100 inhabitants was 16.6, which means that an estimated 17 out of every 100 persons had a subscription.

The subscription TV household penetration rate (depicted in Figure 102), defined as the number of subscriptions per 100 households, was determined to be 56.5 in 2022. The interpretation is that, for every 100 households, 57 had a subscription.

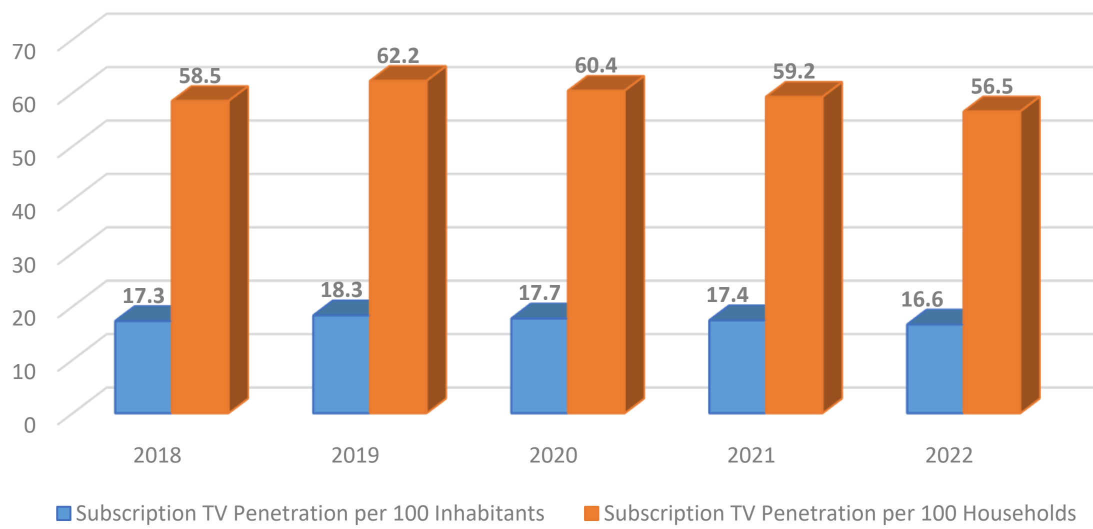

Figure 102 Subscription TV penetration rate from 2018 to 2022

The figure shows the penetration rates for the past five years. For 2022, both the penetration rate per 100 inhabitants and the penetration rate per 100 households were lower than the 2021 rates. The average penetration rate per 100 inhabitants for the five-year period was 17.5, whereas the average penetration rate per 100 households was 59.4.

6.4.3 Subscription TV Revenues

Gross revenues[58] generated in the subscription TV market include providers' earnings from the provision of services using both analogue and digital technologies. Figure 103 shows that, in 2022, the subscription TV market earned $627.7 million. This represents a decrease of $15.4 million, or 2.4%, from the previous year.

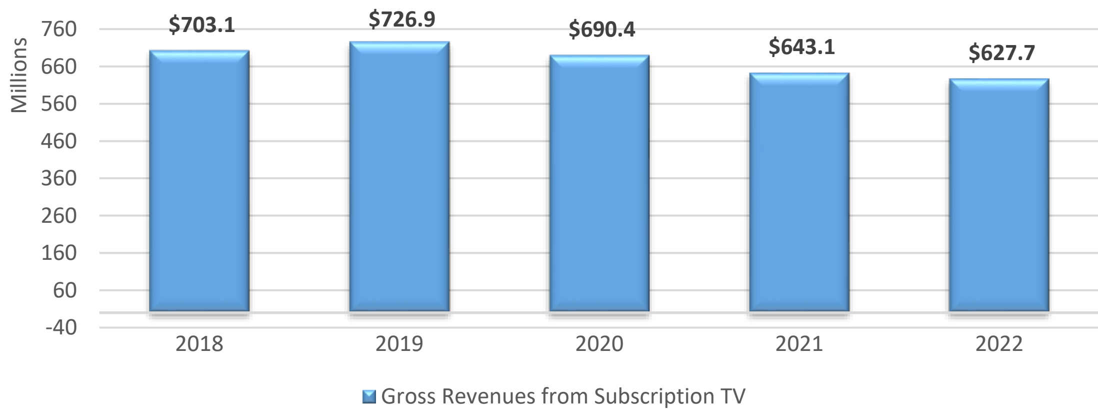

Figure 103 Subscription TV gross revenues from 2018 to 2022

Most of the revenues generated in the subscription TV market were derived from digital technologies, as seen in Figure 104. Digital subscription TV revenues accounted for $619.4 million, or 98.7%, of total revenues. The remaining 1.3% of revenues were acquired through analogue subscription TV services and amounted to $8.4 million.

