Telecommunications Authority of Trinidad and Tobago

Telecommunications and Broadcasting Sectors

ANNUAL MARKET REPORT 2020

15th Anniversary Edition

Bridging the Digital Divide and Advancing Digital Inclusion in Trinidad and Tobago

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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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Foreword

As the Telecommunications Authority of Trinidad and Tobago (the Authority) celebrates 17 years of regulating the telecommunications and broadcasting sectors, it is our distinct pleasure to present the *15th Annual Market Report: Telecommunications and Broadcasting Sectors 2020* (the Report).

This Report is a comprehensive compilation of statistics on the performance of the two sectors during the period January to December 2020. 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.

The ongoing global COVID-19 pandemic has revealed, more than ever, the sheer power and importance of digital technologies, which have enabled billions worldwide, to share information, work, study, communicate and do business online, on a transformative scale. Although Trinidad and Tobago continues to grapple with the health and economic challenges brought by the pandemic, the 2020 findings confirm the vibrant and resilient nature of our telecommunications and broadcasting sectors, which together generated TT$4.73 billion[1] in revenues and amassed approximately 3.7 million industry subscriptions.

Additionally, the theme for this year's Report, "Bridging the Digital Divide and Advancing Digital Inclusion in Trinidad and Tobago"**,** reaffirms the Authority's commitment to the projects, programmes and strategies outlined in the National ICT Plan[2], including the identification of population groups most at risk of being digitally excluded. To facilitate greater inclusion, the

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

[2] The National ICT Plan (2018-2022) – The ICT Blueprint: http://www.mpac.gov.tt/sites/default/files/file_upload/publications/ICT%20BLUEPRINT%20JULY%202019.pdf

Authority will continue to collect, analyse and disseminate market data and other relevant statistics, to inform effective market regulation as well as policy formulation.

The Authority wishes to thank the operators in both sectors for their substantial input to this Report, through their submission of sector-specific information and statistics, which we are confident will benefit all industry stakeholders.

Executive Summary

This 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 2020.

Total revenues decrease within the telecommunications and broadcasting industry

The telecommunications and broadcasting industry generated revenues of approximately TT$4.73 billion during 2020. This represents a decrease of 5.8% in total revenues, when compared to the previous year. The telecommunications sector contributed TT$3.86 billion, or 81.6%, of total industry revenues, while the broadcasting sector contributed TT$0.87 billion, or 18.4%.

The Internet market retains its position as highest revenue earner

With estimated revenues of TT$2,147.5 million, the Internet market continued its reign as the most lucrative market, accounting for 45.4% of total industry revenues. Next in the pecking order were the mobile voice and pay TV markets, which contributed TT$877.3 million (18.6%) and TT$690.4 million (14.6%), respectively.

Total telecommunications and broadcasting subscriptions decrease

Subscription-based services, specifically the fixed voice, mobile voice, fixed Internet, mobile Internet and pay TV markets amassed approximately 3.7 million subscriptions – a decrease of 40,000, or 1.1%, from 2019.

Rise in subscriptions to both fixed Internet and mobile Internet

Fixed and mobile Internet were the only two markets in 2020 recording growth in subscription figures. Subscriptions within the fixed Internet market rose to 376,800 – an increase of 37,400, or

11%, from 2019. Mobile Internet subscriptions grew by 17.9% from 2019, to register a total of 770,200.

Revenue in the FTA TV market increases, while FTA radio declines

The trend of falling gross revenue for free-to-air (FTA) TV halted in 2020, with the market generating TT$61.8 million, which represents an increase of TT$1.6 million, or 2.7%, from 2019. The FTA radio market, however, accrued TT$107.7 million in revenues, which represents a reduction of TT$25.6 million, or 19.2%, from the previous year.

Decreases in market concentration persist for the fixed Internet and fixed voice markets, as mobile voice and pay TV concentrations increase

Market concentration within the fixed Internet market, as measured by the Herfindahl-Hirschman Index (HHI), decreased for another consecutive year, falling from 2,973 in 2019 to end 2020 with a value of 2,811. Similarly, the HHI for the fixed voice market also registered a consecutive annual decrease, dropping from 3,677 in 2019 to 3,462 in 2020. In contrast, the levels of concentration in the mobile voice and pay TV markets rose in 2020, registering values of 5,194 and 3,201, respectively.

OVERVIEW OF THE MARKETS

1 Overall Market Review

1.1 Overview and Methodology

The *15th Annual Market Report: Telecommunications and Broadcasting Sectors 2020* (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 three markets:

1. Free-to-air (FTA) television (TV)
2. Free-to-air (FTA) radio
3. Pay TV

The information presented is based primarily on data submitted by operational concessionaires within the two sectors for the period January to December 2020. Additionally, historical data series and other information made available to the Authority at the time of publication are also utilised within 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.

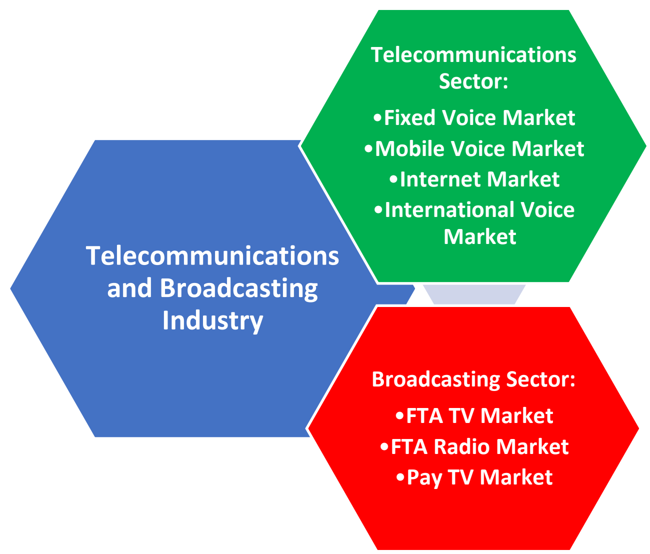

Figure 1. Classification of markets

The Authority also publishes quarterly market updates on the telecommunications and broadcasting sectors to supplement the Report, which can be accessed from the Authority's 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. Concessions are issued to concessionaires who are authorised to operate a public telecommunications network, provide public telecommunications services or provide public broadcasting services. It should be noted that a concessionaire may be granted more than one type of concession.

As at December 2020, a total of 95 concessions were granted by the Authority. A detailed list of these concessions can be found in Appendix II.

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Concessions granted as at December 2020

Table 1 lists the number of operational concessionaires in the various markets as at December 2020.

Table 1. Number of operational concessionaires by market

Network Category	Service Provided	Operational Concessionaires
International Telecommunications	Network only	1
	Services only	-
	Network and services	6
Mobile Telecommunications	Mobile voice and Internet services	2
Fixed Telecommunications	Fixed telephony	7
	Fixed Internet	12
Pay TV (Subscription TV)		12
Free-to-Air Radio Broadcasting		37
Free-to-Air TV Broadcasting		5
TV Broadcasting via Cable		10

1.3 Review of the Telecommunications and Broadcasting Industry

1.3.1 Total Revenue Contributions by the Sectors

In 2020, the telecommunications and broadcasting industry generated TT$4.73 billion[3], or US$697.1 million[4], in gross revenues, which, as a proportion of gross domestic product (GDP)[5], equals 3.2%. This represents a 5.8% decrease in total revenues

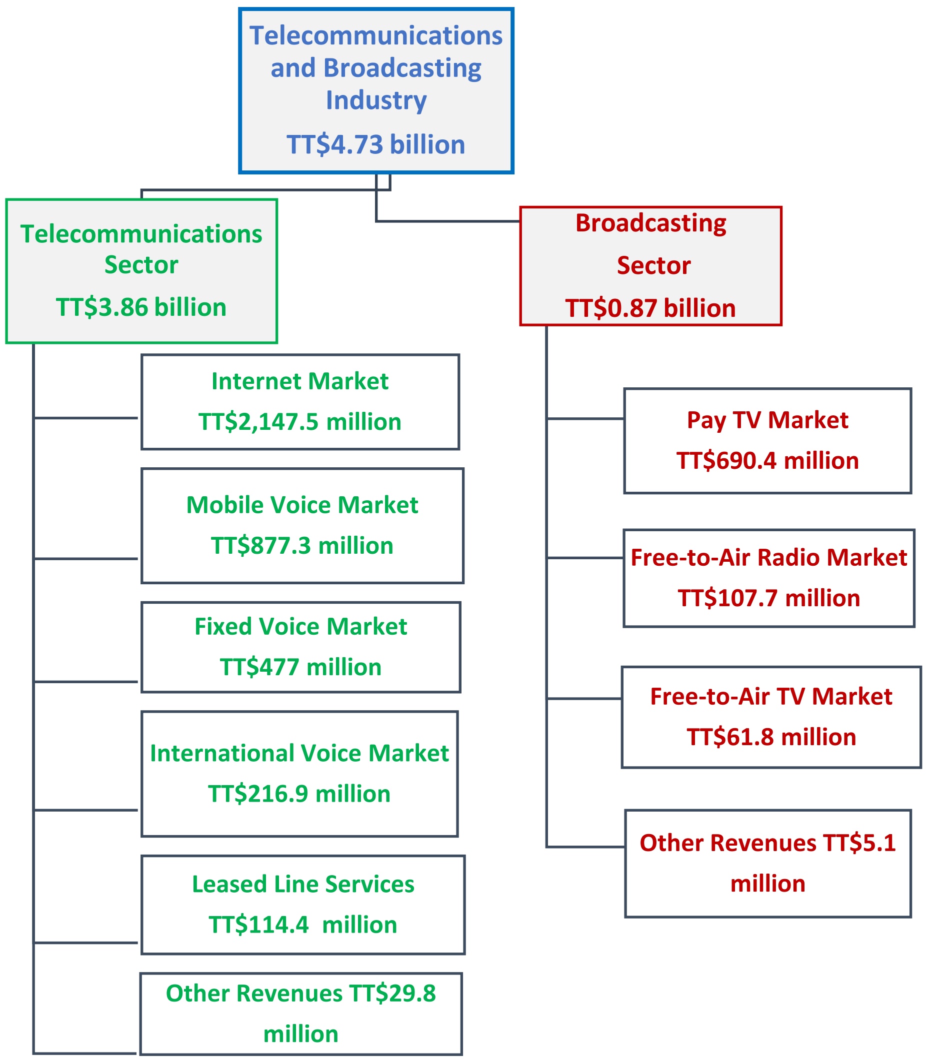


Figure 2. Gross revenues by industry, sector and market in 2020

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

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

[5] Forecasted GDP at current prices for 2020: TT$147,757.2 million (Source: Ministry of Finance, Review of the Economy 2020)

generated by these sectors compared to 2019. The Internet market accounted for the largest proportion of revenues, earning TT$2,147.5 million (45.4%) of the total industry revenues. This was followed by the mobile voice market which accrued TT$877.3 million (18.6%) of total revenues. The next highest earners were pay TV and fixed voice services[6], which generated TT$690.4 million (14.6%) and TT$477 million (10.1%), respectively. The international market was next, with TT$216.9 million (4.6%), followed by leased line[7] and FTA radio markets, which accounted for TT$114.4 million (2.4%) and TT$107.7 million (2.3%), respectively. The FTA TV market contributed TT$61.8 million (1.3%). Other revenues[8] recorded TT$34.9 million, which is a 0.7% share of total industry revenues. Other revenues consisted of TT$29.8 million in additional incomes from the telecommunications sector, as well TT$5.1 million from the broadcasting sector.

Figure 2 lists the industry's gross revenues by market, while Figure 3 provides a percentage breakdown of revenue contributions by each market towards total industry revenues.

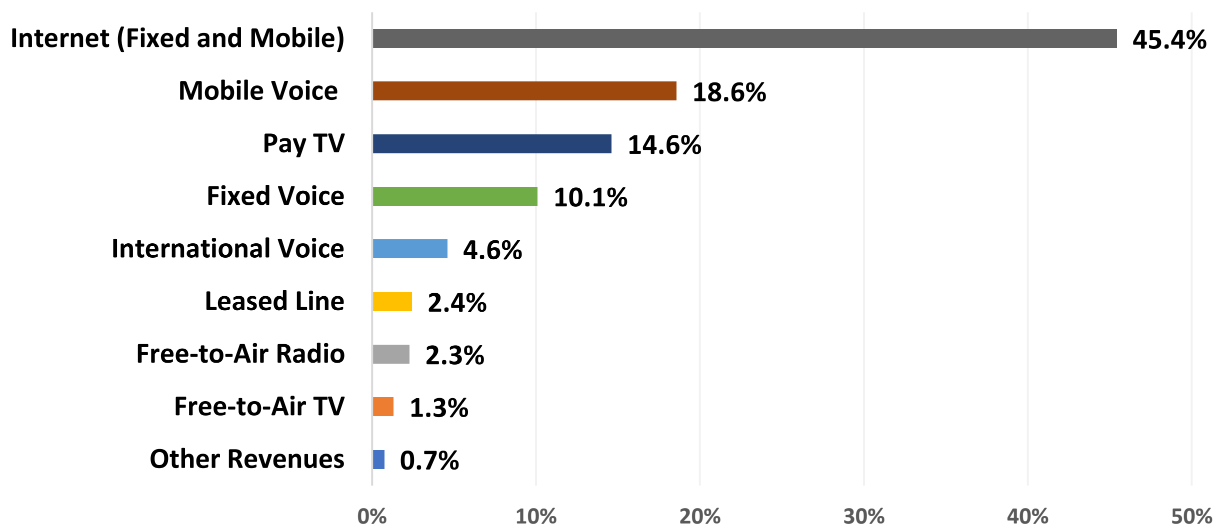


Figure 3. Proportion of total industry revenues contributed by each market in 2020

[6] Fixed voice market revenues include those earned from fixed voice services and access (excluding international services).

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

[8] Other revenues include revenues earned from both the telecommunications sector and the broadcasting sector, such as those received from wholesale services, and production and airtime for local programming on pay TV.

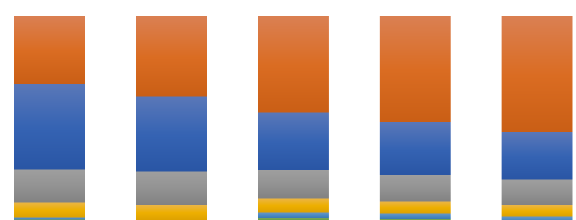
1.3.2 Market Revenue Contributions within the Telecommunications Sector

In 2020, the telecommunications sector generated TT$3.86 billion – an 81.6% share of total industry revenues. This revenue total represents a decline in sector revenues by TT$240 million, or 5.9%, from the previous year. The percentage contribution of the various telecommunications markets toward overall sector revenues for the last five years is illustrated in Figure 4.

The Internet market generated the majority of sector revenues, specifically 55.6%, while the second largest proportion, 22.7%, originated from the mobile voice market. The fixed and international voice markets contributed 12.3% and 5.6%, respectively. Leased line services controlled 3%, while other revenues[9] contributed the remaining 0.8%.

When compared to 2019, only the Internet market and leased line services improved their percentage contributions to sector revenues, while the other markets fell.

% contribution to Telecommunications Sector Revenues



	2016	2017	2018	2019	2020
Internet (Fixed and Mobile)	32.4%	38.5%	46.0%	50.8%	55.6%
Mobile Voice	41.2%	36.1%	27.8%	25.3%	22.7%
Fixed Voice	15.8%	16.0%	13.6%	12.8%	12.3%
International Voice	7.2%	7.4%	6.8%	5.8%	5.6%
Leased Line	1.1%	1.2%	2.6%	2.6%	3.0%
Other Revenues (Telecommunications)	2.3%	0.8%	3.2%	2.7%	0.8%

Figure 4. Percentage contribution by telecommunications markets from 2016 to 2020

[9] Other revenues earned from service providers in the telecommunications sector include other wholesale services (excluding leased line), high-capacity wireless links and two-way radios.

1.3.3 Market Revenue Contributions within the Broadcasting Sector

The broadcasting sector contributed TT$0.87 billion, or 18.4%, of total industry revenues. Of the three main markets in this sector, pay TV retained its position as the premier revenue earner, generating 79.8% of total broadcasting revenues. The FTA radio market held a share of 12.4%, with FTA TV and other broadcasting revenues accounting for 7.1% and 0.6%, respectively. Figure 5 highlights revenue contributions by the individual markets toward total broadcasting sector revenues for the period 2016 to 2020.

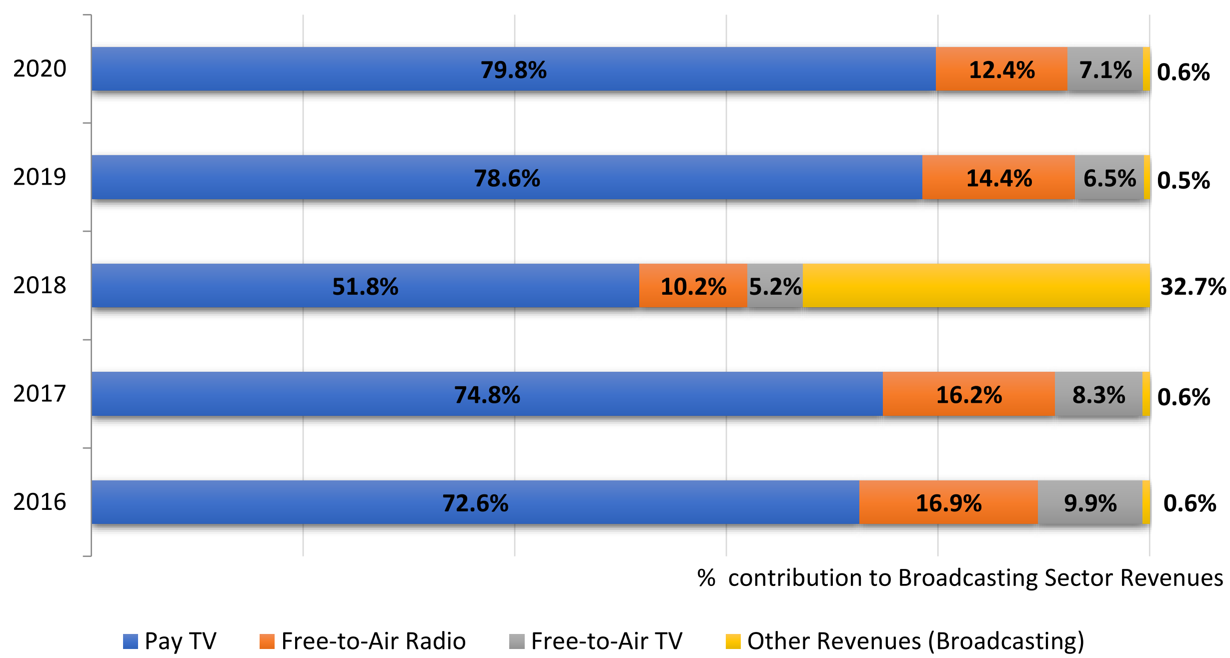


Figure 5. Percentage contribution by broadcasting markets from 2016 to 2020

1.3.4 Telecommunications and Broadcasting Subscriptions

In 2020, the fixed voice, mobile voice, fixed Internet, mobile Internet and pay TV markets collectively amassed approximately 3.70 million subscriptions. This total represented a contraction of 40,000 subscriptions, or 1.1%, compared to 2019.

Table 2 provides subscription figures and growth rates for the past five years, while Figure 6 portrays the 2020 percentage contribution of the individual markets to total industry subscriptions.

The mobile voice market accounted for 53.7% of all industry subscriptions, with a total of 1.99 million. Mobile Internet retained its position as the second most subscribed to service, recording 770,200 subscriptions, or 20.8%. Following this was the fixed Internet market with 376,800 subscriptions – equivalent to a share of 10.2%. The fixed voice market garnered 323,900 subscriptions, or 8.8%, while pay TV contributed 242,400, or 6.5%, of total industry subscriptions.