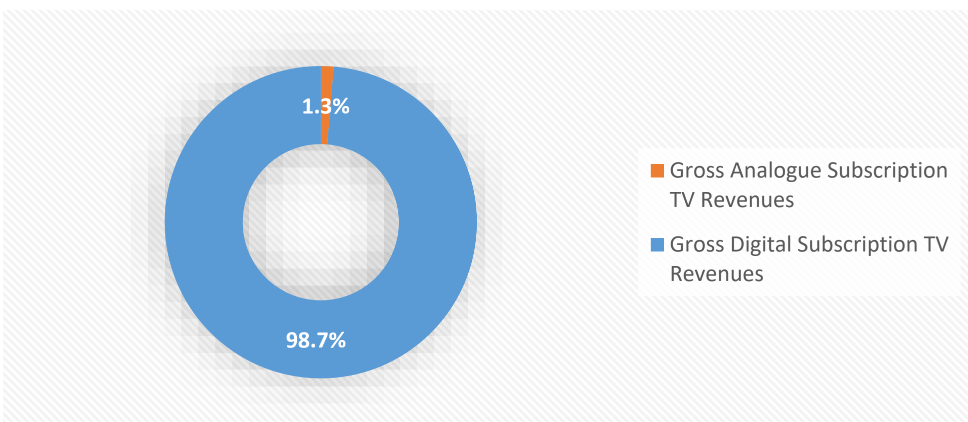

Figure 104 Subscription TV revenues, by type, for 2022

[58] Revenues include income generated from connection, reconnection, installation and usage.

6.4.4 Subscription TV Market Concentration

The HHI, which estimates the level of concentration within the market, is calculated as the sum of the squares of the market share[59] of all service providers in the market.

The first quarter of 2022 registered an index score of 3,372. The level of concentration increased in the second quarter to 3,385, and further to 3,388 by the third quarter. The HHI fell to 3,343 in the final quarter – the lowest for the year.

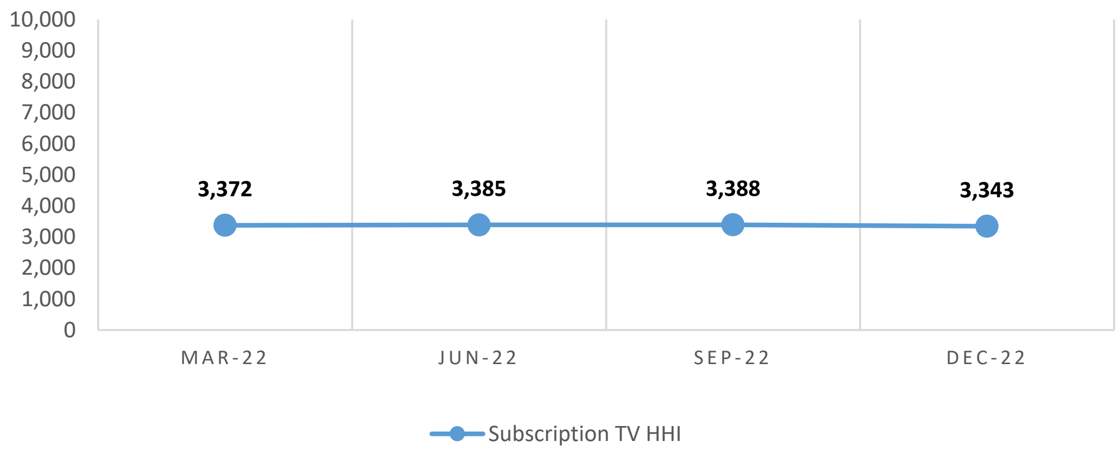

Figure 105 Quarterly HHI for the subscription TV market in 2022

As shown in Figure 106, the HHI for the subscription TV market was relatively stable over the past five years. The HHI for 2022 was 3,343, which is an increase of 42 points, or 1.3%, from 2021.