Table 2. Number of subscriptions by market from 2016 to 2020

	2016	2017	2018	2019	2020
Mobile Voice Subscriptions (millions)	2.17	2.03	1.97	2.16	1.99
Growth rate	2.0%	-6.2%	-2.9%	9.7%	-7.9%
Fixed Voice Subscriptions ('000s)	305.7	318.7	317.7	332.3	323.9
Growth rate	13.3%	4.2%	-0.3%	4.6%	-2.5%
Fixed Internet Subscriptions ('000s)	294.4	327.0	341.3	339.4	376.8
Growth rate	5.2%	11.1%	4.4%	-0.5%	11.0%
Mobile Internet Subscriptions ('000s)	707.3	704.6	678.6	653.3	770.2
Growth rate	9.6%	-0.4%	-3.7%	-3.7%	17.9%
Pay TV Subscriptions ('000s)	248.4	246.8	234.7	249.8	242.4
Growth rate	6.7%	-0.6%	-4.9%	6.4%	-3.0%
Total Subscriptions (millions)	**3.72**	**3.63**	**3.54**	**3.74**	**3.70**
Growth rate	**4.8%**	**-2.5%**	**-2.3%**	**5.5%**	**-1.1%**

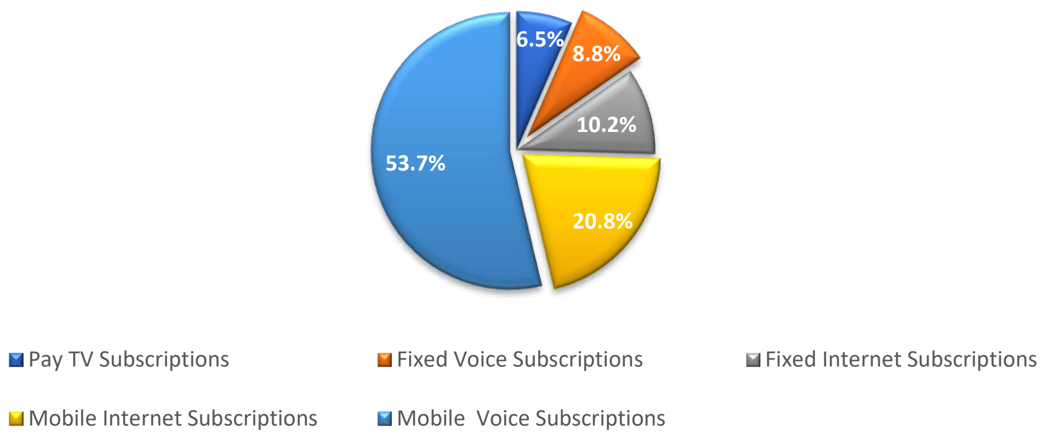


Figure 6. Proportion of subscriptions by market as at December 2020

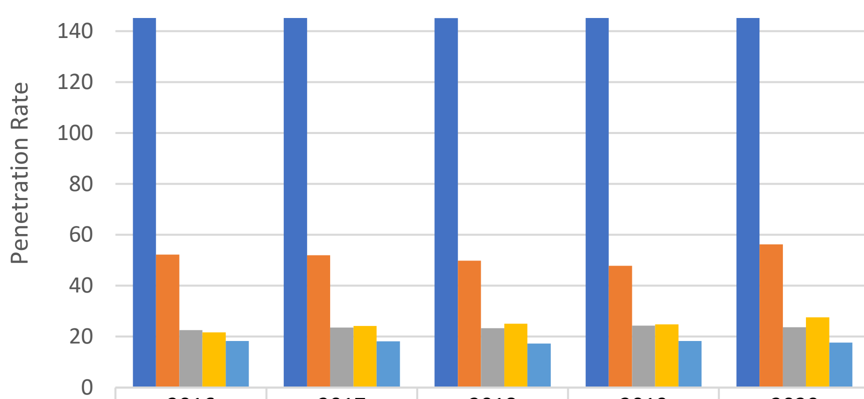
1.3.5 Subscription Penetration Rates

The penetration rates, based on subscriptions per 100 inhabitants, of all the subscription-based markets for the past five years are provided in Figure 7.

In 2020, only the fixed and mobile Internet markets recorded growth in penetration rates, while the mobile voice, fixed voice and pay TV markets all experienced reductions.

The mobile Internet penetration rate rose to 56.3 from the 47.9 recorded in 2019, while the fixed Internet rate climbed from 24.9 to 27.6, due to increased fixed Internet subscriptions.

The penetration rate for the mobile voice market fell from 158.6 in 2019 to 145.5, while the fixed voice market dropped from 24.4 to 23.7. Similarly, the pay TV market penetration rate declined from 18.3 in 2019 to 17.7 as at the end of 2020.



	2016	2017	2018	2019	2020
Mobile Voice Penetration	160.0	150.0	145.1	158.6	145.5
Mobile Internet Penetration	52.2	52.0	49.9	47.9	56.3
Fixed Voice Penetration	22.6	23.5	23.4	24.4	23.7
Fixed Internet Penetration	21.7	24.2	25.1	24.9	27.6
Pay TV Penetration	18.3	18.2	17.3	18.3	17.7

Figure 7. Penetration rates by market from 2015 to 2020

Box 1: Review of the Domestic Economy

Economic activity in Trinidad and Tobago was constrained by the adverse spillover effects of the COVID-19 pandemic[10].

The measures taken by the Trinidad and Tobago government to slow the spread of the virus affected economic activity significantly. According to the Central Statistical Office's (CSO) latest available estimates of quarterly gross domestic product (GDP), real GDP decreased by 8.1% in the first quarter of 2020 and 17.4% in the second quarter.

Moreover, the energy sector contracted in both quarters (by -3.7% and -8.3%, respectively), while the non-energy sector contracted in the second quarter (by -9.1%), following marginal growth of 0.4% in the first quarter[11].

Box Table 1. Economic Performance Measures for T&T Q1-Q2 2020

Economic Indicator	Q1 2020	Q2 2020
Real GDP Growth (current prices, % Δ)	-8.1	-17.4
Energy Sector (constant price % Δ)	-3.7	-8.3
Non-energy Sector (constant price % Δ)	0.4	-9.1

Headline inflation declined in 2020 despite the pandemic-induced supply challenges.

The latest available annual data from the CSO revealed that headline inflation averaged 0.6% for the year ended 2020 – the lowest rate recorded in the last five years.

Food inflation, however, increased markedly due to the acceleration in food prices and supply challenges brought on by the pandemic. Food inflation rose from 2.3% in July 2020 to 4.5% in December 2020. On the other hand, core inflation, which omits the food component, was relatively unmoved over the period, measuring 1.1% in 2019 and 0.1% in 2020[12].

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[10] Central Bank of Trinidad and Tobago (CBTT) Economic Bulletin Visual Summary, July 2020
[11] TT MOF Review of the Economy 2020
[12] Central Bank of Trinidad and Tobago (CBTT) Economic Bulletin 2021: January 2021, Volume XXIII, No1

Birth rate decreases and the labour market is challenged by public health measures.

The CSO estimates that Trinidad and Tobago's population is expected to grow by 0.2% in 2020. However, the country's birth rate, which measures the number of births per thousand persons, is expected to fall from 11.77 in 2019 to 11.51 in 2020, notably the lowest in the last five years.

The Central Bank of Trinidad and Tobago (CBTT) opined that national COVID-19 mitigation measures, including the temporary closure of non-essential businesses, more than likely resulted in the furlough of employees, salary cuts, reductions in working hours and termination of employment during 2020[13].

Retrenchment notices, which are a supplementary indicator of job separation, increased to 1,728 during the period July to November 2020, compared with 577 in the same period one year earlier[14]. Labour demand proxied by job advertisements in print media, declined by 43.4% during the first half of 2020[15]. Moreover, the Trinidad and Tobago Manufacturers' Association (TTMA) and the Trinidad and Tobago Coalition of Service Industries (TTCSI) reported that COVID-19 mitigation measures resulted in its member businesses terminating 36% and 55% of fulltime and part time employees, respectively[16].

Reduced revenue contributed to a larger deficit in the central government accounts.

For the fiscal year 2020, total expenditure was estimated at $53,036.4 million, resulting in a budget deficit of $5,287.5 million or 3.3 % of GDP[17]. Following the onset of COVID-19 and an accompanying decrease in energy prices i.e., a significant drop in US benchmarked Western Texas Intermediate (WTI), to US$0.1c per barrel, led to the price of Brent crude falling to US$20 per barrel. Thus, the Government of Trinidad and Tobago (GORTT) decided to base its new revenue projections on US$25 per barrel for oil for the rest of 2020 and US$1.80 per MMBTU for the country's natural gas[18]. The Trinidad and Tobago central government also made a minor upward adjustment to total expenditure in its mid-year budget review. Total expenditure was revised to a target of $53,107.0 million or 34.9 % of GDP and a deficit at $14,533.5 million,

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[13] CBTT Economic Bulletin 2020: July 2020, Volume XXII, No 2
[14] Central Bank of Trinidad and Tobago Economic Bulletin Visual Summary, January 2021
[15] Central Bank of Trinidad and Tobago Economic Bulletin Visual Summary, July 2020
[16] TT MOF Review of the Economy 2020
[17] Ibid
[18] https://www.caribbean-council.org/oil-price-crash-and-covid-19-push-trinidad-budget-deficit-to-us2-3bn/

or 9.5%, of GDP[19]. However, the latest revised estimates project an overall deficit of $16,772.0 million (11.3% of GDP) and total expenditure at $50,831.7 million (34.3% of GDP).

While S&P maintained its stable outlook for Trinidad and Tobago, both Moody's and CariCRIS have downgraded their outlook from stable to negative.

Moody's Investors Service (Moody's)

Moody's Investors Service (Moody's) reaffirmed Trinidad and Tobago's government bond foreign and local currency rating of "Ba1". According to Moody's, the accumulation of savings in the Heritage and Stabilisation Fund (HSF) and high income levels provide resiliency to shocks that can affect the government's balance sheet.

However, the increased risks to Trinidad and Tobago's economic and fiscal strength, stemming from the COVID-19 pandemic and its effect on global oil and gas demand and prices, have shifted Moody's outlook rating from "stable" to "negative"[20].

Caribbean Information and Credit Rating Services Limited (CariCRIS)

Caribbean Information and Credit Rating Services Limited (CariCRIS) also maintained its previous annual grade of "CariAA+" and "ttAAA" for regional and national investment, respectively.

According to CariCRIS, Trinidad and Tobago continues to be one of the largest and most diversified economies in the Caribbean, with a well-regulated financial system with relatively stable monetary conditions and exchange rate performance, which provides a level of resilience in times of economic performance difficulties.

Standard and Poor's (S&P) Global Ratings

Standard and Poor's (S&P) Global Ratings lowered its foreign and local currency sovereign credit ratings from "BBB" to "BBB-" and its short-term foreign and local currency sovereign credit ratings from "A-2" to "A3". Unlike Moody's and CariCRIS, S&P preserved its rating to reflect its expectation that the Trinidad and Tobago government's financial assets will provide a safeguard

[19] Source: Ibid.
[20] TT MOF Review of the Economy 2020

for the economic volatility on account of lowered oil and gas prices, increases in government debt, current account deficit and an economic contraction in 2020[21].

Box Table 2 sets out several key performance measures of Trinidad and Tobago's economic activity for the five-year period 2016 to 2020.

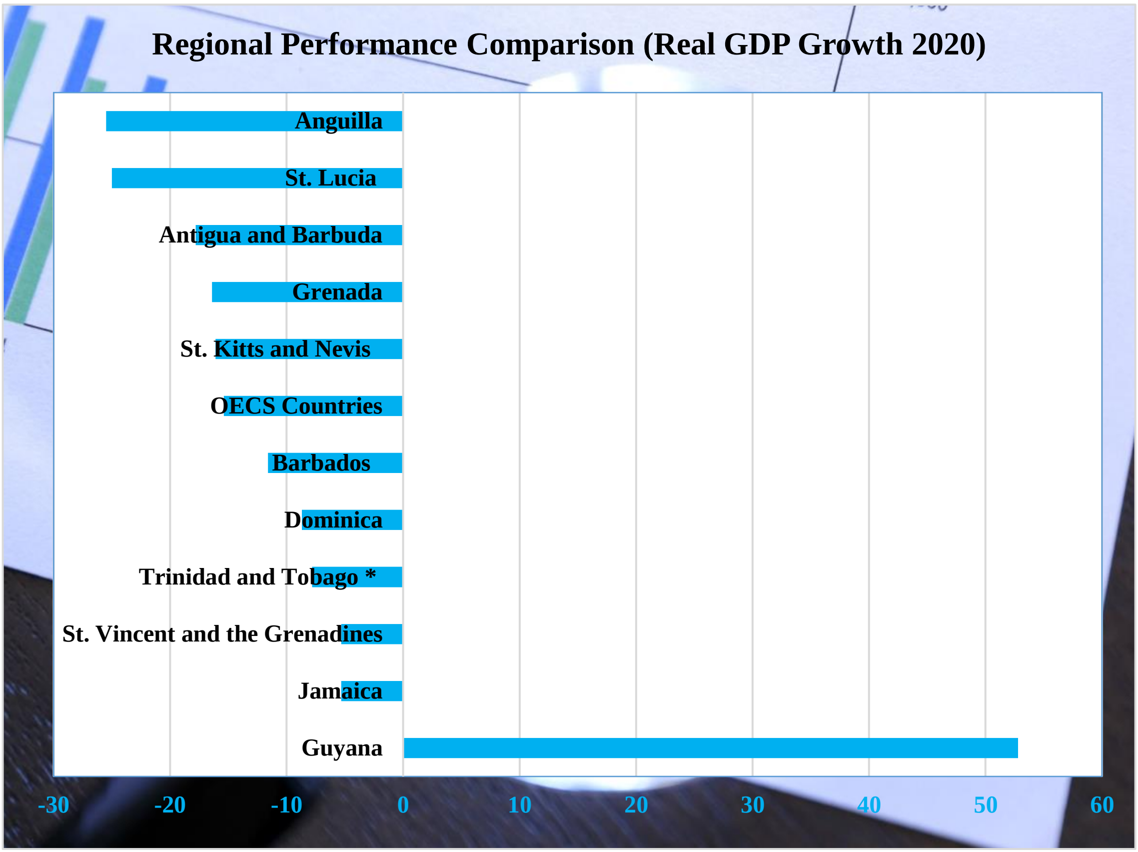
Box Table 2. Economic Performance Measures for T&T from 2016 to 2020

Economic Indicator	2016	2017	2018	2019	2020
[22]**Real GDP Growth (current prices, % Δ)**	-6.4	3.1	4.3	-1.9	N/A[23]
[24]**Energy Sector (constant price % Δ)**	-9.7	0.5	-3.5	-4.5	N/A
[25]**Non-energy Sector (constant price % Δ)**	-3.0	-3.4	0.4	1.7	N/A
[26]**Inflation Rate (%)**	3.1	1.9	1.0	1.0	0.6
[27]**Unemployment Rate (%)**	4.0	4.8	3.9	N/A	N/A
[28]**Current Account Balance (% of GDP)**	-3.5	6.3	6.8	4.6	2.3[29]
[30]**Overall BOP (MM- US$)**	-467.2	-1,096.0	-794.7	-646.1	N/A
[31]**Moody Ratings**	Baa3(-)	Ba1	Ba1	Ba1	Ba1
[32]**Standard and Poor's (S&P) Global Ratings**	A-/A-2(-)	BBB+/ A-2	BBB+/ A-2(-)	BBB/ A-2	BBB-/ A3
[33]**CariCRIS**	CariAA+/ ttAAA	CariAA+/ ttAAA	CariAA+/ ttAAA	CariAA+/ ttAAA	CariAA+/ ttAAA
[34]**Exchange Rate (USD)**	6.67	6.78	6.78	6.78	6.78
[35]**Population (000's)**	1,353	1,356	1,359	1,363	1,366
[36]**Net Official Reserves (MM-US$)**	9,465.8	8,369.8	7,575.0	6,929.0	6,953.8
[37]**Import Cover (Month's)**	10.5	9.7	8.0	7.7	8.4
[38]**GDP (current prices -MM-TT$)**	149,293.7	151,761.6	160,331.7	156,756.0	147,757.2

[21] Ibid
[22] TT MOF Review of the Economy 2020
[23] N/A: Not Available
[24] TT MOF Review of the Economy 2020
[25] Ibid
[26] CBTT Economic Bulletin 2021: January 2021, Volume XXIII, No 1
[27] TT MOF Review of the Economy 2020
[28] Central Bank of Trinidad and Tobago Economic Bulletin 2021: January 2021, Volume XXIII, No 1 (for the period January to September 2020)
[29] For the period January to September 2020
[30] TT MOF Review of the Economy 2020
[31] Moody's. Accessed 25th, May 2021. https://www.moodys.com/researchandratings/region/latin-america-caribbean/trinidad-tobago/042087?tb=0&ol=-1&lang=en&type=Ratings_News
[32] TT MOF Review of the Economy 2020
[33] Ibid

In Box Figure 1 below, economic growth for the year 2020, estimated for Trinidad and Tobago by the International Monetary Fund (IMF), is compared to reported GDP by countries in the Caribbean.

Notably, GDP decreased for all countries, except for Guyana. Of these countries, the GDP of Jamaica and St. Vincent and the Grenadines both decreased by 5.3% (representing the smallest economic contraction) and Anguilla by 25.5% (representing the largest economic contraction). For Trinidad and Tobago, the estimated GDP contraction of 7.3% put the country's regional GDP growth ranking in fourth place.



Box Figure 1. Regional Performance Comparison (Real GDP Growth 2020)

Source:
*International Monetary Fund (IMF). *Country Data.2020*. Accessed June, 01, 2021
Government of the Republic of Trinidad and Tobago TT MOF (Trinidad and Tobago's Ministry of Finance). *Review of the Economy 2020.*

[34] Central Bank of Trinidad and Tobago, US buying rate
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[37] TT MOF Review of the Economy 2020 (at the end of September 2020)
[38] Ibid

Outlook

According to the Central Bank of Trinidad and Tobago (CBTT), the country's short-term outlook is influenced by the evolution of the COVID-19 pandemic and the continued social and economic support to citizens, while assuring that debt remains sustainable. CBTT posited that this would require pragmatic expenditure and financing choices, aimed at macroeconomic stability, re-energising business activity, and strengthening the adaptability of the economy in the medium to long run[39]. Moreover, the private sector should continue to explore opportunities for improving business performance using more efficient techniques and virtual platforms, as the country prepares for more intense global competition in the post-pandemic world[40].

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2020 ANNUAL MARKET REPORT
FIXED VOICE MARKET

GROWTH 2019-2020

9.3%
decrease from 2019

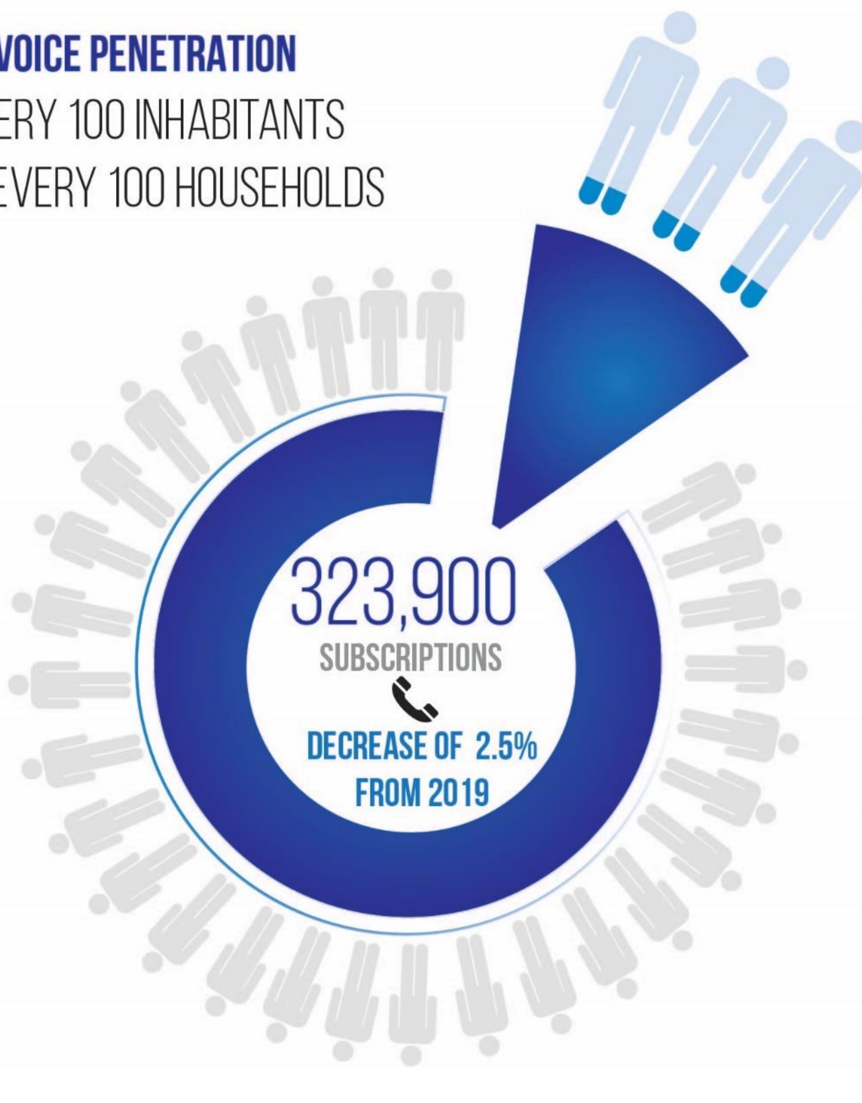
$477 M

FIXED VOICE REVENUES

FIXED VOICE PENETRATION

24 OF EVERY 100 INHABITANTS

70 OUT OF EVERY 100 HOUSEHOLDS



2 Fixed Voice Market Review

As at December 2020, there were 18 operators authorised by the Authority to provide fixed domestic telecommunications services to the public, over wired and/or wireless facilities. In 2020, the following 7 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. Open Telecom Limited
6. Prism Services (Trinidad) 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 to either its fixed wireless network or Amplia Communications Limited.

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

Open Telecom Limited[41] and Lisa Communications Limited offer fixed voice services via their fixed wireless networks. Prism Services (Trinidad) Limited offered hosted PBX[42] services.

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

[42] A private branch exchange (PBX) is a telephone exchange or switching system that serves a private organisation.

2.1 Annual Fixed Voice Subscriptions

Over the last five years, the number of fixed voice subscriptions peaked in 2019, before dropping in 2020 to 323,900 subscriptions – the second highest tally across this period. This represents a decrease of 8,400 subscriptions, or 2.5%, from 2019, as illustrated in Figure 8.

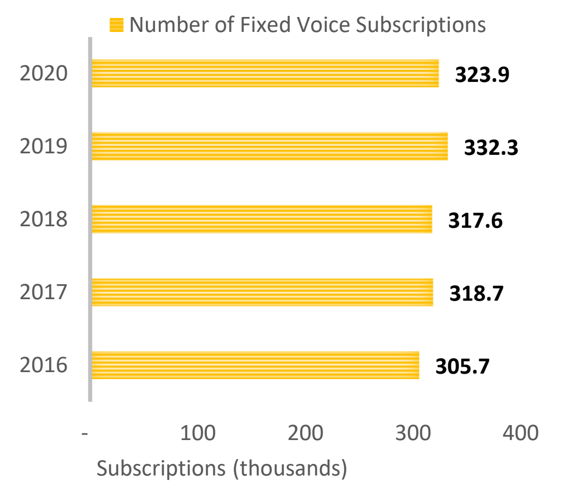


Figure 8. Fixed voice subscriptions from 2016 to 2020

Figure 9 categorises the fixed voice market into residential and business subscriptions from 2016 to 2020 (inclusive of companies subscribing to system services, e.g., PBX trunks). In 2020, there were 279,700 residential subscriptions and 44,200 business subscriptions. Compared to 2019, residential subscriptions fell by 5,400 subscriptions, or 1.9%. The steady decline of business subscriptions continued in 2020 with 44,200 – a contraction of 3,000, or 6.4%, from the previous year.

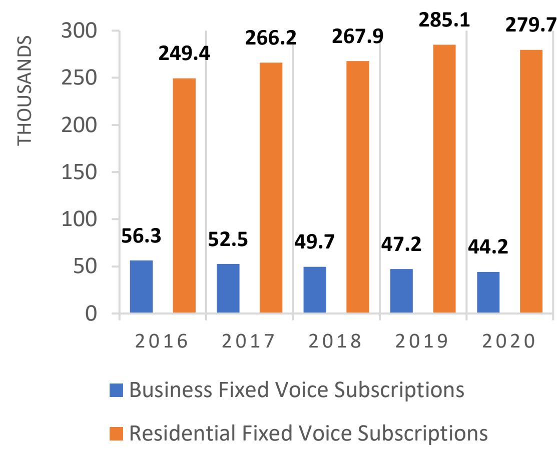


Figure 9. Fixed voice subscriptions by type for 2016 to 2020

As depicted in Figure 10, residential fixed voice subscriptions accounted for 86.4% of the total market, with the remaining 13.6% coming from the business sector.

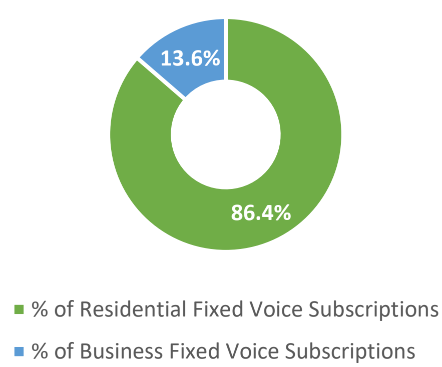


Figure 10. Proportion of fixed voice subscriptions by type for 2020

2.2 Quarterly Fixed Voice Subscriptions

The number of fixed voice subscriptions declined across each quarter of 2020, as highlighted in Figure 11. The first quarter amassed 333,200 subscriptions while the fourth quarter recorded 323,900.

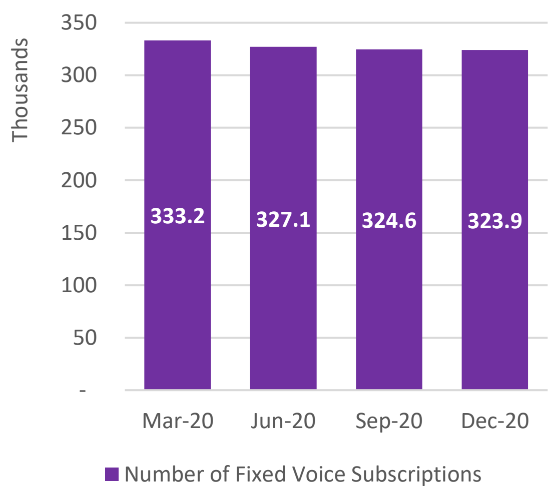


Figure 11. Quarterly fixed voice subscriptions in 2020

A comparison of quarterly fixed voice subscriptions for the years 2019 and 2020 is provided in Figure 12. All quarters of 2020, with the exception of the first, had fewer subscriptions when compared to the corresponding period of 2019. The greatest variation was observed in the fourth quarter, with 2020 recording 8,400 fewer subscriptions than that of 2019.

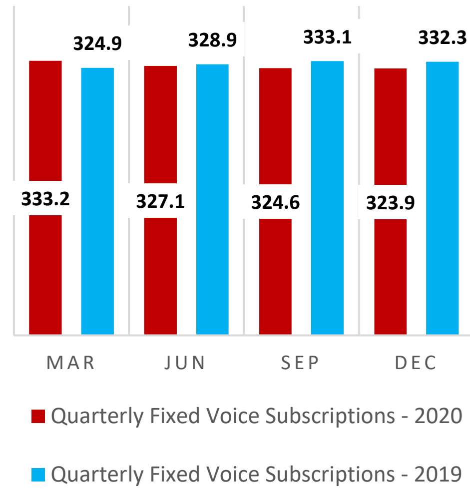


Figure 12. Quarterly fixed voice subscriptions for 2019 and 2020

The percentage breakdown of residential and business fixed voice subscriptions remained relatively stable throughout 2020, as shown in Figure 13.

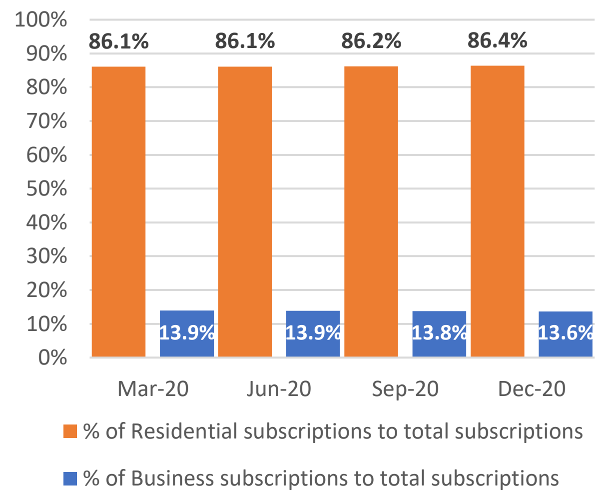


Figure 13. Proportion of quarterly fixed voice subscriptions by type

As Figure 14 illustrates, over the past five years, there was a consistent decline in business subscriptions at the end of each quarter. With regard to residential subscriptions, there was a consistent rise across 2016, followed by fluctuations throughout 2017.

The total number of fixed voice subscriptions remained stable in 2018, and grew over 2019, before declining in 2020.

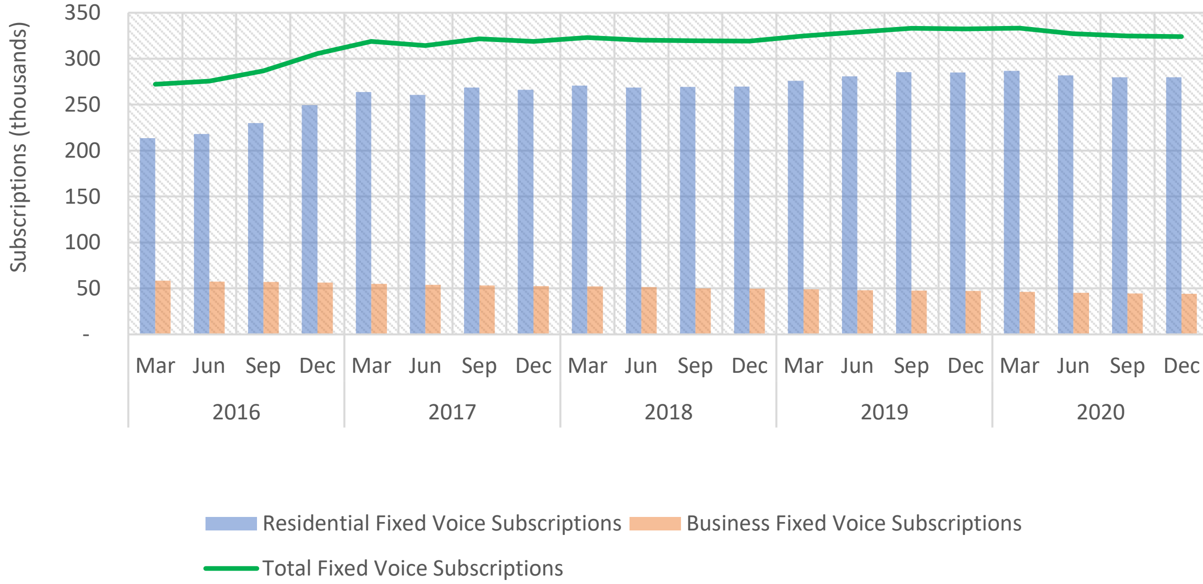


Figure 14. Comparison of quarterly fixed voice subscriptions from 2016 to 2020

2.3 Fixed Voice Penetration

Fixed voice penetration[43], the standard metric recognised by the International Telecommunication Union (ITU)[44] for measuring the adoption of fixed voice services, is defined as the number of fixed voice subscriptions per 100 inhabitants of the population.

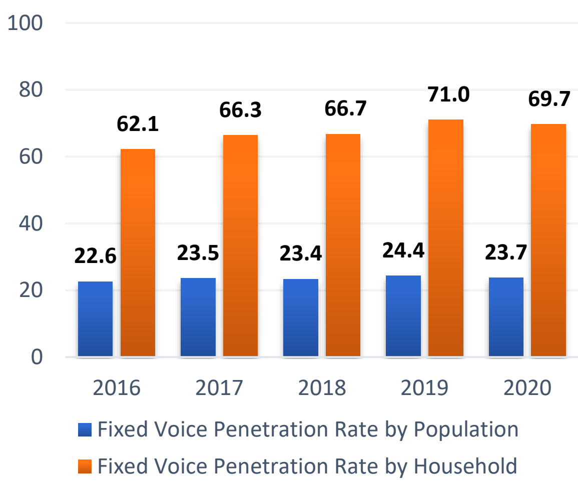


Figure 15. Fixed voice penetration rates from 2016 to 2020

The fixed voice penetration rates from 2016 to 2020 are provided in Figure 15. Given 323,900 fixed voice subscriptions and a population of approximately 1.37 million persons, the fixed voice penetration rate was calculated to be 23.7 as at December 2020. This indicates that there were approximately 24 fixed voice subscriptions to every 100 persons within Trinidad and Tobago.

Fixed voice household penetration[45] was also calculated to assess the number of households with fixed voice telephone services. This was determined to be 69.7, and indicates that, out of every 100 households, approximately 70 subscribed to fixed voice services.

In 2020, the decrease in penetration rate by population arrested the rising trend that was observed across 2016 to 2019. Fixed voice household penetration rates fluctuated from 2016 to 2020, with an average rate of 23.5 across this period.

[43] 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 2020 mid-year population estimate.

[44] The ITU is a specialised agency of the United Nations, responsible for all matters relating to ICTs.

[45] Fixed voice household penetration is calculated similarly to the fixed voice penetration, using the number of households.

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 shown in Figure 16.

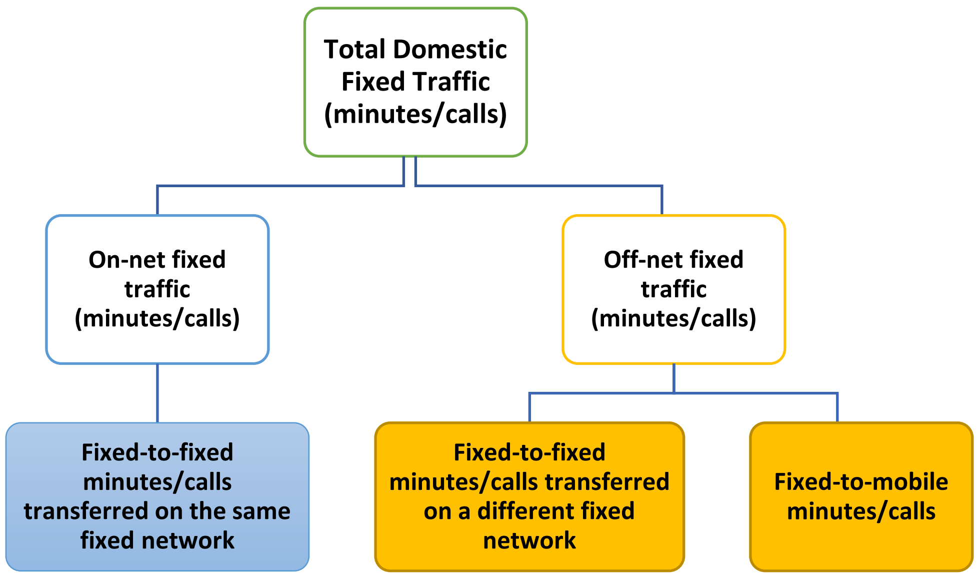


Figure 16. Classification of domestic fixed voice traffic

2.4.1 Annual Domestic Fixed Voice Traffic in Minutes

In 2020, there were approximately 492.7 million minutes generated in fixed voice traffic — a decrease of 29.9% from 2019. Of that total, 248.8 million minutes were on-net[46] while 243.9 million were off-net[47], as illustrated in Figure 17. Fixed-to-fixed minutes transferred on a different network (off-net) amounted to 36.3 million, while

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

[47] 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, Digicel or Flow's network will be included in these minutes.

fixed-to-mobile recorded 207.6 million. In 2020, on-net traffic accounted for 50.5%, increasing from 50.2% recorded in 2019. Off-net traffic represented 49.5%, comprising fixed-to-mobile minutes (42.1%) and fixed-to-fixed minutes (7.4%), as shown in Figure 18.

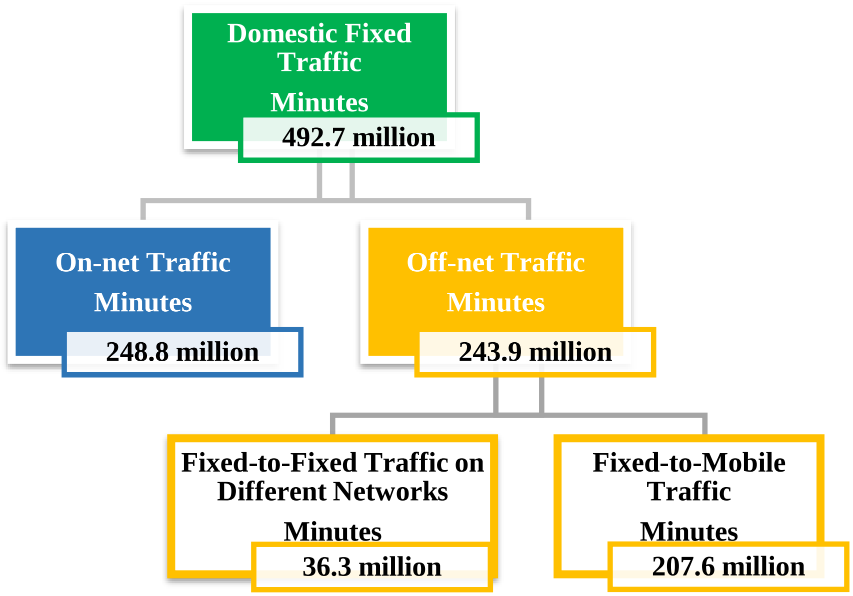


Figure 17. Breakdown of domestic fixed voice traffic in 2020

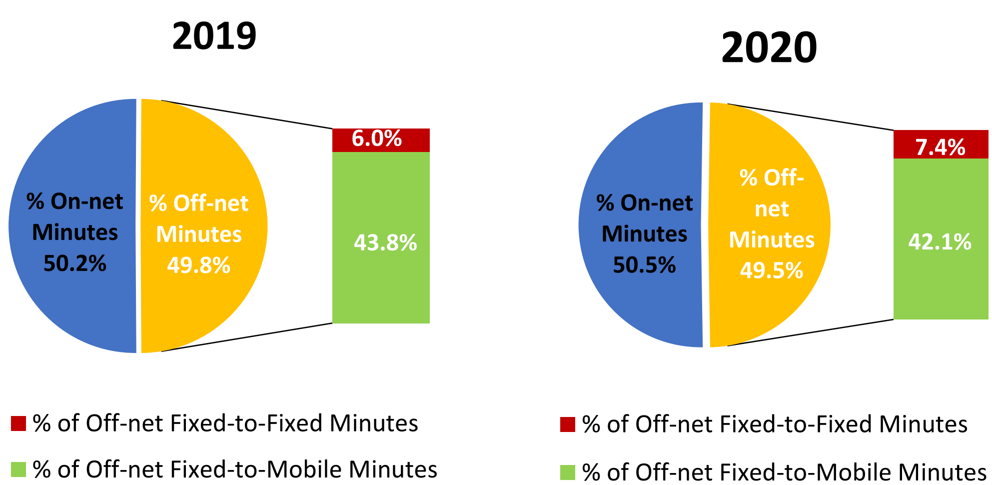


Figure 18. Total domestic fixed voice traffic minutes by type for 2019 and 2020

2.4.2 Quarterly Domestic Fixed Voice Traffic in Minutes

As indicated in Figure 19, the greatest number of on-net fixed voice minutes was recorded in the first quarter, with 103.5 million. This was followed by gradual declines across the remaining quarters, to end the year with 45.8 million minutes. Off-net minutes fluctuated across the first three quarters of 2020 and culminated with 65.9 million minutes in the final quarter.

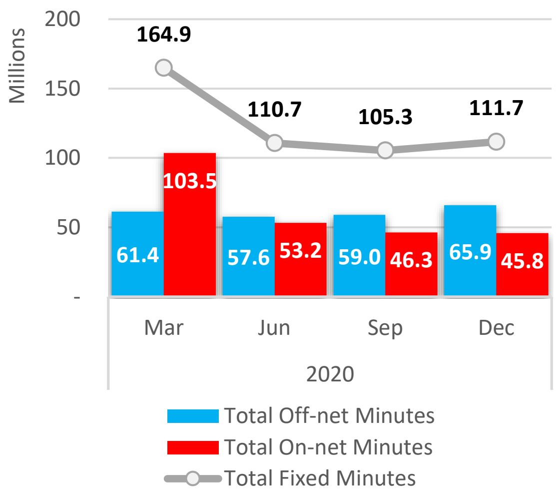


Figure 19. Quarterly fixed voice traffic minutes for 2020

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. In 2020, domestic voice calls dropped to 196.1 million – a decrease of 26.1% from the 265.5 million calls made in 2019.

Total on-net calls accounted for 69.2 million (35.3%) of total fixed voice calls in 2020, and total off-net calls accounted for 126.9 million (64.7%).

Off-net calls decreased by 23.6% from the previous year, while the number of on-net calls fell by 30.4%.

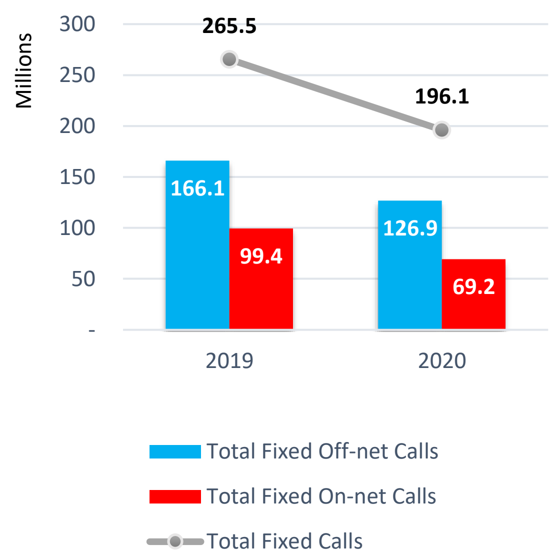


Figure 20. Comparison of domestic call volumes by traffic type for 2019 and 2020

2.5 Fixed Voice Revenues

2.5.1 Annual Fixed Voice Revenues

Figure 21 portrays the steady decline in gross revenues of the fixed voice market over the past five years. This market amassed gross revenues of TT$477 million in 2020 – a reduction of TT$48.9 million, or 9.3%, from 2019.