[59] The number of basic package subscriptions was used to determine the market share of the service providers.

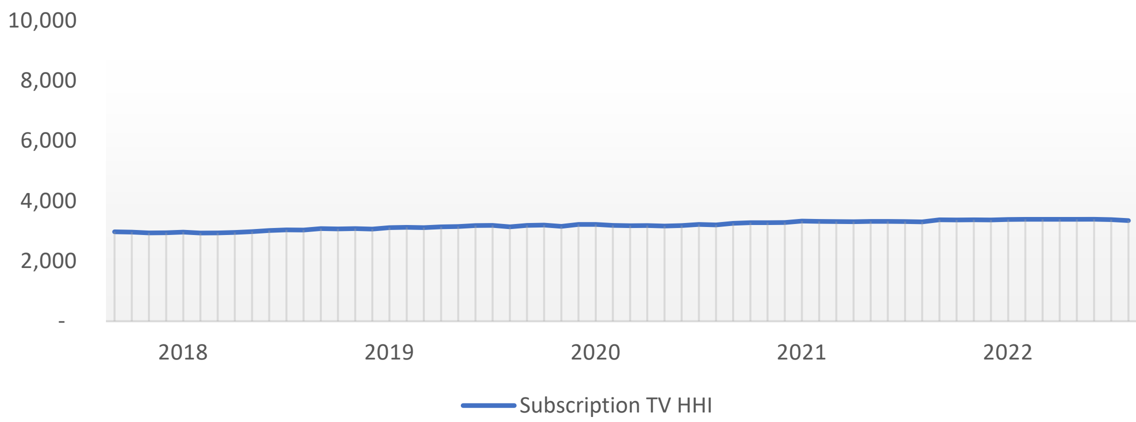

Figure 106 Annual HHI for the subscription TV market from 2018 to 2022

6.4.5 Subscription TV Average Revenue per User

The ARPU is calculated by dividing gross revenues by the number of monthly subscriptions. In 2022, the subscription TV ARPU was $2,720 – an increase of $22 per user from the previous year. This marked a 0.8% decline in the average revenues generated by each subscription.

Figure 107 shows that the subscription TV ARPU peaked in 2019 with $2,952. The ARPU recorded consecutive years of decline in 2020 and 2021 before increasing in 2022.