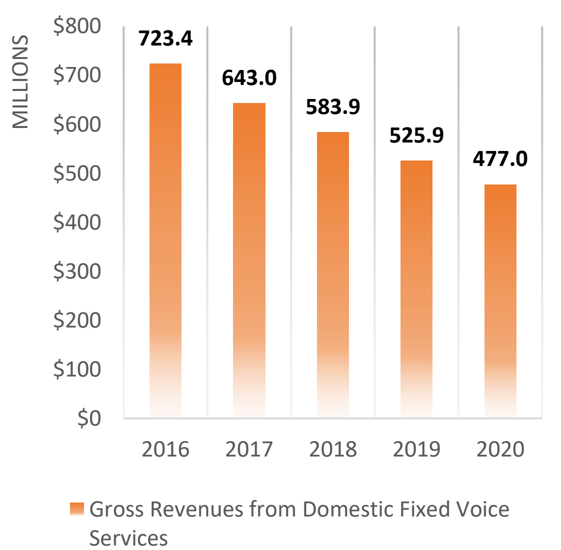


Figure 21. Fixed voice revenues from 2016 to 2020

The quarterly fixed voice revenues of 2020 are illustrated in Figure 22.

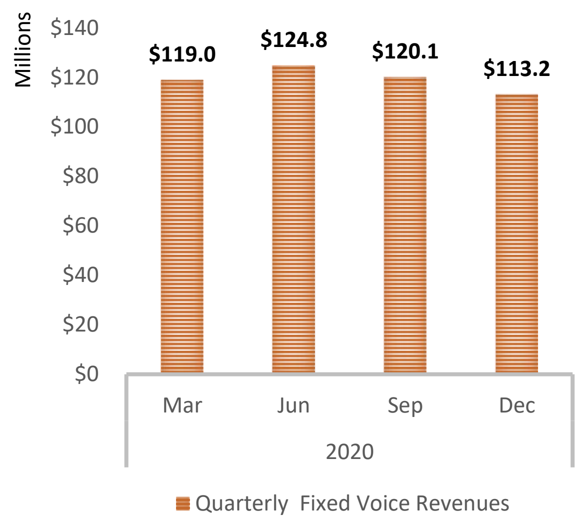


Figure 22. Quarterly fixed voice revenues for 2020

Revenues in the first quarter amounted to TT$119 million and climbed to TT$124.8 million by the second quarter. The third quarter recorded TT$120.1 million in revenues, which fell by TT$6.9 million, or 5.7%, in the final quarter to TT$113.2 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[48] of all firms within the market.

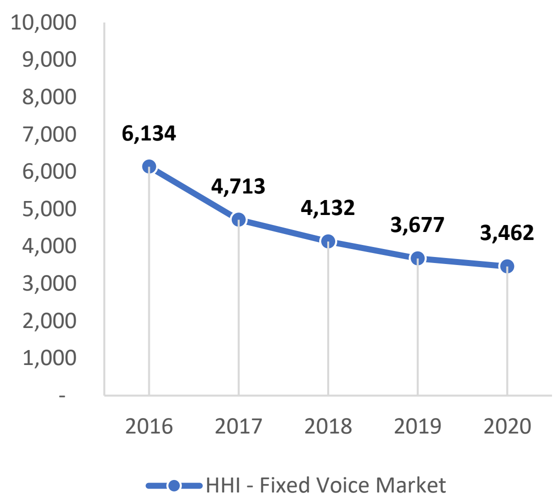


Figure 23. HHI for the fixed voice market from 2016 to 2020

As Figure 23 indicates, HHI values for the fixed voice market have been declining steadily for the past five years, with 2020 registering a value of 3,462.

The level of concentration decreased continuously across all quarters of 2020, commencing with an HHI of 3,628 and concluding the year with 3,462. This trend is illustrated in Figure 24.

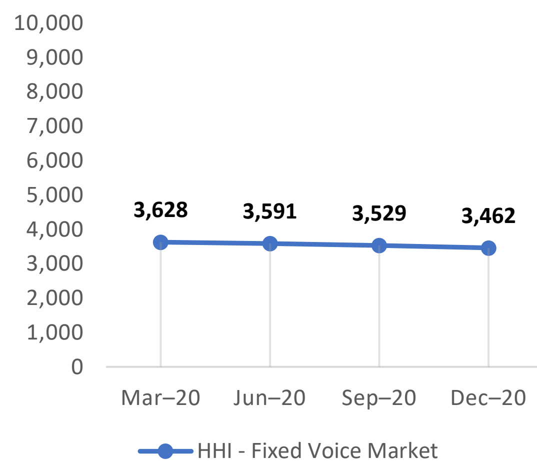


Figure 24. Quarterly HHI for the fixed voice market in 2020

48 The market share for the fixed market is based on the number of subscriptions.

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 average number of subscriptions.

On average, each subscription to fixed voice services in 2020 generated TT$1,452. This represents a reduction of TT$146, or 9.1%, from the ARPU of 2019.

Given the consistent declines in fixed voice revenues for the past few years, the ARPU has also trended in a similar manner, as shown in Figure 25.

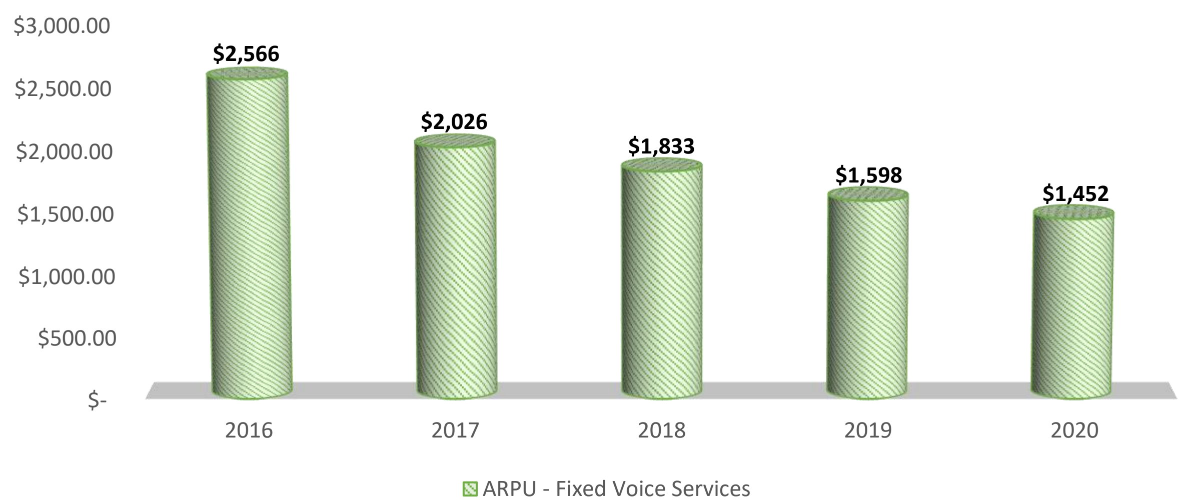


Figure 25. ARPU of the fixed voice market from 2016 to 2020

2020 ANNUAL MARKET REPORT
MOBILE VOICE MARKET

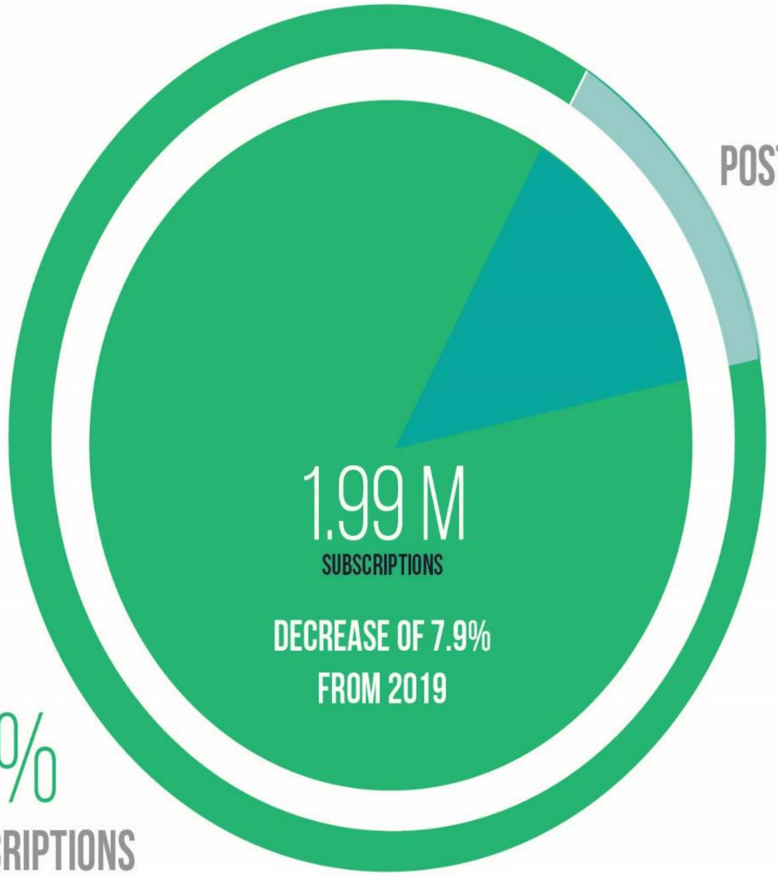
GROWTH 2019-2020

16.5%
decrease from 2019

$877.3 M
MOBILE VOICE REVENUES

MOBILE VOICE PENETRATION
146 PER 100 INHABITANTS

23.7%
POSTPAID SUBSCRIPTIONS



76.3%
PREPAID SUBSCRIPTIONS

3 Mobile Voice Market Review

For the period January to December 2020, 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 its use is focussed on machine-to-machine 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+.

The following is 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 annual trend in mobile subscriptions for the last five years. The number of mobile voice subscriptions for 2020 stood at 1.99 million, representing a decrease of 7.9% from the previous year.

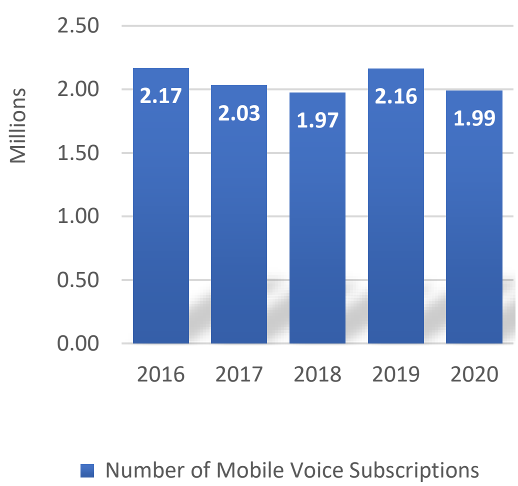


Figure 26. Number of mobile voice subscriptions from 2016 to 2020

Mobile voice subscriptions are classified into two categories: prepaid and postpaid. Prepaid mobile voice customers purchase credit prior to service use, while postpaid customers enter into a contractual billing agreement with their respective service provider. The 1.99 million mobile voice subscriptions comprised 1.52 million prepaid subscriptions and 0.47 million postpaid subscriptions.

The number of prepaid subscriptions decreased by 142,800, or 8.6%, from the previous year. There was also a decline in postpaid subscriptions by 32,900, or 6.5%, in comparison to 2019. The trend of prepaid and postpaid mobile voice subscriptions for the period 2016 to 2020 is highlighted in Figure 27.

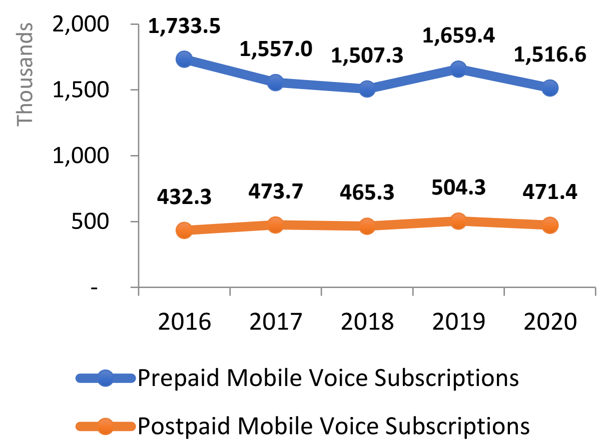


Figure 27. Mobile prepaid and postpaid subscriptions from 2016 to 2020

In 2020, prepaid subscriptions accounted for 76.3% of total mobile voice subscriptions, decreasing from 76.7% in 2019. Conversely, the percentage of postpaid subscriptions increased from 23.3% in 2019 to 23.7% in 2020.

Figure 28 compares the percentage of prepaid and postpaid subscriptions from 2016 to

2020. Prior to 2019, there had been a consistent decline in the percentage of prepaid subscriptions.

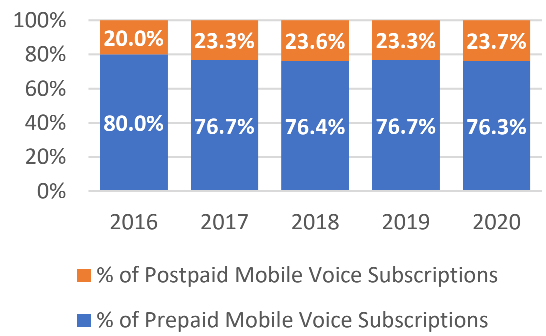


Figure 28. Percentage of prepaid and postpaid subscriptions from 2016 to 2020

A comparison of switching patterns between prepaid and postpaid service options spanning 2017 to 2020 is presented in Figure 29.

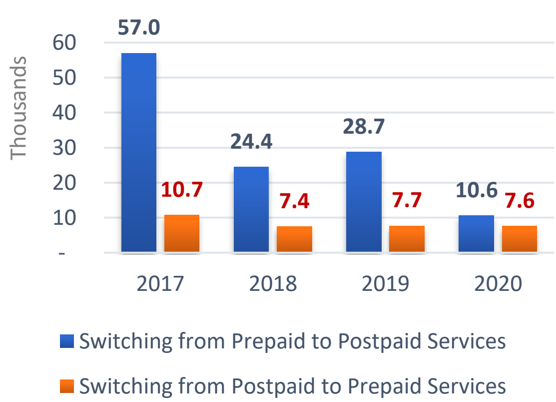


Figure 29. Number of mobile prepaid and postpaid subscriptions switched between 2017 and 2020

For each of the last four years, a greater number of mobile voice subscription plans were switched from prepaid to postpaid than from postpaid to prepaid. In 2020, the number of subscriptions that were switched from prepaid to postpaid dropped by 63.1%, or 18,100, to record 10,600 subscriptions. The number of subscriptions that switched from postpaid to prepaid plans fell from 7,700 in 2019 to 7,600 in 2020, marking a decrease of 1.3%.

Figure 30 depicts the quarterly trend in the switching patterns between prepaid and postpaid services during 2020. The number of subscriptions switched from prepaid to postpaid fell from the first quarter to the second quarter, before rising gradually across the third and fourth quarters. The first quarter recorded the highest figure of the year with 4,700, while the second quarter had the lowest figure of 1,200 changed subscriptions.

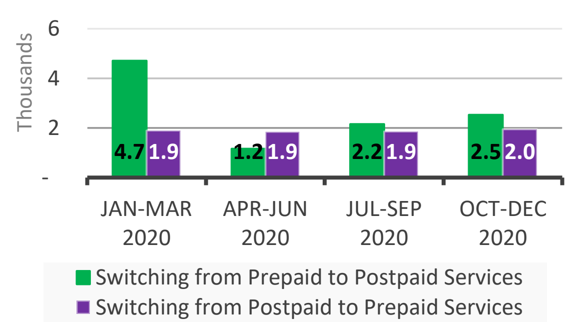


Figure 30. Number of mobile prepaid and postpaid subscriptions switched in 2020

In 2020, subscriptions converted from postpaid to prepaid stood at approximately 1,900 for each of the first three quarters, before rising to 2,000 in the final quarter.

3.1.2 Quarterly Mobile Voice Subscriptions

Figure 31 shows the quarterly trend in mobile voice subscriptions for 2020. The number of subscriptions peaked in the first quarter with 2.11 million before a gradual decline across the second and third quarters. The third quarter recorded 1.97 million subscriptions – the lowest quarterly figure of 2020 – before rising to 1.99 million subscriptions in the final quarter.

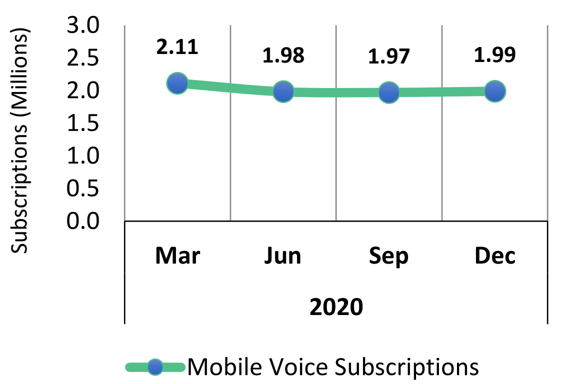


Figure 31. Quarterly mobile voice subscriptions in 2020

The quarterly trends comparing the 2019 and 2020 prepaid and postpaid mobile subscriptions, are illustrated in Figure 32 and Figure 33, respectively. In 2020, prepaid subscriptions totalled 1.62 million in the first quarter and trended downwards across the next two quarters, followed by a rise to 1.52 million subscriptions in the fourth quarter. Excluding the first quarter, prepaid subscriptions in 2020 were less than in each corresponding quarter of 2019.

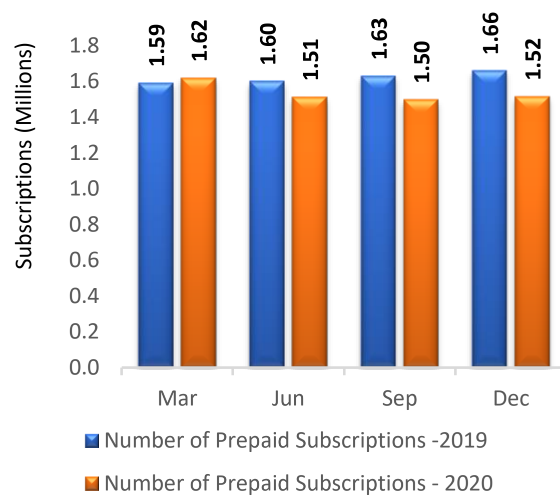


Figure 32. Quarterly mobile prepaid subscriptions for 2019 and 2020

There was a consistent fluctuation of postpaid subscriptions across all four quarters of 2020, beginning with 493,000 in quarter one and ending the year with 471,000 subscriptions. The first two quarters of 2020 had a greater number of postpaid subscriptions compared to the same quarters of 2019. However, the last two quarters of 2020 registered fewer subscriptions when compared to the corresponding 2019 quarters.

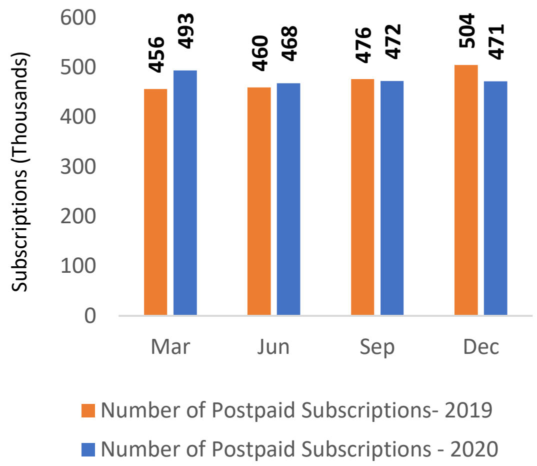


Figure 33. Quarterly mobile postpaid subscriptions for 2019 and 2020

3.2 Mobile Penetration

3.2.1 Domestic Mobile Voice Penetration Rate

Figure 34 presents the mobile voice penetration rate per 100 inhabitants[49], over the years 2016 to 2020.

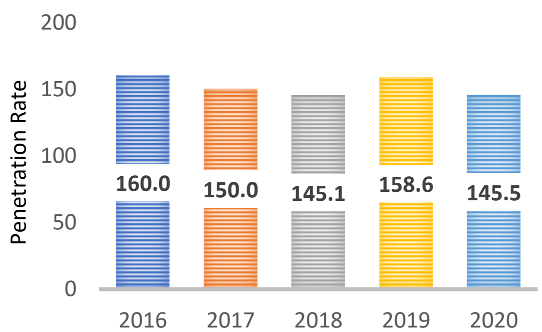


Figure 34. Mobile voice penetration rate per 100 inhabitants for 2016 to 2020

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

The mobile penetration rate declined consistently from 160 in 2016 to a five-year low of 145.1 in 2018. This was followed by a rise to 158.6 in 2019, before falling by 8.3% in 2020, to register a rate of 145.5.

Figure 35 depicts the quarterly trend in mobile voice penetration for 2020.

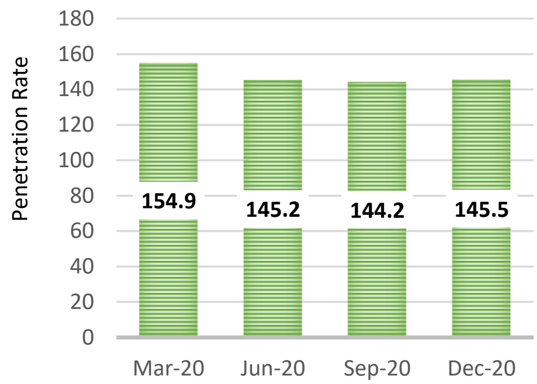


Figure 35. Quarterly mobile voice penetration rate per 100 inhabitants for 2020

In 2020, the mobile voice penetration rate was highest in the first quarter, with 154.9, before it decreased over the second and third quarters. In the third quarter, the rate dropped to 144.2 – the lowest quarterly figure of 2020 before rising to 145.5 in the final quarter.