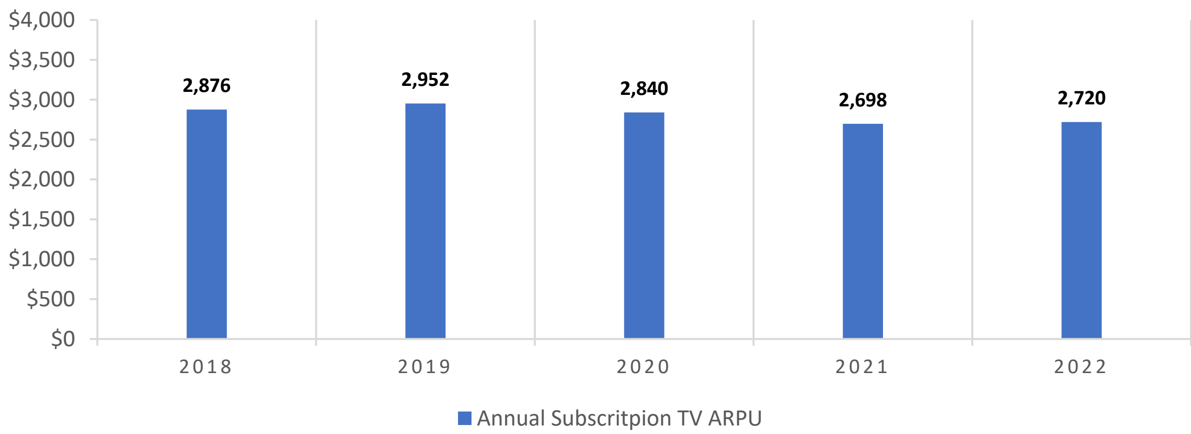

Figure 107 Subscription TV ARPU from 2018 to 2022

Appendix I: Domestic Telecommunications and Selected Broadcasting Statistics

Table 9 Domestic telecommunications and selected broadcasting statistics

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
General	Population (millions)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	**1.4**	**1.4**
	Telecommunications and Broadcasting revenues (US$ million)	685.2	713.1	737.0	834	864.4	881.5	876.7	836.0	771.8	832.1	740.7	697.1	**741.7**	**772.0**
	Total telephone subscriptions ('000s)	2,149.6	2,187.6	2,117.7	2,169.8	2,235.2	2,270.4	2,393.2	2,471.6	2,349.3	2,290.3	2,496.0	2,311.9	**2,338.3**	**2325.5**
	Total telephone penetration	164.3	167.2	160.7	163.8	168.7	171.4	180.7	186.6	177.3	172.9	183.0	169.2	**171.0**	**170.3**
Fixed Voice	Fixed voice subscriptions ('000s)	303.2	293.3	291.5	286.1	291.3	289.8	269.8	305.7	318.7	317.7	332.3	323.9	**341.4**	**326.5**
	Fixed voice penetration	23.2	22.3	22.0	21.6	21.7	21.7	20.0	22.6	23.5	23.4	24.4	23.7	**25.0**	**23.9**
	Fixed voice household penetration	70.1	67.5	67.1	55.3	56.2	56.6	52.5	62.1	66.3	66.7	71.0	69.7	**72.3**	**70.6**
	Average revenue per user (ARPU) US$	403.5	411.5	417.3	430.5	413.1	410.7	424.2	402.4	359.0	272.4	235.6	214.1	**149.1**	**148.3**
	Fixed voice subscription growth (%)	-3.7	-3.3	-0.6	-1.9	1.6	-0.7	-6.3	13.3	4.2	-0.3	4.6	-2.5	**5.4**	**-4.4**

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mobile	Mobile subscriptions ('000s)	1,846.3	1,894.2	1,826.2	1,883.7	1,943.9	1980.6	2,123.4	2,165.8	2,031	1,972.6	2,163.7	1,988.0	**1,996.8**	**1,999.0**
	Mobile penetration	141.1	143.8	138.6	142.2	146.4	149.1	157.3	160.0	150.0	145.1	158.6	145.5	**146.0**	**146.4**
	Average revenue per user (ARPU) US$	170.0	164.0	173.0	188.0	189.0	174.5	147.1	136.8	113.0	89.0	70.7	65.1	**70.7**	**69.9**
	Mobile subscription growth (%)	2.2	2.6	-3.6	3.1	3.2	1.9	7.2	2.0	-6.2	-2.9	9.7	-7.9	**0.5**	**0.001**
Internet	Total Internet subscriptions [60] ('000s)	238.3	309.9	325.2	646.7	682.3	820.1	925.2	1001.7	1031.6	1,017.9	992.7	1,147.0	**1,190.7**	**1248.7**
	Fixed Internet subscriptions [61] ('000s)	145.0	171.1	192.0	224.2	231.7	249.6	279.8	294.4	327.0	341.3	339.4	376.8	**370.9**	**389.6**
	Mobile Internet subscriptions [62] ('000s)	93.3	138.8	133.2	422.5[63]	450.6	570.5	645.4	707.3	704.6	678.6	653.3	770.2	**819.8**	**859.1**
	Fixed broadband subscriptions [64] ('000s)	130.1	162.9	187.9	221.3	229.6	248.1	278.5	294.3	326.8	341.1	339.3	376.8	**370.9**	**373.4**
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022

[60] Total Internet subscriptions are the sum of fixed Internet subscriptions and mobile postpaid Internet subscriptions.

[61] Fixed Internet subscriptions are the total number of subscriptions with fixed wired or fixed wireless Internet access.

[62] Mobile Internet subscriptions from 2003 to 2011 include postpaid mobile customers who subscribe to monthly Internet airtime and who are billed accordingly.

[63] Mobile Internet subscriptions from 2012 onwards include prepaid and postpaid mobile Internet users.

[64] Fixed broadband subscriptions are the number of Internet subscriptions with access to download speeds of 256 kbit/s or higher.

	Fixed Internet users[65] ('000s)	579.8	639.3	724.5	685.6	704.3	757.8	851.1	900.7	1001.4	1,051.4	1,059.1	1,174.2	**1,165**	**1,168.6**
	Fixed Internet penetration	11.1	13.0	14.6	16.9	17.4	18.7	21.1	21.7	24.2	25.1	24.9	27.6	**27.1**	**28.5**
	Mobile Internet penetration	7.1	10.5	10.1	31.9	33.9	43.0	47.8	52.2	52.0	49.9	47.9	56.3	**59.9**	**62.9**
	Fixed Internet users' penetration	44.3	48.5	55.0	51.8	53.0	57.1	63.1	57.2	74.0	77.4	77.6	85.9	**85.2**	**89.4**
	Fixed Internet household penetration	40.1	49.6	52.8	52.1	54.2	58.3	65.4	69.3	76.9	80.8	79.9	88.6	**88.0**	**92.2**
	Average revenue per user (ARPU) US$ for fixed Internet	433.2	409.9	431.9	422.8	442.5	448.6	430.3	470.5	417.5	492.7	510.8	475.0	**487.5**	**495.4**
	Fixed Internet subscription growth (%)	27.1	18.0	12.2	16.7	3.3	7.8	12.1	5.2	11.1	4.4	-0.5	11.0	**-2.0**	**0.7**

[65] Fixed Internet users are the number of persons who regularly use fixed Internet services.

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
International Traffic	International: outgoing minutes (millions)	259.2	282.9	274.5	263.5	277.9	268.3	247.2	170.9	125.2	125.9	79.7	58.5	**50.0**	**40.5**
	International: incoming minutes (millions)	399.4	358.5	256.2	245.7	234.8	234.1	199.2	202.7	192.9	127.1	91.9	95.5	**74.6**	**44.0**
	Inbound/outbound int'l traffic ratio	1.5	1.3	0.93	0.93	0.84	0.87	0.81	1.2	1.5	0.99	1.2	1.6	**1.6**	**1.1**
Subscription TV	Subscription TV subscriptions ('000s)	179.6	178.9	187.8	198.7	209.3	228.8	232.8	248.4	246.7	234.7	249.8	242.4	**237.8**	**226.8**
	Subscription TV penetration	13.7	13.6	14.1	14.8	15.8	17.2	17.2	18.3	18.2	17.3	18.3	17.7	**17.4**	**16.6**
	Subscription TV household penetration	52.3	52.1	54.0	48.2	52.1	57.0	58.0	61.9	61.5	58.5	62.2	60.4	**59.2**	**56.5**
	Average revenue per user (ARPU) US$	404.9	431.2	468.6	505.5	520.8	493.2	497.7	486.8	425.2	427.5	435.4	418.9	**397.3**	**401.3**
	Subscription TV subscription growth	10.2	-0.4	5.0	5.8	5.3	9.3	1.7	6.7	-0.6	-4.9	6.4	-3.0	**-1.9**	**-4.6**