3.3 Domestic Voice Traffic

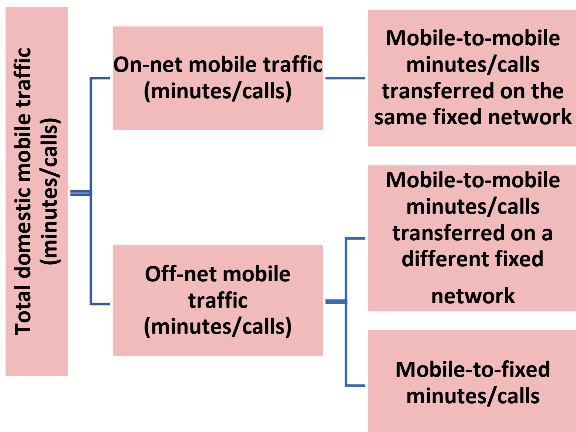


Figure 36. Classification of domestic mobile voice traffic

Domestic mobile voice traffic comprises several categories 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.

In 2020, the total number of mobile phone calls made by consumers decreased by 13.1% from the previous year, to record approximately 2.32 billion. The number of minutes generated from these calls was approximately 3.64 billion – a decrease of 2.9% in comparison to 2019.

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

3.3.1 Annual Domestic Mobile Voice Traffic in Minutes

Figure 37 shows a breakdown of domestic mobile minutes for 2020, while Table 3 provides a comparison of domestic mobile voice minutes for 2019 and 2020.

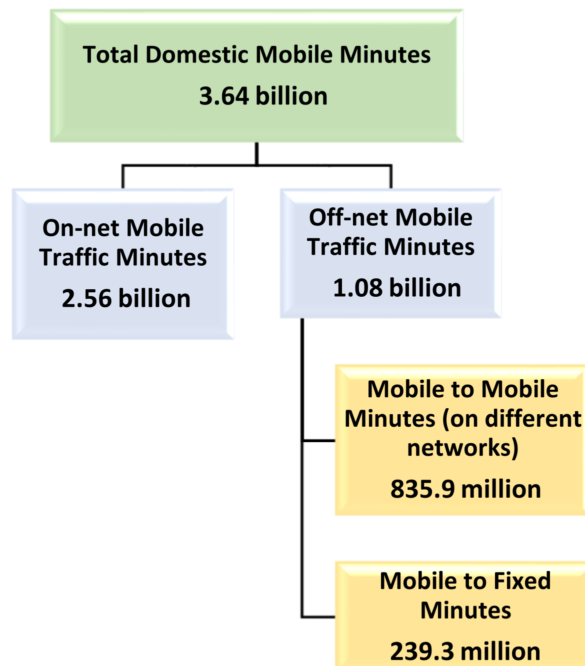


Figure 37. Breakdown of domestic mobile minutes for 2020

The 3.64 billion minutes of domestic traffic for 2020 are the summation of both on-net[50] and off-net[51] minutes, which amounted to 2.56 billion and 1.08 billion, respectively. Compared with 2019, the number of mobile

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

on-net minutes for 2020 decreased by 2.7%, while the number of off-net minutes decreased by 3.6%.

The 1.08 billion off-net minutes comprised 835.9 million mobile-to-mobile minutes transferred on a different mobile network and 239.3 million mobile-to fixed minutes. From 2019 to 2020, mobile-to-mobile off-net minutes decreased by 39.4 million minutes, or 4.5% while mobile-to-fixed off-net minutes decreased by 0.4 million, or 0.2%.

Figure 38 illustrates the percentage of mobile-to-mobile and mobile-to-fixed minutes for 2020. Mobile-to-mobile minutes represented a share of 93.4% of all domestic mobile minutes, with 6.6% belonging to mobile-to-fixed minutes.

In comparison with 2019, mobile-to-mobile minutes continued to be the main category of minutes consumed in the mobile market. The proportion of mobile-to-fixed minutes increased from 6.4% in 2019 to 6.6% in 2020. Conversely, there was a decrease in the share of mobile-to-mobile minutes, from 93.6% in 2019 to 93.4% in 2020.

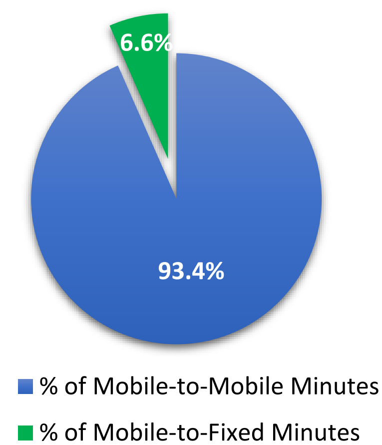


Figure 38. Percentage of mobile-to-mobile and mobile-to-fixed minutes for 2020

Table 3. Breakdown of domestic mobile minutes for 2019 and 2020

	2019	2020	Difference	Percentage Change
On-net mobile traffic minutes (billions)	**2.63**	**2.56**	**-0.07**	**-2.7%**
Off-net mobile traffic minutes (billions)	**1.12**	**1.08**	**-0.04**	**-3.6%**
Mobile-to-mobile traffic minutes on different networks (millions)	875.3	835.9	**-39.40**	**-4.5%**
Mobile-to-fixed traffic minutes (millions)	239.7	239.3	**-0.40**	**-0.2%**
Total domestic mobile traffic minutes (billions)	**3.75**	**3.64**	**-0.11**	**-2.9%**

3.3.2 Annual Domestic Mobile Voice Call Volumes

In 2020, there was a total of 2.32 billion domestic voice calls – a decrease of 13.1% from the previous year. Compared to 2019, the number of on-net calls fell by 13.6% and the number of off-net calls also declined by 12.6%.

Figure 39 highlights the percentage of on-net and off-net calls for 2020, with Table 4 providing a comparison of domestic mobile voice calls for 2019 and 2020.

January to December 2020 recorded 1.59 billion on-net calls, representing approximately 68.6% of all mobile voice calls. The remaining 31.4%, or 727.65 million, were off-net calls which are subdivided into mobile-to-mobile and mobile-to-fixed off-net calls.

There were 121.22 million mobile-to-fixed off-net calls and 606.43 million mobile-to-mobile off-net calls made in 2020, representing 5.2% and 26.2%, respectively, of all domestic mobile calls.

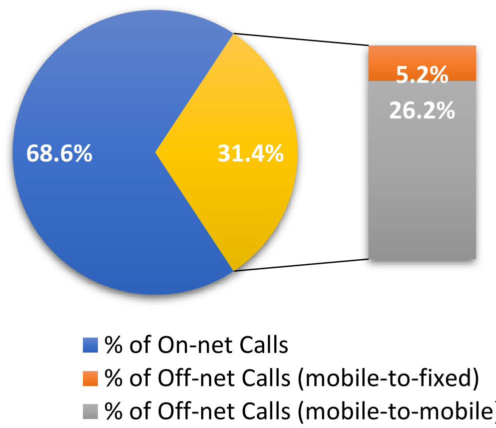


Figure 39. Percentage of domestic mobile voice calls for 2020

Table 4. Breakdown of domestic mobile voice calls for 2019 and 2020

	2019	2020	Difference	Percentage Change
On-net mobile traffic calls (billions)	**1.84**	**1.59**	**-0.25**	**-13.6%**
Off-net mobile traffic calls (millions)	**832.42**	**727.65**	**-104.77**	**-12.6%**
Mobile-to-mobile calls (millions)	696.71	606.43	**-90.28**	**-13.0%**
Mobile-to-fixed traffic calls (millions)	135.71	121.22	**-14.49**	**-10.7%**
Total domestic mobile voice calls (billions)	**2.67**	**2.32**	**-0.35**	**-13.1%**

3.3.3 Quarterly Domestic Mobile Voice Minutes

The number of minutes recorded for each quarter of 2020 is presented in Figure 40. The number of minutes consumed in the first quarter was 917.3 million, which dropped to 824.7 million in the second quarter. There was a steady rise in minutes used across the final two quarters, to end the year with 949.5 million minutes. The second and fourth quarters recorded the lowest and highest number of minutes used, respectively.

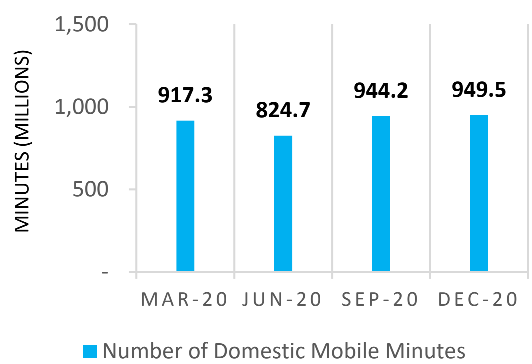


Figure 40. Number of quarterly mobile voice minutes in 2020

Figure 41 portrays the percentage of quarterly mobile voice minutes by type for 2020. The first quarter had the largest percentage share of the year, with 93.9%, before declining across the second and third quarters, to record 93.5% and 93.0%, respectively. The third quarter had the lowest percentage share of the year, which subsequently rose to 93.2% in the final quarter.

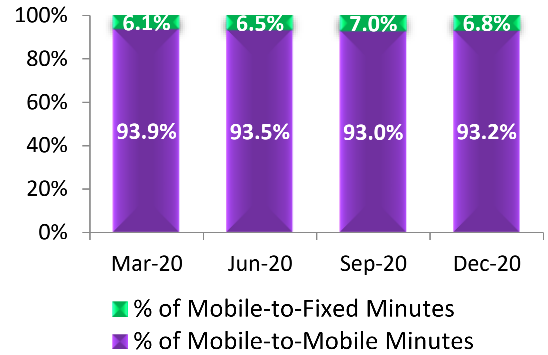


Figure 41. Percentage of quarterly mobile voice minutes by type for 2020

3.3.4 Short Messaging Services (SMS)

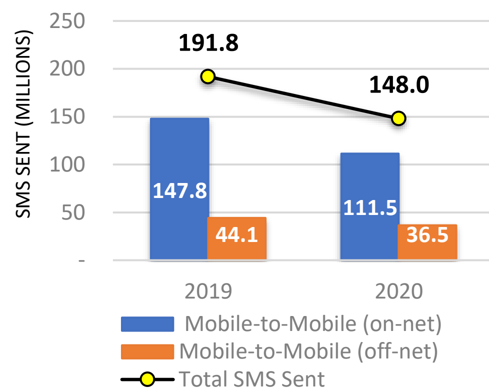


Figure 42. Number of on-net and off-net SMS sent in 2019 and 2020

Figure 42 shows that there was a reduction in the number of SMS sent, from 191.8 million in 2019 to 148 million in 2020, representing a 22.8% decrease. SMS sent were categorised as either on-net or off-net, with 2020 values of 111.5 million and 36.5 million, respectively. From 2019 to 2020, on-net SMS fell by 24.6% and off-net by 17.2%.

3.4 Mobile Voice Revenues

3.4.1 Annual Revenues from Mobile Voice Services[52]

Figure 43 outlines the annual trend in mobile voice revenues[53] from 2016 to 2020. Mobile voice revenues generated in 2020, amounted to TT$877.3 million. This total maintained the downward trend in mobile voice revenues, representing a contraction of 16.5% from 2019.

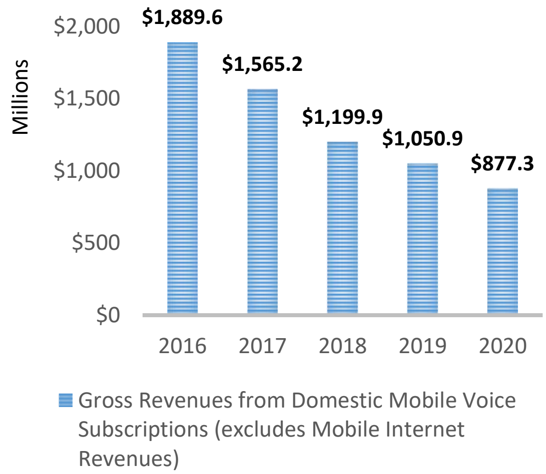


Figure 43. Annual revenues from mobile voice services from 2016 to 2020

Table 5 highlights the percentage changes in mobile revenues from 2016 to 2020. Over this period, the greatest decline in revenues was observed from 2017 to 2018, with a percentage decrease of 23.3%.

Table 5. Percentage changes in mobile revenues from 2016 to 2020

Period	Percentage Change *(from previous year)*
2016	-5.1%
2017	-17.2%
2018	-23.3%
2019	-12.4%
2020	-16.5%

Total revenues generated in the mobile voice market comprise earnings from prepaid, postpaid and other mobile services[54]. Figure 44 compares revenues earned by service type for the last five years. In 2020, prepaid

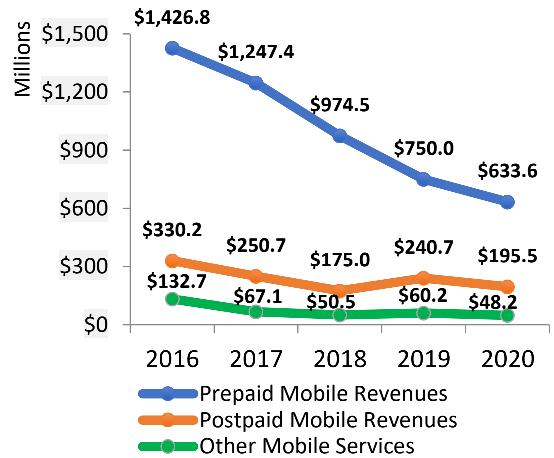


Figure 44. Mobile voice revenues by service type for 2016 to 2020

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

[53] Mobile voice revenues comprise revenues from mobile voice, SMS services and other mobile services.

[54] Other mobile services comprise revenues from equipment sales, SIM card sales and administrative charges.

services produced TT$633.6 million in revenue and postpaid generated TT$195.5 million, representing 72.2% and 22.3% of gross revenues, respectively. Revenues from other mobile services amounted to TT$48.2 million, or 5.5% of total revenues.

From 2016 to 2020, prepaid revenues declined consistently each year, while postpaid revenues trended downward from 2016 to 2018. Postpaid service revenues grew to TT$240.7 million in 2019 before falling in 2020 by 18.8%, to record revenues of TT$195.5 million. Other mobile service revenues mirrored the trend in postpaid services, falling steadily from 2016 to 2018 before rising in 2019, followed by a drop in revenues in 2020.

Figure 45 depicts the percentage share of mobile voice revenues by service type for 2020.

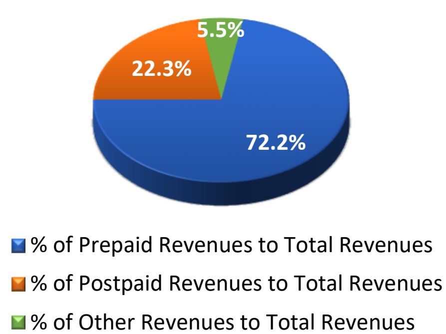


Figure 45. Percentage breakdown of mobile voice revenues by service type for 2020

3.4.2 Quarterly Revenues from Mobile Voice Services

The first quarter of 2020 recorded TT$240.1 million in mobile voice service revenues – the largest figure for the year – while the second quarter had the lowest tally, of TT$199.5 million. Revenues grew steadily across the last two quarters to end 2020 with a figure of TT$220.6 million. Figure 46 illustrates this quarterly trend in mobile voice revenues for 2020.

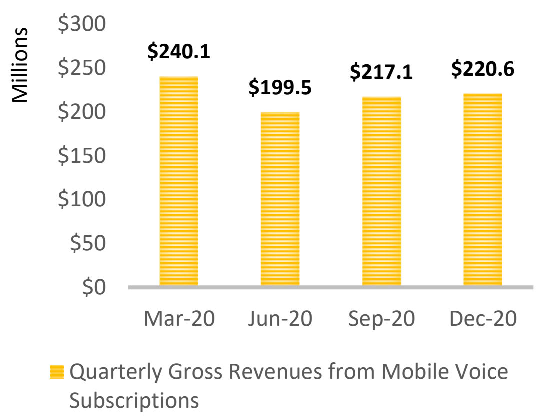


Figure 46. Quarterly revenues from mobile voice services in 2020

Figure 47 provides a breakdown of quarterly revenues by service type for 2020. Prepaid revenues grew from the first to the second quarter, registering the highest figure, of TT$174.8 million. The third quarter generated the lowest figure, of TT$142.2 million, before rising in the final quarter to end 2020 with TT$146.1 million.

With regard to postpaid revenues, the first quarter recorded TT$57.2 million, before revenues fell sharply to record TT$16.5 million in the second quarter. There was consistent growth in the third and final quarters, with 2020 ending with TT$61.7 million.

Revenues from other mobile services fluctuated across all quarters of 2020, amounting to TT$12.4 million in the first quarter and ending the year at TT$12.7 million.

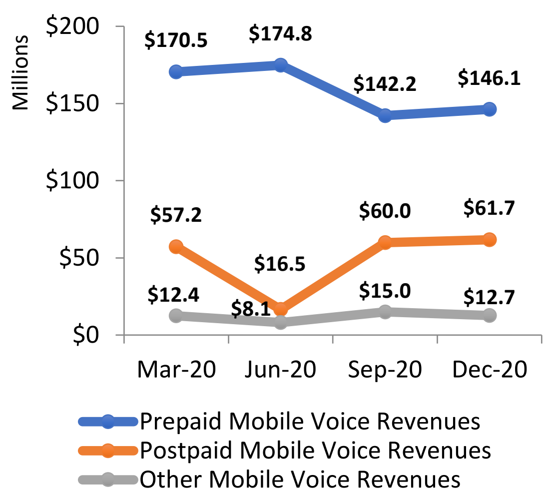


Figure 47. Quarterly mobile voice revenues by service type for 2020

Figure 48 gives a quarterly comparison, by service type, of the percentage share of revenues earned in 2020. Prepaid revenues accounted for the largest share of mobile voice revenues, with an average of 72.6%. Postpaid revenues averaged 21.9% per quarter, while the other mobile services category held an average proportion of 5.5% per quarter.

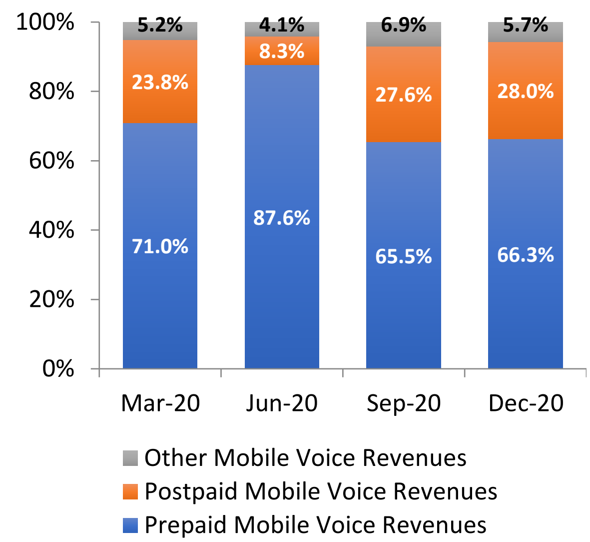


Figure 48. Percentage share of revenues by service type for 2020

3.5 Mobile Voice Market Concentration

Figure 49 illustrates the level of concentration in the domestic mobile voice market using the HHI[55] for the period 2016 to 2020. There was a steady decrease in the level of concentration from 2016 to 2018, before consecutive increases in 2019 and 2020, with values of 5,119 and 5194, respectively.

The quarterly trend for the mobile voice market for 2020 is depicted in Figure 50. There were continuous fluctuations across the quarters, with a rise from the first to second quarter, followed by a dip in the third quarter, and an uptick to end the year.

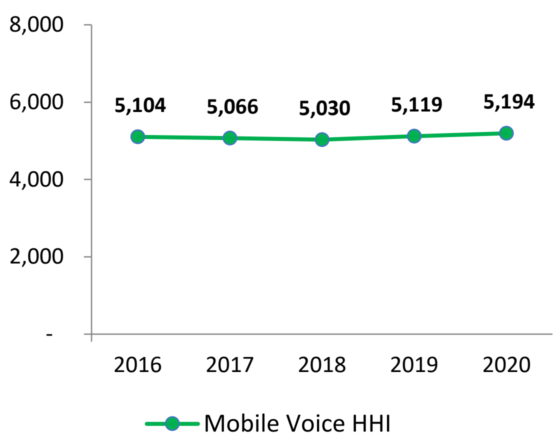


Figure 49. HHI for the mobile voice market from 2016 to 2020

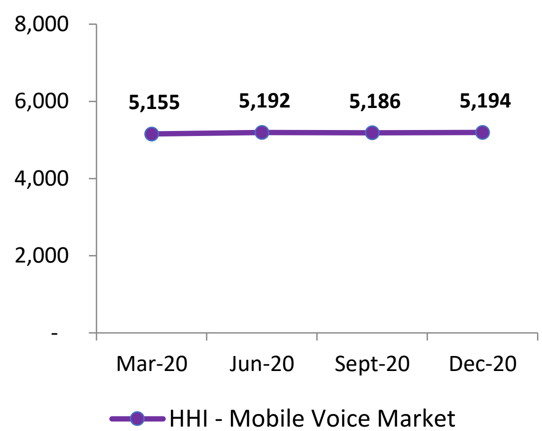


Figure 50. Quarterly HHI for the mobile voice market in 2020

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

3.6 Average Revenue Per User (ARPU) for Mobile Voice Services

The ARPU for mobile voice services contracted by 9.3% from the previous year, registering a figure of TT$441 for 2020. This suggests that the average expenditure per subscriber of mobile voice services decreased by TT$45 from 2019. Figure 51 shows the continuous downward trajectory of the ARPU over the past five years.

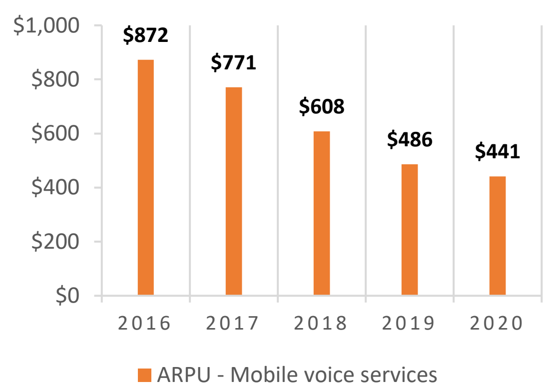


Figure 51. ARPU for mobile voice services from 2016 to 2020

Figure 52 presents a comparison of the ARPU for both prepaid and postpaid mobile services for the period 2016 to 2020. There was a steady decline in ARPU for prepaid subscriptions over the last five years. The postpaid ARPU trended downward from 2016 to a low of TT$376 in 2018, before rising in 2019 and subsequently falling in 2020 with a figure of TT$415.

In 2020, the prepaid ARPU decreased by TT$34, or 7.5%, while postpaid fell by TT$62, or 13%, relative to 2019.

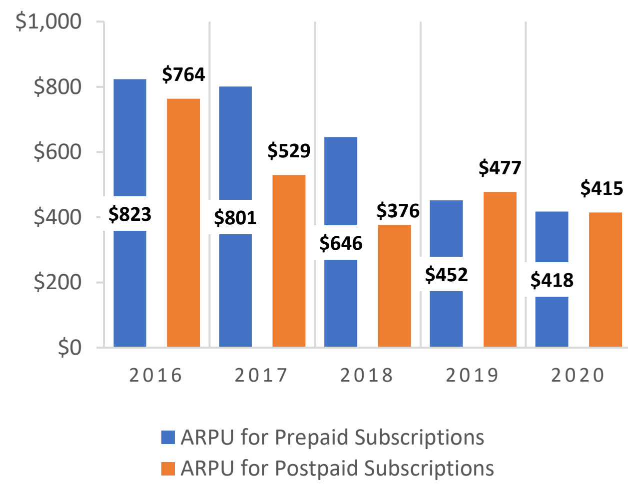


Figure 52. ARPU for prepaid and postpaid mobile voice subscriptions from 2016 to 2020

GROWTH 2019-2020

FIXED INTERNET

376,800
SUBSCRIPTIONS
INCREASE OF 11%
FROM 2019

FIXED INTERNET PENETRATION
28 PER 100 INHABITANTS
89 PER 100 HOUSEHOLDS

FIXED INTERNET REVENUE
$1,213.5 M
INCREASE OF 3.2% FROM 2019

MOBILE INTERNET

770,200
SUBSCRIPTIONS
INCREASE OF 17.9%
FROM 2019

MOBILE INTERNET PENETRATION
56 PER 100 INHABITANTS

MOBILE INTERNET REVENUE
$934 M
INCREASE OF 3.3% FROM 2019

3.3%
increase from 2019

$2,147.5 M
INTERNET MARKET REVENUES

4 Internet Market Review

This review of Trinidad and Tobago's Internet market for 2020 examines the delivery of Internet services over domestic fixed (wired and wireless) and mobile public telecommunications networks. The country has 18 authorised fixed domestic telecommunications service concessionaires. The following 12 of those provide fixed Internet services:

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. Mora's Weather Network
9. Novo Communications Limited
10. Open Telecom Limited
11. RVR International Limited
12. Telecommunications Services of Trinidad and Tobago Limited (TSTT)

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, Hybrid Fibre Coaxial Networks utilising DOCSIS 3.0 technology, as well as a mix of Fibre to the Curb (FTTC), Fibre to the Business (FTTB), Metro-Ethernet or Fibre to the Home (FTTH) topologies, using a GPON access network. 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.

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 broadband) 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.

This Internet market review presents the market trends based on data provided by the two mobile operators and 10 of the 12 fixed Internet service providers[56].

[56] Mora's Weather Network and Open Telecom Limited had not supplied data at the time of publication.

4.1 Fixed Internet Subscriptions

Figure 53 illustrates the annual trend in subscriptions to fixed Internet services. There was consistent growth in subscriptions from 2016 to 2018, before a dip in 2019 to a tally of 339,400. In 2020, subscriptions rose to a five-year high, with 376,800 subscriptions – an increase of 37,400, or 11%, from 2019.

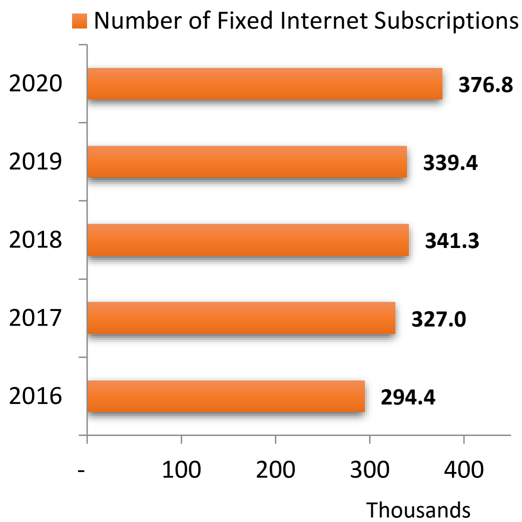


Figure 53. Fixed Internet subscriptions from 2016 to 2020

4.1.1 Fixed Internet Subscriptions: Residential and Business

Fixed Internet subscriptions can be classified as either residential or business, with both categories showing growth in 2020. As Figure 54 indicates, the number of residential subscriptions amounted to 355,800, an increase of 34,900, or 10.9%, from 2019.

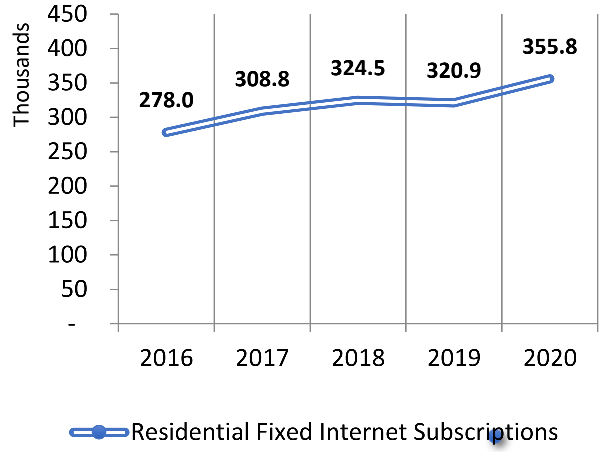


Figure 54. Residential fixed Internet subscriptions from 2016 to 2020

Business fixed Internet subscriptions recorded 21,000, as shown in Figure 55, reflecting an increase of 2,500 subscriptions, or 13.5%, from the previous year.

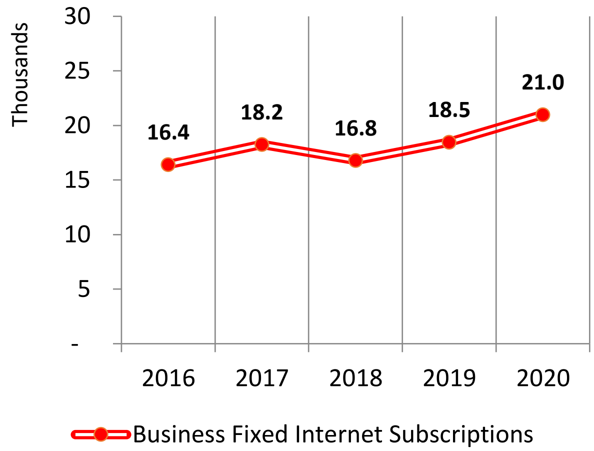


Figure 55. Business fixed Internet subscriptions from 2016 to 2020

4.1.2 Residential Fixed Broadband Internet Subscriptions by Speed Tier

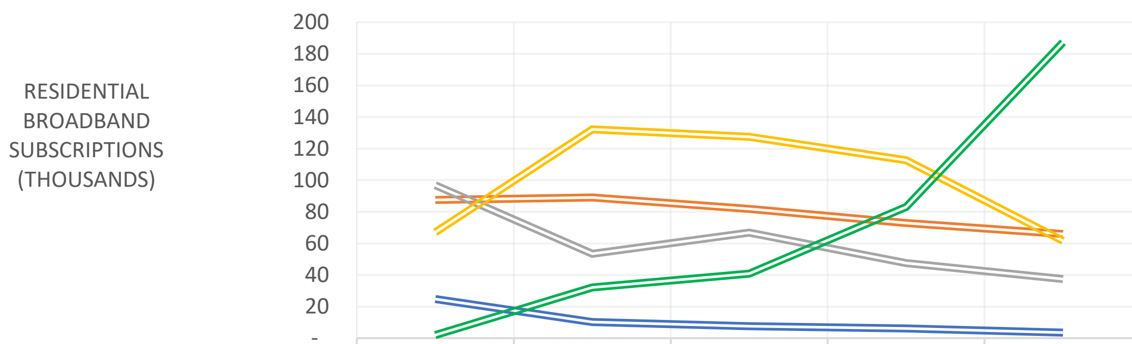
The Internet speeds[57] that residential broadband customers subscribed to in 2020 ranged from 256 kbit/s to 600 Mbit/s. Figure 56 shows these subscriptions by the following Internet speed tiers[58]:

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

The *equal to or above 100Mbit/s* category was the most popular choice among residential customers, climbing from 83,000 in 2019 to 187,300 in 2020, that is, an increase of 126%.

The *2 Mbit/s to less than 10 Mbit/s* was the second most subscribed to speed choice by residential customers, even though the number of subscriptions declined from 73,000 in 2019 to 65,900 in 2020.

The number of subscriptions to the *30 Mbit/s to less than 100 Mbit/s* speed tier plummeted by 45.3% from 2019 to record 61,600



	2016	2017	2018	2019	2020
256 kbit/s to less than 2 Mbit/s	24.7	10.1	7.5	6.1	3.5
2 Mbit/s to less than 10 Mbit/s	87.5	89.0	81.9	73.0	65.9
10 Mbit/s to less than 30 Mbit/s	96.8	53.4	66.7	47.5	37.4
30 Mbit/s to less than 100 Mbit/s	67.0	132.2	127.5	112.6	61.6
Equal to or above 100 Mbit/s	2.0	32.1	40.8	83.0	187.3

Figure 56. Number of residential broadband subscriptions by download speed tier from 2016 to 2020

[57] Refers to advertised speeds by service provider

[58] The fixed Internet speed tiers were revised in 2017, consistent with the international classification by the ITU.

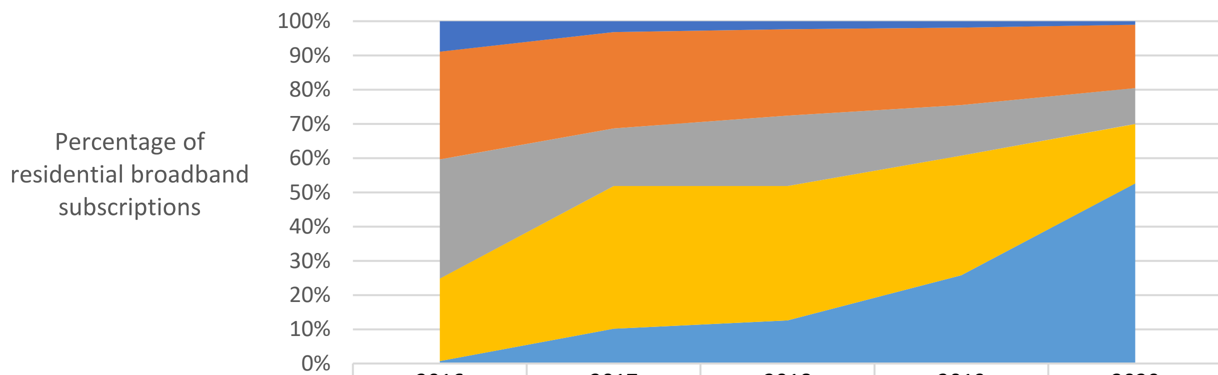
subscriptions in 2020. This was the third most popular option of residential fixed broadband Internet customers.

Subscriptions to the *10 Mbit/s to less than 30 Mbit/s* decreased from 47,500 in 2019 to 37,400 by 2020 – a drop of 21.3%.

The *256 kbit/s to less than 2 Mbit/s* category maintained a downward trajectory, registering 3,500 subscriptions − a 42.6% decrease when compared to 2019. This speed tier retained its position as the least subscribed to option for the fourth consecutive year.

The proportion of residential subscriptions by download speed is provided in Figure 57, for the 2016 to 2020 period.

In 2020, the *equal to or above 100Mbit/s* category was the largest, at 52.6%. The percentage of subscriptions in the *30 Mbit/s to less than 100 Mbit/s* decreased from 35% in 2019 to 17.3%. 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%.



	2016	2017	2018	2019	2020
256 kbit/s to less than 2 Mbit/s	8.9%	3.2%	2.3%	1.9%	1.0%
2 Mbit/s to less than 10 Mbit/s	31.5%	28.1%	25.2%	22.6%	18.5%
10 Mbit/s to less than 30 Mbit/s	34.8%	16.9%	20.6%	14.8%	10.5%
30 Mbit/s to less than 100 Mbit/s	24.1%	41.7%	39.3%	35.0%	17.3%
Equal to or above 100 Mbit/s	0.7%	10.1%	12.6%	25.8%	52.6%

Figure 57. Percentage of residential broadband subscriptions by download speed tier from 2016 to 2020

4.1.3 Business Fixed Broadband Internet Subscriptions by Speed Tier

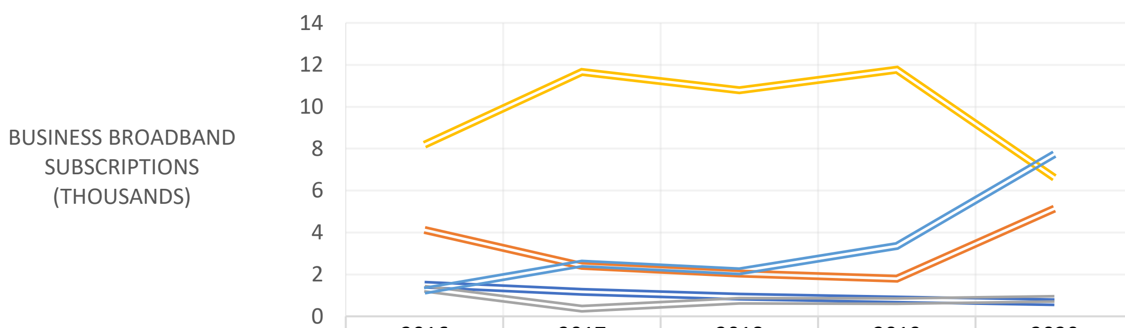
As reported in section 4.1.1, the total number of business broadband subscriptions rose by 2,500 subscriptions in 2020.

Figure 58 reveals 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 soared to 7,700 – an increase of 4,300, or 126%, from 2019.

Subscriptions to the *30Mbit/s to less than 100Mbit/s* declined by 5,200 or 44.1% to register a total of 6,600 in 2020.

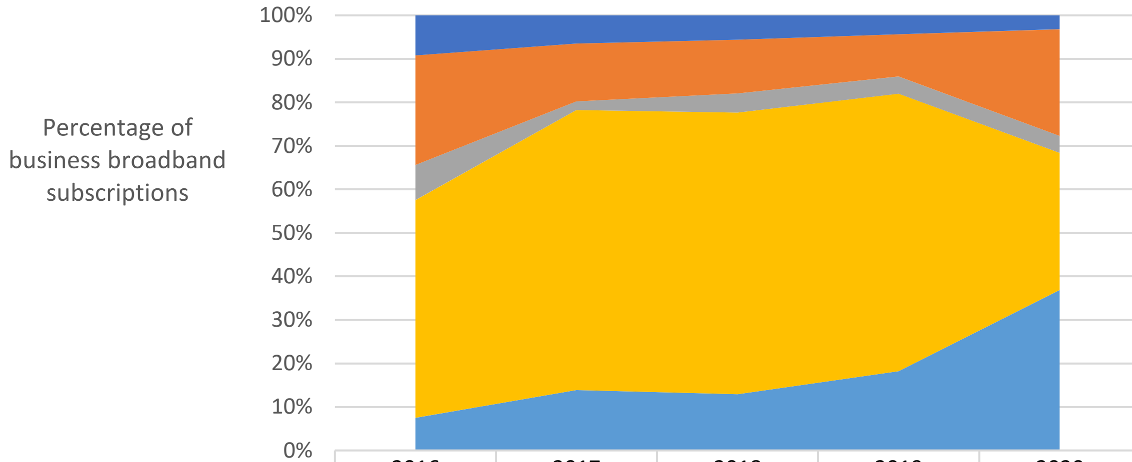
The downward trend in the *256 kbit/s to less than 2 Mbit/s* speed tier was maintained, with subscriptions declining by 100, or 12.5%, to record 700 in 2020.

With regard to proportions, the *equal to or above 100Mbit/s* tier was the largest with 36.9%. The *2Mbit/s to less than 10Mbit/s* category held a share of 24.5%, while *256 kbit/s to less than 2 Mbit/s* held the smallest proportion, with 3.2%. These results are displayed in Figure 59, and highlight the evolution of business broadband subscriptions by speed tier across the last five years.



	2016	2017	2018	2019	2020
256 kbit/s to less than 2 Mbit/s	1.5	1.2	0.9	0.8	0.7
2 Mbit/s to less than 10 Mbit/s	4.1	2.4	2.0	1.8	5.1
10 Mbit/s to less than 30 Mbit/s	1.3	0.4	0.7	0.7	0.8
30 Mbit/s to less than 100 Mbit/s	8.2	11.7	10.8	11.8	6.6
Equal to or above 100 Mbit/s	1.2	2.5	2.2	3.4	7.7

Figure 58. Number of business broadband subscriptions by download speed from 2016 to 2020



	2016	2017	2018	2019	2020
256 kbit/s to less than 2 Mbit/s	9.2%	6.5%	5.6%	4.3%	3.2%
2 Mbit/s to less than 10 Mbit/s	25.2%	13.3%	12.3%	9.7%	24.5%
10 Mbit/s to less than 30 Mbit/s	8.1%	2.0%	4.4%	3.9%	3.9%
30 Mbit/s to less than 100 Mbit/s	50.0%	64.4%	64.7%	63.8%	31.5%
Equal to or above 100 Mbit/s	7.5%	13.9%	12.9%	18.2%	36.9%

Figure 59. Percentage of business broadband subscriptions by download speed tier from 2016 to 2020

4.2 Active Mobile Internet Subscriptions

In 2020, there were 1.99 million mobile voice subscriptions, with approximately 1.57 million enabled to access mobile Internet services. Of these 1.57 million, there were 770,200 active mobile Internet subscriptions[59] as at December 2020 – an increase of 17.9% from 2019. In keeping with the trend in mobile voice subscriptions, in which prepaid held the greater share of the market, the number of prepaid mobile Internet users also exceeded postpaid users.

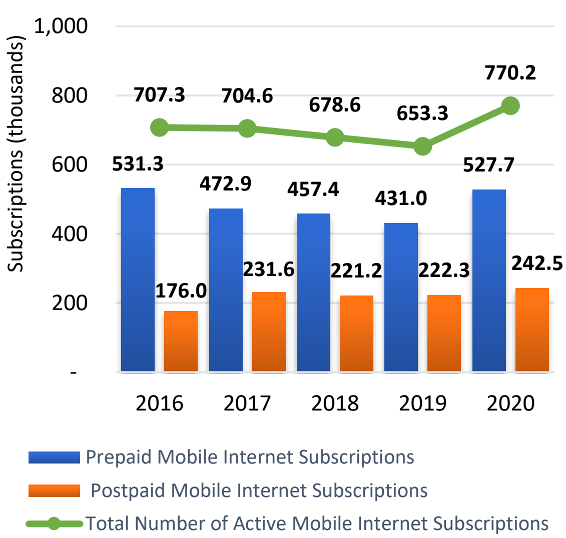


Figure 60. Prepaid and postpaid mobile Internet subscriptions from 2016 to 2020

As depicted in Figure 60, the total number of active mobile Internet subscriptions for 2020, consisted of 527,700 prepaid and 242,500 postpaid. The number of prepaid active mobile Internet subscriptions grew by 96,700, or 22.4%, from 2019, while postpaid subscriptions rose by 20,200, or 9.1%.

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 1.52 million prepaid and 471,400 postpaid mobile voice subscriptions recorded in 2020.

Of the 1.52 million prepaid subscribers, 35% utilised both mobile voice and Internet services, while the remaining 65% used only mobile voice.