Appendix II: List of Concessionaires and Type of Concessions as at December 2022

CONCESSIONAIRE	NETWORK AND/ OR SERVICE	TERRITORY	TYPE	TERM	DATE OF GRANT	EXPIRY DATE	FREQUENCY/ SPECTRUM
FIXED TELECOMMUNICATIONS							
Air Link Communications	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	Niche - Princes Town and Environs	Type 2	10 Years	1 May 2020	30 April 2030	N/A
Amplia Communications Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	National	Type 2	10 Years	1 December 2019	30 November 2029	N/A
Columbus Communications Trinidad Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	National	Type 2	10 Years	5 January 2016	4 January 2026	N/A
Digicel (Trinidad and Tobago) Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	National	Type 2	10 Years	3 October 2014	2 October 2024	N/A
Green Dot Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wireless)	National	Type 2	10 Years	1 October 2017	30 September 2027	N/A
Independent Cable Network of Trinidad & Tobago Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	Major Territorial	Type 2	10 Years	1 November 2016	31 October 2026	N/A
Lisa Communications Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wireless)	National	Type 2	10 Years	1 May 2020	30 April 2030	N/A
Mora's Weather Network	Public Domestic Telecommunications Services via a Public Domestic Fixed (Wireless) Telecommunications Network	Niche - Lopinot	Type 2	10 Years	10 April 2019	9 April 2029	N/A
NOVO Communications Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	National	Type 2	10 Years	4 February 2020	3 February 2030	N/A
Open Telecom Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wireless)	National	Type 2	10 Years	1 May 2020	30 April 2030	N/A
PBS Technologies (Trinidad) Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wireless)	National	Type 2	10 Years	1 May 2020	30 April 2030	N/A
Prism Services (Trinidad) Limited	Public Domestic Fixed Telecommunications Services	National	Type 4	10 years	29 July 2013	28 July 2023	N/A

RVR International Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	National	Type 2	10 Years	20 May 2014	19 May 2024	N/A
Telecommunications Services of Trinidad and Tobago Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired and Wireless)	National	Type 2	10 Years	31 December 2015	30 December 2025	N/A
TRICO Industries Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network	Minor Territorial	Type 2	10 Years	1 September 2016	31 August 2026	N/A
Wired Technologies Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wired)	Niche - Santa Flora and Environs	Type 2	10 years	15 May 2014	14 May 2024	N/A
MOBILE TELECOMMUNICATIONS							
Digicel Trinidad and Tobago Limited	Public Domestic Mobile Telecommunications Services over a Public Domestic Mobile Telecommunications Network	National	Type 2	10 Years	31 December 2015	30 December 2025	N/A
Telecommunications Services of Trinidad and Tobago Limited	Public Domestic Mobile Telecommunications Services over a Public Domestic Mobile Telecommunications Network	National	Type 2	10 Years	31 December 2015	30 December 2025	N/A
INTERNATIONAL TELECOMMUNICATIONS							
Amplia Communications Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	4 April 2016	3 April 2026	N/A
Columbus Networks International (Trinidad) Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	16 February 2017	15 February 2027	N/A
Digicel Trinidad and Tobago Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	31 December 2015	30 December 2025	N/A
Green Dot Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	1 October 2017	30 September 2027	N/A
Lisa Communications Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	1 September 2016	31 August 2026	N/A
NOVO Communications Limited	Public International Telecommunications Services	N/A	Type 4	10 Years	4 February 2020	3 February 2030	N/A
Open Telecom Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	5 January 2016	4 January 2026	N/A
Southern Caribbean Fibre Limited	Public International Telecommunications Network	N/A	Type 1	10 Years	17 August 2016	16 August 2026	N/A
Telecommunications Services of Trinidad and Tobago Limited	Public International Telecommunications Services via a Public International Telecommunications Network	N/A	Type 2	10 Years	31 December 2015	30 December 2025	N/A

SUBSCRIPTION TELEVISION BROADCASTING							
Air Link Communications	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	Niche - Princes Town and Environs	Type 5	10 Years	1 May 2020	30 April 2030	N/A
Amplia Communications Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	24 August 2014	23 August 2024	N/A
Columbus Communications Trinidad Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	5 January 2016	4 January 2026	N/A
Digicel Trinidad and Tobago Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	18 March 2015	17 March 2025	N/A
DirecTV Trinidad Limited	Subscription Broadcasting Service (direct from Satellite only)	National	Type 5	10 Years	28 February 2016	27 February 2026	N/A
Green Dot Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	11 July 2018	10 July 2028	N/A
Independent Cable Network of Trinidad & Tobago Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	Major Territorial	Type 5	10 Years	1 November 2016	31 October 2026	N/A
Open Telecom Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	30 October 2013	29 October 2023	N/A
RVR International Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	20 May 2014	19 May 2024	N/A
Telecommunications Services of Trinidad and Tobago Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	31 December 2015	30 December 2025	N/A
TRICO Industries Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	Minor Territorial	Type 5	10 Years	1 September 2016	31 August 2026	N/A
Wired Technologies Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	Niche - Santa Flora and Environs	Type 5	10 years	15 May 2014	14 May 2024	N/A