Of the 471,400 postpaid mobile subscribers, 51% used both mobile voice and Internet, while 49% only had access to mobile voice.

[59] Active mobile Internet subscriptions refer to subscribers who have used mobile Internet services within the last three months.

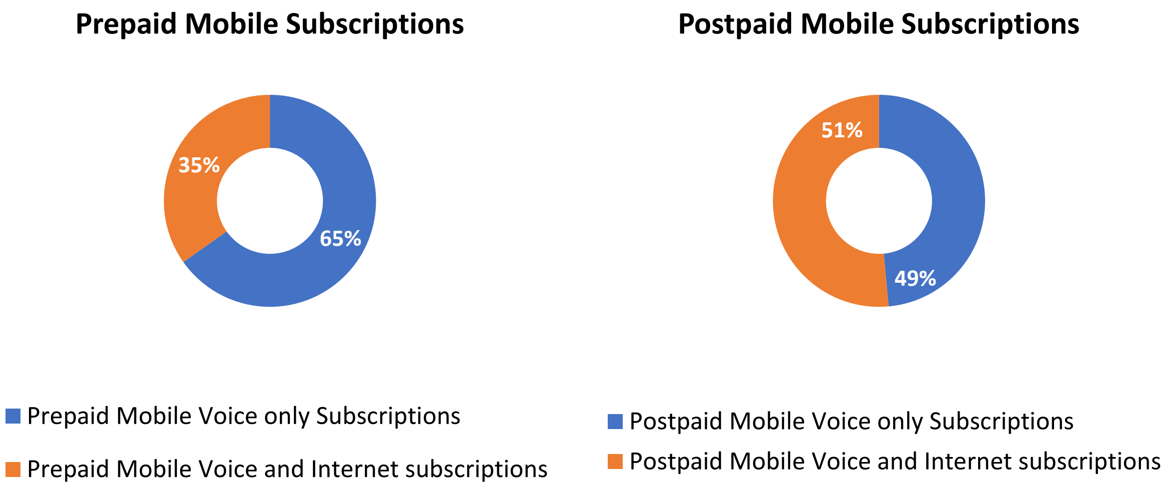


Figure 61. Comparison of prepaid and postpaid mobile Internet subscriptions for 2020

In 2020, there were 607,700 mobile broadband Internet subscriptions and 162,500 mobile narrowband Internet subscriptions, as highlighted in Figure 62.

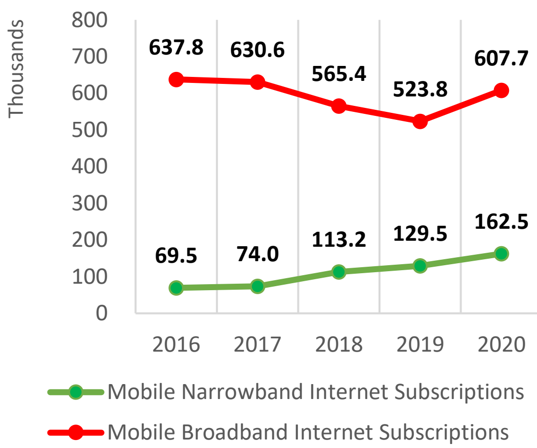


Figure 62. Mobile narrowband and broadband Internet subscriptions from 2016 to 2020

Compared to 2019, mobile broadband figures climbed by 83,900 subscriptions, or 16%, with narrowband subscriptions also registering 33,000 additional subscriptions in 2020 – a 25.5% annual increase.

As Figure 63 illustrates, the proportion of mobile broadband Internet subscriptions fell from 80.2% in 2019 to 78.9% in 2020. Conversely, the percentage of mobile narrowband Internet subscriptions rose from the previous year's 19.8%, to record 21.1%.

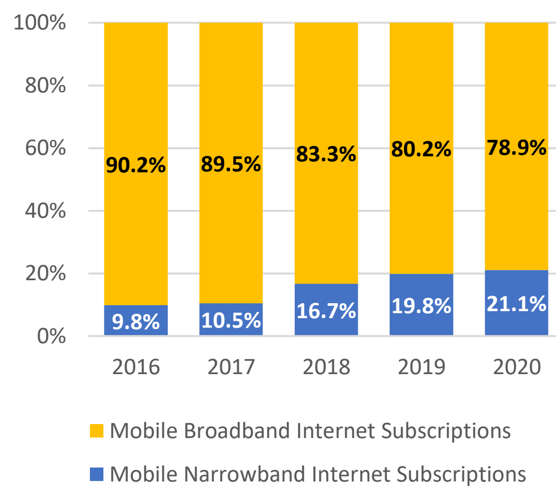


Figure 63. Proportion of mobile narrowband and broadband Internet subscriptions from 2016 to 2020

4.3 Internet Penetration Rates: Fixed and Mobile

The growth in subscriptions to both fixed and mobile Internet in 2020 implied corresponding increases in the penetration rates, as shown in Figure 64.

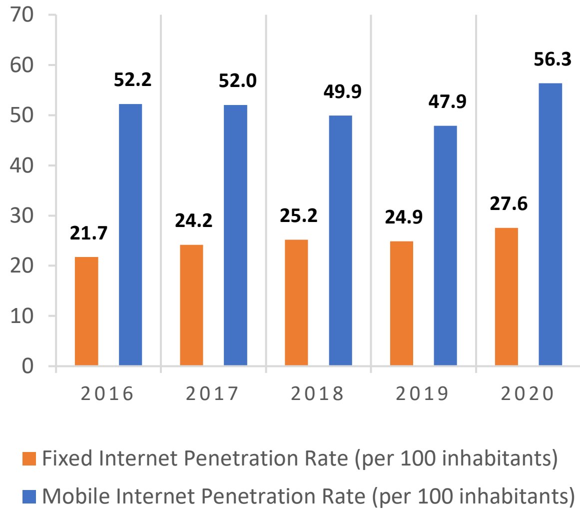


Figure 64. Fixed and mobile penetration rates from 2016 to 2020

The fixed Internet penetration rate for 2020 stood at 27.6, which indicates that approximately 28 out of every 100 individuals had a fixed Internet subscription. The mobile Internet penetration rate, which had been trending downwards for the past four years, rose to 56.3 in 2020. This suggests that 56 of every 100 persons were using mobile Internet services – an increase from the 48 persons in 2019.

Internet household penetration[60] is used as a key indicator to estimate the percentage of households with a fixed Internet subscription. Figure 65 shows that approximately 89 out of every 100 households subscribed to a fixed Internet service in 2020 – the highest rate within the last five years.

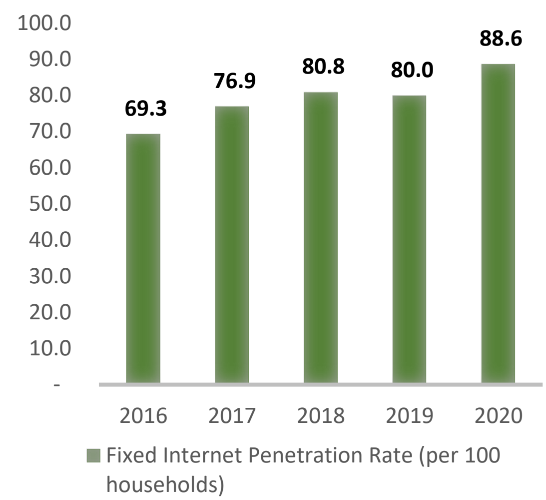


Figure 65. Fixed Internet household penetration from 2016 to 2020

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

4.4 Fixed and Mobile Internet Revenues

4.4.1 Total Internet Revenues

In 2020, the combined revenues of fixed and mobile Internet totalled TT$2,147.5 million. This represents an increase of TT$67.8 million, or 3.3%, from 2019.

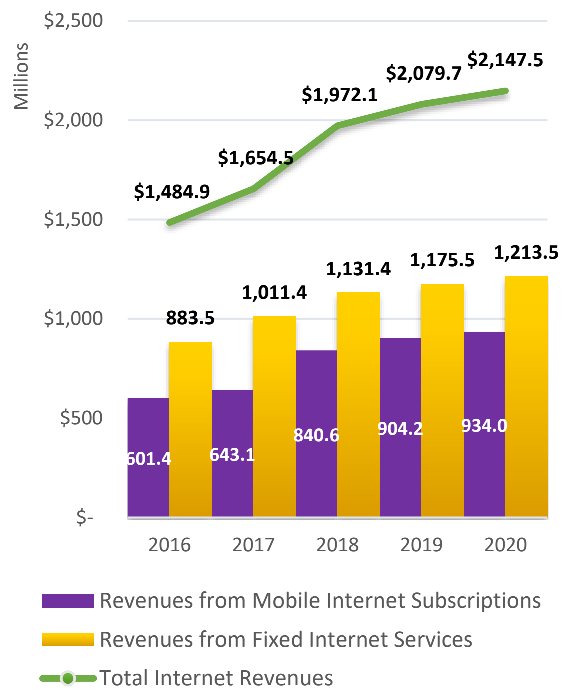


Figure 66. Internet Revenues from 2016 to 2020

Figure 67 compares 2019 and 2020 figures and reveals that the proportions of mobile and fixed Internet revenues were exactly the same across both years. Fixed Internet revenues accounted for 56.5% of total Internet revenues, while 43.5% were from mobile Internet services.

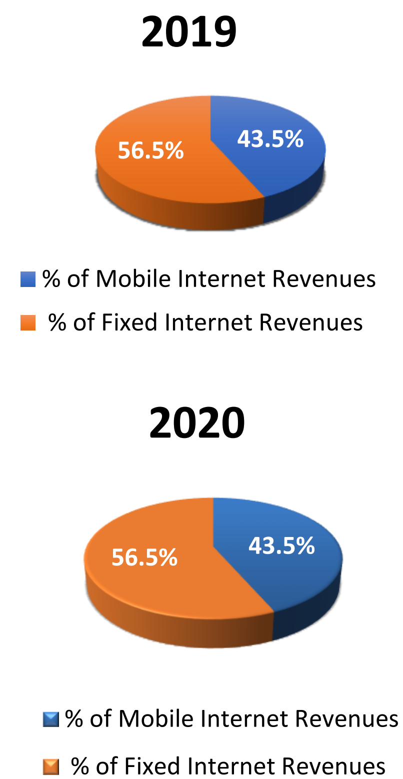


Figure 67. Percentage of fixed and mobile Internet revenues in 2019 and 2020

4.4.2 Fixed Internet Revenues

Fixed Internet revenues earned in 2020, amounted to TT$1,213.5 million, reflecting an increase of TT$38 million, or 3.2%. Figure 68 illustrates the upward trend of revenues derived from fixed Internet over the past five-year period.

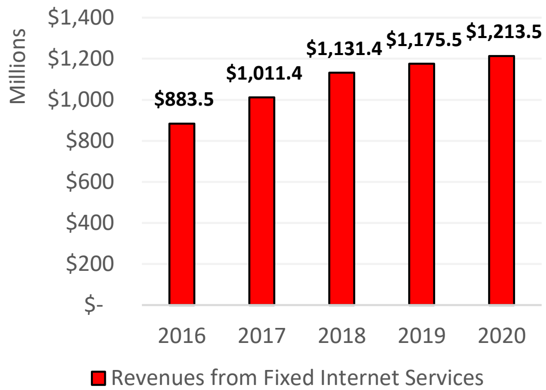


Figure 68. Fixed Internet revenues from 2016 to 2020

Total fixed Internet revenues consisted of TT$1,213.1 million earned from broadband Internet and TT$0.4 million from narrowband, as depicted in Figure 69.

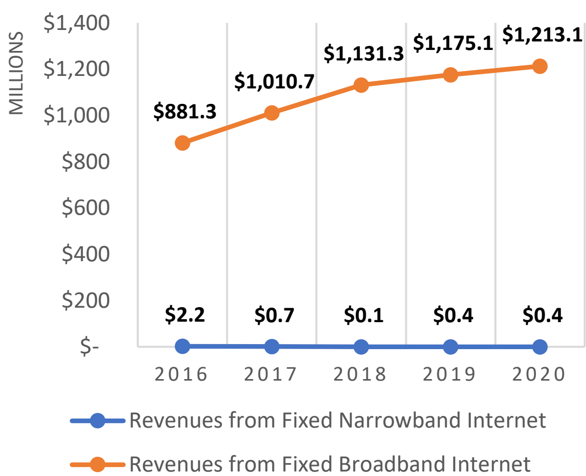


Figure 69. Fixed narrowband and broadband Internet revenues from 2016 to 2020

Fixed broadband Internet revenues can also be classified into residential and business revenues, as highlighted in Figure 70. Residential fixed broadband Internet revenues grew by TT$114.2 million, or 14.9%, to record TT$880.9 million. Revenues from business fixed broadband, however, dipped by TT$76.2 million or 18.7% from the preceding year.

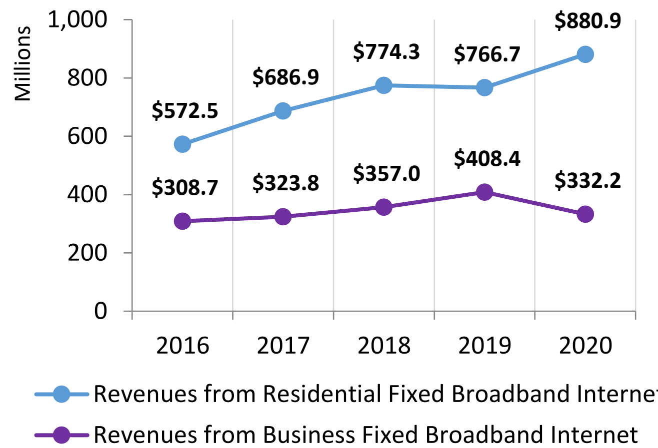


Figure 70. Broadband Internet revenues by type from 2016 to 2020

Residential broadband subscriptions contributed 72.6% of total fixed broadband revenues, with business broadband having the remaining share of 27.4%.

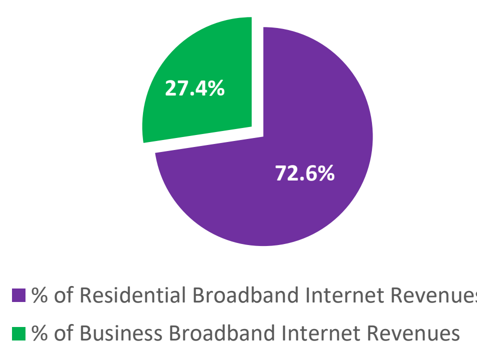


Figure 71. Percentage of residential and business fixed broadband Internet revenues in 2020

4.4.3 Mobile Internet Revenues

Mobile Internet subscriptions remained a significant source of revenue in the Internet market. Figure 72 depicts the upward trajectory of revenues, culminating in 2020 with TT$934 million. This marked an increase of TT$29.8 million, or 3.3%, from 2019.

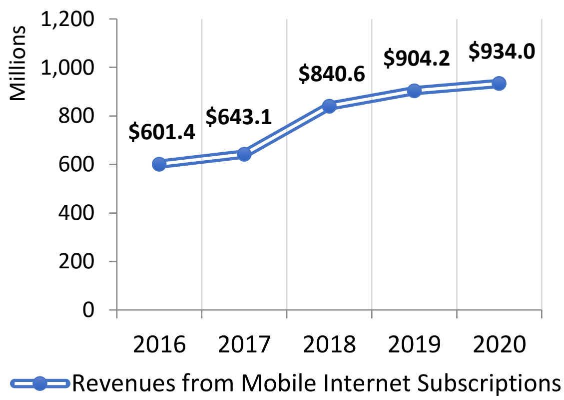


Figure 72. Mobile Internet revenues from 2016 to 2020

Figure 73 presents the revenues generated from prepaid and postpaid mobile Internet subscriptions for the past five years. In 2020, prepaid and postpaid mobile Internet amassed revenues of TT$432.3 and TT$501.7 million, respectively.

Prepaid revenues fell by TT$46.1 million, or 9.6%, from 2019, while postpaid revenues rose by TT$76 million, or 17.9%.

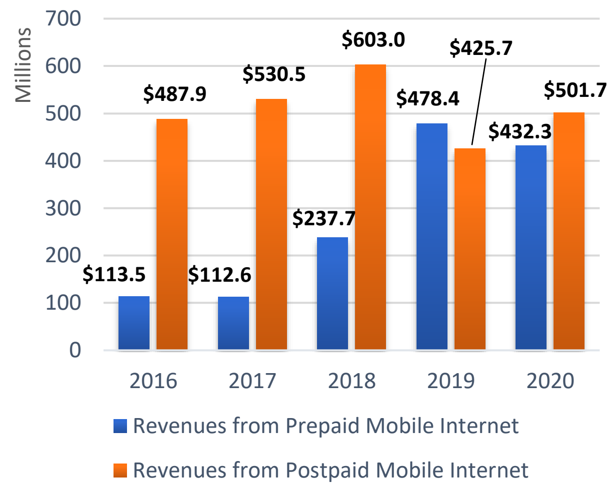


Figure 73. Mobile Internet revenues by type for 2016 to 2020

As illustrated in Figure 74, prepaid services accounted for 46.3% of mobile Internet revenues, while postpaid contributed to a share of 53.7%

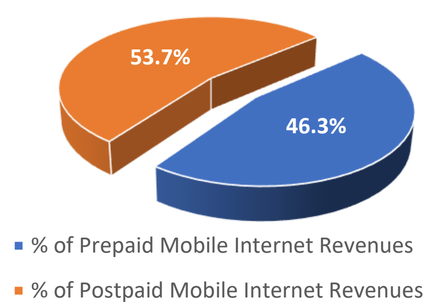


Figure 74. Percentage of prepaid and postpaid mobile Internet revenues in 2020

4.5 Fixed Internet Market Concentration

The Authority used the HHI to gauge the level of concentration in the fixed Internet market[61] for 2020.

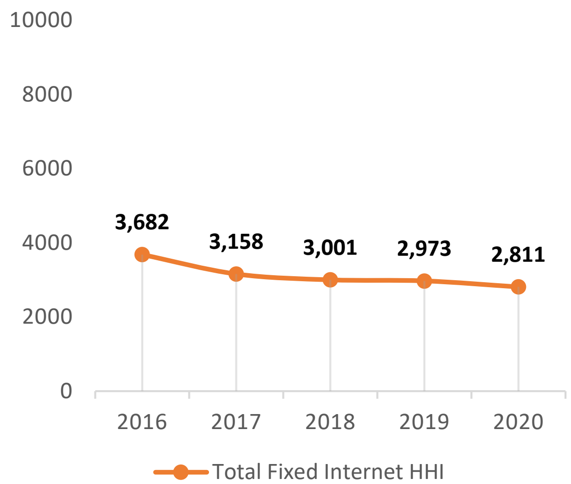


Figure 75. Fixed Internet HHI for 2020

As depicted in Figure 75, the steady decline of concentration levels within this market continued from 2016 to 2020. At the end of 2020, the HHI recorded an index score of 2,811, down from the previous year's value of 2,973.

There was a consistent fall in concentration levels across each quarter of 2020, as indicated in Figure 76. The first quarter registered an HHI value of 2,923, with the final quarter recording an index value of 2,811.

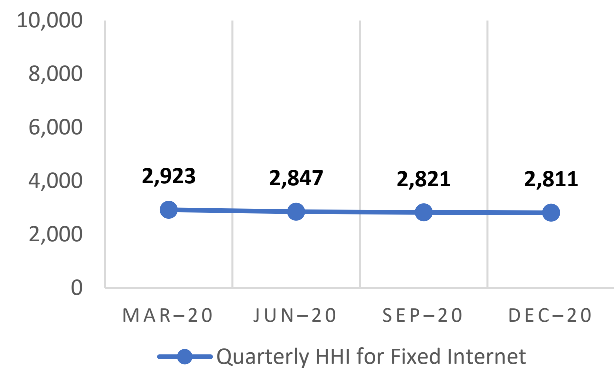


Figure 76. Quarterly HHI for the fixed Internet market in 2020

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

4.6 Average Revenue Per User (ARPU) for Internet Services

The trend of increasing ARPU for both fixed and mobile Internet, observed from 2016 to 2019, halted in 2020, with both markets registering declines.

In 2020, the fixed Internet ARPU[62] decreased by TT$243, or 7%, compared to the previous year, with each subscription generating an average of TT$3,220.

The ARPU for mobile Internet[63] fell from TT$1,384 in 2019 to TT$1,213 – a decline of TT$171, or 12.4%.