FREE-TO-AIR TELEVISION BROADCASTING							
Advance Community Television Network Limited	Broadcasting Services (Free to Air Television)	Major Territorial	Type 5	10 Years	1 March 2016	28 February 2026	UHF 25
C.C.N. Television Limited	Broadcasting Services (Free to Air Television)	National	Type 5	10 Years	1 March 2016	28 February 2026	VHF 6, UHF 18, 19
Guardian Media Limited	Broadcasting Services (Free to Air Television)	National	Type 5	10 Years	14 April 2018	13 April 2028	VHF 12, UHF 14, 22
Parliament of the Republic of Trinidad and Tobago	Broadcasting Services (Free to Air Television)	National	Type 5	10 Years	23 October 2018	22 October 2028	VHF 11, UHF 26, 29
TTT Limited	Broadcasting Services (Free to Air Television)	National	Type 5	10 Years	23 February 2016	22 February 2026	VHF 9, 13 UHF 20
FREE-TO-AIR RADIO BROADCASTING							
British Broadcasting Corporation	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	15 June 2017	14 June 2027	98.7FM
Central Broadcasting Services Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	21 September 2016	20 September 2026	102.7 FM
Central Radio FM90 Limited	Broadcasting Services (Free to Air FM)	Major Territorial	Type 5	10 Years	23 February 2016	22 February 2026	90.5 FM
Family Focus Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	98.1 FM
Gem Radio Five Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	93.5 FM
Gem Radio Five Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	95.5 FM
Gem Radio Five Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	107.1 FM
Gem Radio Five Limited	Broadcasting Services (Free to Air FM)	Major Territorial	Type 5	10 Years	23 February 2016	22 February 2026	92.3 FM
Gem Radio Five Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	96.7 FM
Guardian Media Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	95.1 FM
Guardian Media Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	105.1 FM
Guardian Media Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	106.1 FM
Guardian Media Limited	Broadcasting Services (Free to Air FM)	Major Territorial	Type 5	10 Years	23 February 2016	22 February 2026	106.5 FM
Guardian Media Limited	Broadcasting Services (Free to Air FM)	Major Territorial	Type 5	10 Years	23 February 2016	22 February 2026	100.5 FM
Guardian Media Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	99.5 FM
Heritage Communications Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	101.7 FM
Kaisoca Productions Limited	Broadcasting Services (Free to Air FM)	Minor Territorial	Type 5	10 Years	23 February 2016	22 February 2026	92.7 FM
KMP Music Group Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2019	22 February 2029	90.1 FM
Parliament of the Republic of Trinidad and Tobago	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	1 March 2017	28 February 2027	105.5 FM
PBCT Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	104.7 FM
Radio News Network	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	104.1 FM
Radio Vision Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	102.3 FM
Scorch Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	11 November 2022	10 November 2032	101.1FM

Superior Infinite Productions Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	94.1 FM
Telemedia Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	97.1 FM
Toco Multicultural Foundation for Integrated Development	Broadcasting Services (Free to Air FM)	Minor Territorial/Niche - Toco and environs	Type 5	10 Years	1 March 2016	28 February 2026	106.7 FM
Trico Industries Limited	Broadcasting Services (Free to Air FM)	Minor Territorial	Type 5	10 Years	10 October 2022	9 October 2032	89.5 FM
Trinibashment Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	91.9 FM
Trinidad and Tobago Radio Network Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	96.1 FM
Trinidad and Tobago Radio Network Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	107.7 FM
Trinidad and Tobago Radio Network Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	94.7 FM
TTT Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	91.1 FM
TTT Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	99.1 FM
TTT Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	100.1 FM
United Cinemas Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	103.5 FM
Upward Trend Entertainment Limited	Broadcasting Services (Free to Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	97.5 FM
Winfield Aleong Broadcasting Company Limited	Broadcasting Services (Free to Air FM)	Major Territorial	Type 5	10 Years	23 February 2016	22 February 2026	103.1 FM
TELEVISION BROADCASTING SERVICE VIA CABLE							
Central Broadcasting Services Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	18 March 2013	17 March 2023	N/A
Darut Tarbiyah	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	7 May 2013	6 May 2023	N/A
Gayelle Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	21 February 2019	20 February 2029	N/A
Guardian Media Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	21 February 2019	20 February 2029	N/A
IBN Communications Company Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	11 October 2022	10 October 2032	N/A
Liming Monkey	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	21 February 2019	20 February 2029	N/A
Living Water Community	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	7 May 2013	6 May 2023	N/A
Presbyterian Church of Trinidad and Tobago	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	4 February 2022	3 February 2032	N/A
Q Network Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	19 March 2021	18 March 2031	N/A
Sankhya Television Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	7 May 2013	6 May 2023	N/A
Synergy Entertainment Network Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	21 February 2019	20 February 2029	N/A

SWAHA Media Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	23 February 2016	22 February 2026	N/A
Twenty Four Seven News and Sports Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	21 February 2019	20 February 2029	N/A
WI Sports	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	21 February 2019	20 February 2029	N/A
[*] **Channels 4 & 16 (VHF 4, UHF 16) assigned to TTT Limited for the Ministry of Education's approved Television-Based Learning Programme per Cabinet Minute 21(2nd Session) dated August 27, 2020**							

Appendix III: Tariffs

Information on service providers' tariffs can be found at the following websites:

- Airlink Communications: http://airlinktt.net/
- Amplia Communications Limited: https://amplia.co.tt/
- Bmobile: https://bmobile.co.tt/
- Columbus Communications Trinidad Limited: https://discoverflow.co/trinidad/
- Digicel (Trinidad & Tobago) Limited: https://www.digicelgroup.com/tt/en.html
- DirecTV Trinidad Limited: http://www.directvcaribbean.com/tt/
- Green Dot Limited: http://www.gd.tt/
- Independent Cable Network of Trinidad & Tobago Limited: http://www.icntt.com/
- Lisa Communications Limited: https://www.lisacommunications.com/
- Network Technologies Limited: http://www.mayarocabletv.com/
- Novo Communications Limited: https://novocommunications.net/
- PBS Technologies (Trinidad): https://www.pbstechgroup.com/

Appendix IV: Glossary of Terms

The following definitions are included to assist readers of this Report:

Terms	Definitions
Average revenue per user	A measure of the average revenue generated by one subscriber
Broadband	Internet speeds ≥ 256 kbits/s.
Concession	A legal instrument granted by the Minister responsible for telecommunications and broadcasting to authorise the operation of a public telecommunications network and/or the provision of any public telecommunications service or broadcasting service.
Free-to-air (FTA)	Relates to television and radio services, broadcast in clear (unencrypted) form on standard public or commercial networks, for which viewers do not have to subscribe.
Gross domestic product (GDP)	A measure of the total value of all goods and services produced in a given country in a given time period, usually a year, excluding net property income from abroad.
Herfindahl-Hirschman Index	A tool that measures the concentration of firms within a particular market. It is computed as the sum of the squares of the market share of all firms in the market.
Interconnection	The linking of public telecommunications networks and public telecommunications services, to allow the users of one provider of a public telecommunications service to communicate with the users of another provider of a public telecommunications service, and to access the services provided by such other provider.

International settlement rate	The share of the accounting rate paid by the public telecommunications operator in another country to cover the costs of carrying the originating public telecommunications operator's traffic on its network.
Licence	A legal instrument granted by the Authority to authorise the operation or use of any radiocommunications service or any radio-transmitting equipment, including that on board any ship, aircraft or other vessel in the territorial waters or airspace of Trinidad and Tobago
Mobile voice subscription	Refers to an activated (prepaid or postpaid) SIM card that enables the user to make and/or receive a call.
Narrowband	Internet speeds < 256 kbits/s
Off-net traffic	Refers to traffic originating on a service provider's network and terminating on another network.
On-net traffic	Refers to traffic originating on a service provider's network and terminating on the same network.
Subscription TV	Refers to terrestrial multichannel TV services, such as cable TV, Internet protocol television (IPTV), digital terrestrial TV (DTT) and direct-to-home (DTH) satellite antenna multichannel TV, receiving broadcasting directly from satellites.
Penetration rate	Defined as the number of persons per 100 inhabitants who subscribe to telecommunications and/or broadcasting services.

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