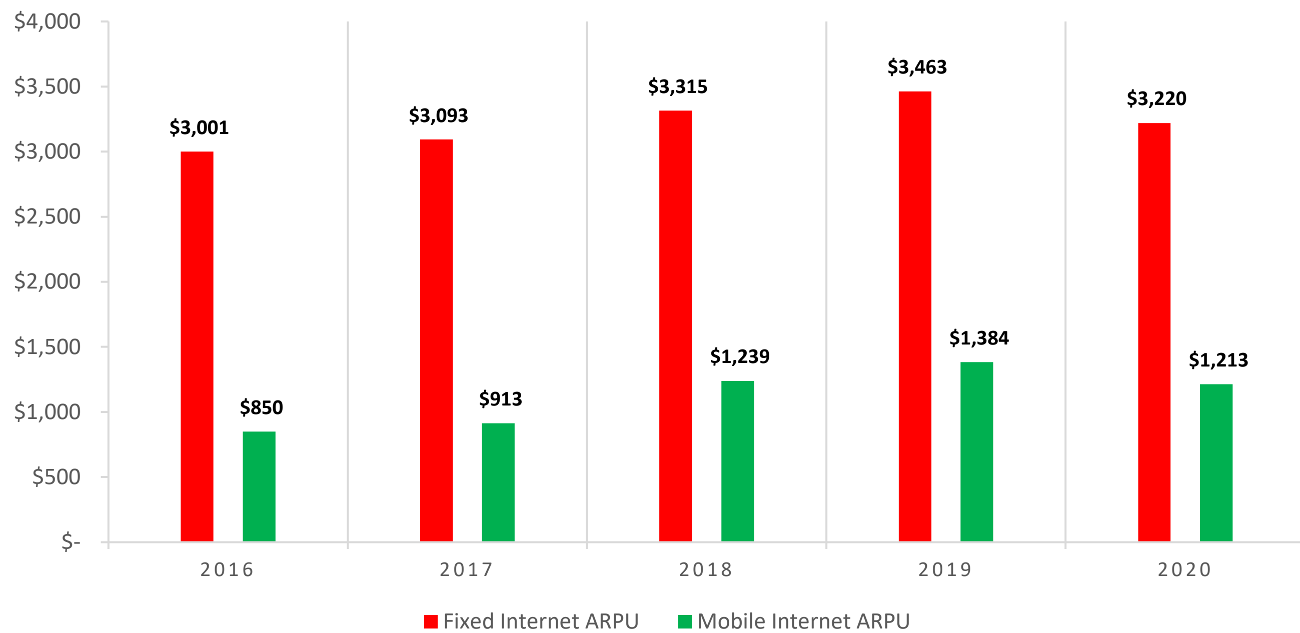


Figure 77. ARPUs for fixed and mobile Internet services from 2016 to 2020

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

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

2020 ANNUAL MARKET REPORT
INTERNATIONAL VOICE MARKET

GROWTH 2019-2020

9.5%
decrease from 2019

$216.9 M

TOTAL INTERNATIONAL REVENUES

INCOMING INTERNATIONAL MINUTES

REVENUE
$172.3 M
INCREASE OF 12.4% FROM 2019

MINUTES
95.5 M
INCREASE OF 3.9% FROM 2019

OUTGOING INTERNATIONAL MINUTES

REVENUE
$44.6 M
DECREASE OF 48.4% FROM 2019

MINUTES
58.5 M
DECREASE OF 26.6% FROM 2019

5 International Voice Market Review

In 2020, there were nine international telecommunications concessionaires. Eight were authorised to provide international telecommunications services, inclusive of international voice services, with one operator authorised to operate a public international telecommunications network. These operators were as follows:

1. Amplia Communications Limited
2. Columbus Networks International (Trinidad) Limited
3. Digicel (Trinidad & Tobago) Limited
4. Green Dot Limited[64]
5. Lisa Communications Limited
6. NOVO Communications Limited[65]
7. Open Telecom Limited[66]
8. Southern Caribbean Fibre
9. Telecommunications Services of Trinidad and Tobago Limited

5.1 International Voice Traffic (Incoming and Outgoing Minutes)

For 2020, the number of minutes generated from incoming international calls was 95.5 million. This represented an increase of 3.9%, or 3.6 million minutes, from 2019. The converse was true for international outgoing traffic minutes, which dropped to 58.5 million – a contraction of 26.6%, or 21.2 million minutes, from the previous year. Figure 78 and Figure 79 show the number of international voice minutes from incoming and outgoing calls, respectively.

[64] Concession renewal pending. Green Dot Ltd. was not operational in the international voice market during the review period.

[65] NOVO Communications Limited was not operational in the international voice market during the review period.

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

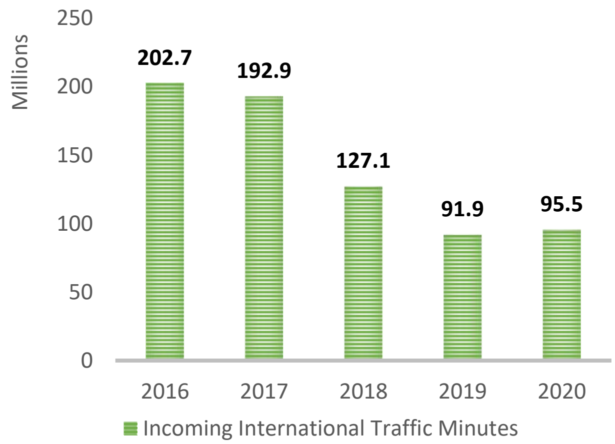


Figure 78. Incoming international voice traffic minutes from 2016 to 2020

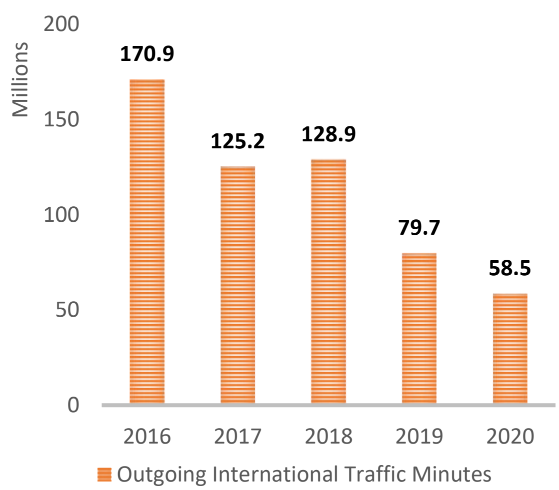


Figure 79. Outgoing international voice traffic minutes from 2016 to 2020

The proportions of incoming and outgoing traffic over the last five years are depicted in Figure 80. Minutes generated by incoming calls accounted for 62% of all international minutes, increasing from 53.6% in 2019. The share of outgoing international traffic minutes dipped from 46.4% in 2019 to 38% in 2020.

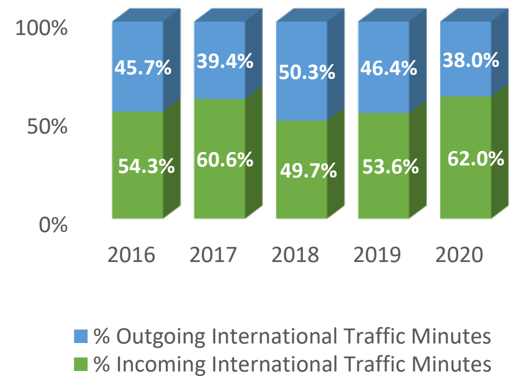


Figure 80. Percentage of incoming and outgoing international voice traffic (minutes) from 2016 to 2020

5.2 International Voice Revenues

The trend in gross revenues generated by the international voice market between 2016 and 2020 is presented in Figure 81. The downward spiral of revenues within this market continued, with 2020 recording TT$216.9 million. Revenues decreased by TT$22.9 million, or 9.5%, from 2019, marking the third consecutive year since 2017, in which gross revenues fell.

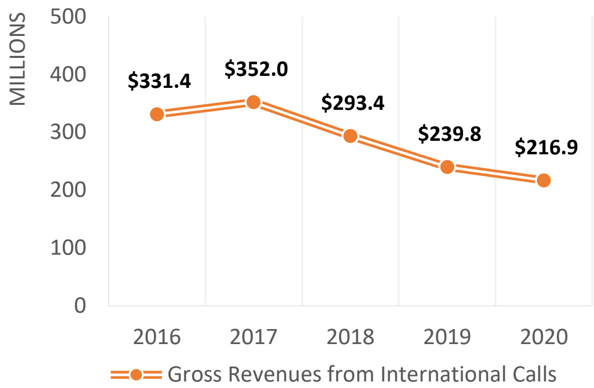


Figure 81. Gross revenues from international incoming and outgoing) voice services from 2016 to 2020

As Figure 82 illustrates, incoming international traffic revenues peaked in 2017 with TT$242.4 million, before steadily declining over the following two years, to end 2019 with TT$153.3 million.

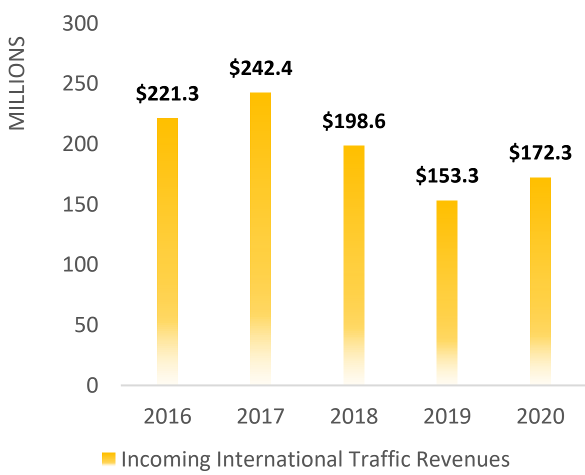


Figure 82. Gross revenues from incoming international voice traffic from 2016 to 2020

A resurgence in incoming revenues was observed over January to December 2020, with TT$172.3 million earned during this period, representing an increase of TT$19 million, or 12.4%, from the preceding year.

Figure 83 provides outgoing traffic revenues for the past five years. During this period, revenues were highest in 2016, with TT$110.1 million, before gradually decreasing to TT$78.2 million in 2018. This was followed by an uptick in 2019, before a plummet to TT$44.6 million in 2020. This represented a fall of $TT41.9 million, or 48.4%, from the previous year.

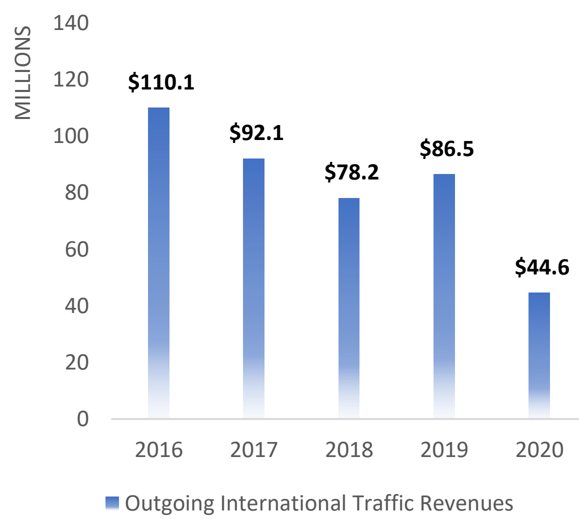


Figure 83. Revenues from outgoing international voice traffic from 2016 to 2020

5.3 International Voice Market Concentration

Market concentration for the international voice market is calculated using the number of international incoming and outgoing minutes.

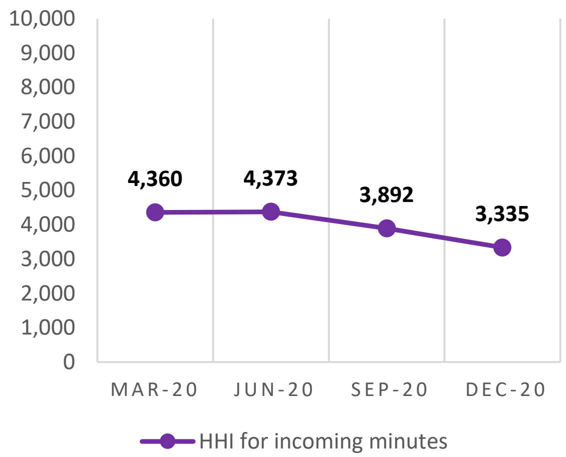


Figure 84. HHI for international incoming minutes in 2020

Figure 84 reveals that the HHI for the incoming market was highest in the second quarter, with 4,373, before it gradually decreased across the final two quarters, to end 2020 with 3,335.

For the outgoing market, the first quarter held the highest HHI, with 4,445. This was followed by consistent declines across both the second and third quarters, with the latter having the lowest HHI of the year, with 4,363. In the final quarter there were increased levels of market concentration, with a figure of 4,437.

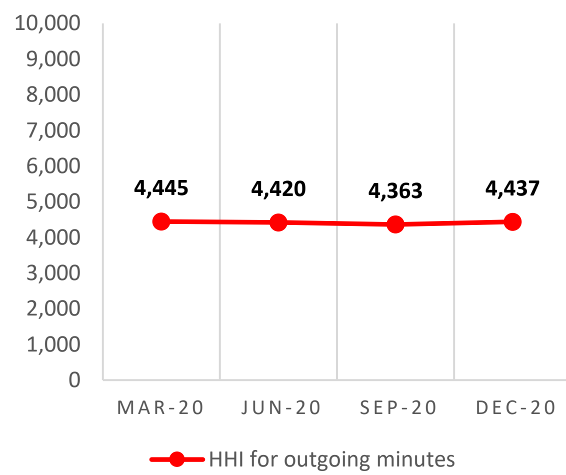
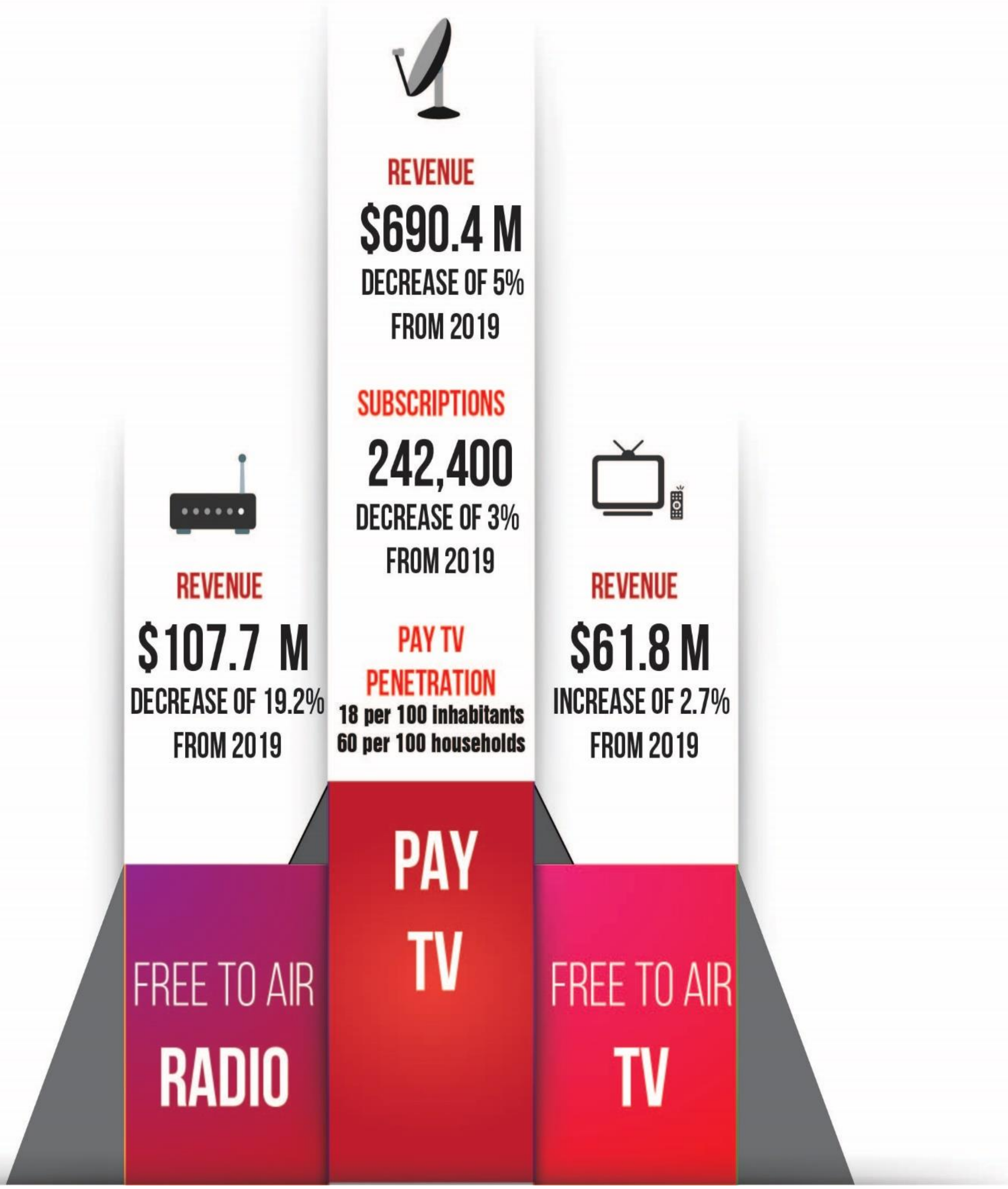


Figure 85. HHI for international outgoing minutes in 2020

2020 ANNUAL MARKET REPORT
BROADCASTING MARKET

GROWTH 2019-2020



6 Broadcasting Market Review

The broadcasting market is classified using the following categories:

1. Free-to- air (FTA) television (TV)
2. TV broadcasting via cable
3. Subscription or pay TV
4. Free-to-air (FTA) Radio

Operators are granted a concession to provide these broadcasting services to any 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 2015 to 2020

Type of Concession	Number of Concessions				
	2016	**2017**	**2018**	**2019**	**2020**
Free-to-air (FTA) Television	**6**	**6**	**5**	**5**	**5**
National	5	5	4	4	4
Major Territorial	1	1	1	1	1
Subscription Television	**14**	**14**	**13**	**13**	**13**
National	8	8	7	7	8
Major Territorial	1	1	1	1	1
Niche	4	4	4	4	3
Minor Territorial	1	1	1	1	1
TV Broadcasting via Cable	**9**	**9**	**8**	**14**	**14**
National	8	8	8	14	14
Major Territorial	1	1	0	0	0
Free-to-air (FTA) Radio	**37**	**37**	**36**	**36**	**37**
National	28	28	27	28	29
Major Territorial	6	6	6	5	5
Minor Territorial	2	2	2	2	2
Niche	1	1	1	1	1
Total	66	66	62	68	69

6.1 Free-to-Air (FTA) Television (TV) Broadcasting Market

In 2020, the market for FTA TV broadcasting services consisted of the following operational concessionaires:

1. Advance Community Television Network Limited (ACTS 25)
2. CCN Television Limited (CCN TV6)
3. Guardian Media Limited (CNC3)[67]
4. Parliament of the Republic of Trinidad and Tobago
5. TTT Limited

In addition to the above, 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. Environmental Management Authority (EMA)
4. Gayelle Limited
5. Guardian Media Limited
6. IBN Communications Company Limited (IBN)
7. Ice Media Group Limited
8. Liming Monkey (WESN – The Content Capital)
9. Living Water Community (Trinity TV)
10. Sankyha Television Limited
11. SWAHA Media Limited (IETV)
12. Synergy Entertainment Network
13. Twenty-Four Seven News and Sports Limited
14. WI Sports (TTEN)

However, for the period under review, the EMA, Ice Media Group, Guardian Media Limited and Twenty Four Seven News and Sports Limited had not yet launched TV broadcasting services via cable to the public.

The following section provides information on the performance of both FTA and local TV broadcasting services via cable. Thus, all references to FTA TV include FTA TV broadcasting and TV broadcasting services via cable.

[67] Concession renewal pending. Interim authorisation was granted to continue operations within this market.

6.1.1 FTA TV Revenues

The TT$61.8 million generated in 2020 interrupted the steady downward trend of FTA TV revenues observed from 2016 to 2019. The 2020 total represented an increase of TT$1.6 million, or 2.7%, from 2019.

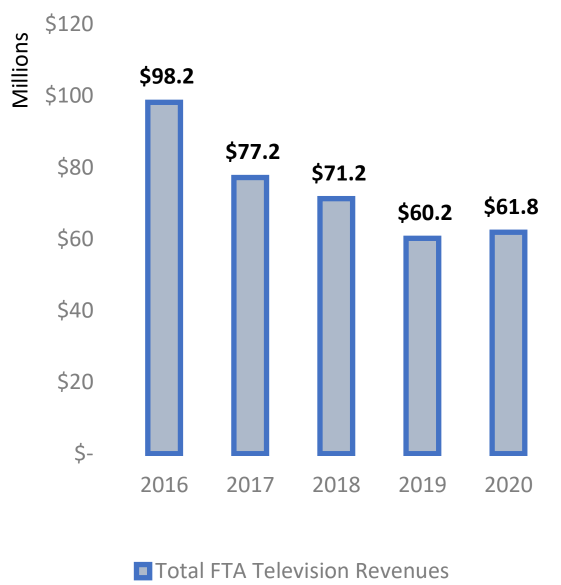


Figure 86. Gross revenues for the FTA TV market from 2016 to 2020

Figure 87 compares the quarterly gross revenues generated in the FTA television market between 2019 and 2020. Revenues fluctuated across all quarters of 2020, with the lowest figure of TT$10.4 million, and highest figure of TT$24.2 million, recorded in the second and third quarters, respectively.

With the exception of the third quarter in 2020, all other quarters registered smaller revenues, compared to the corresponding periods of 2019. The first quarter had the least variation, with a reduction of TT$0.7 million, or 5.3%, from 2019 revenues. The greatest difference was seen in the third quarter, in which 2020 revenues rose by TT$8.5 million, or 54%, from the corresponding period of 2019.

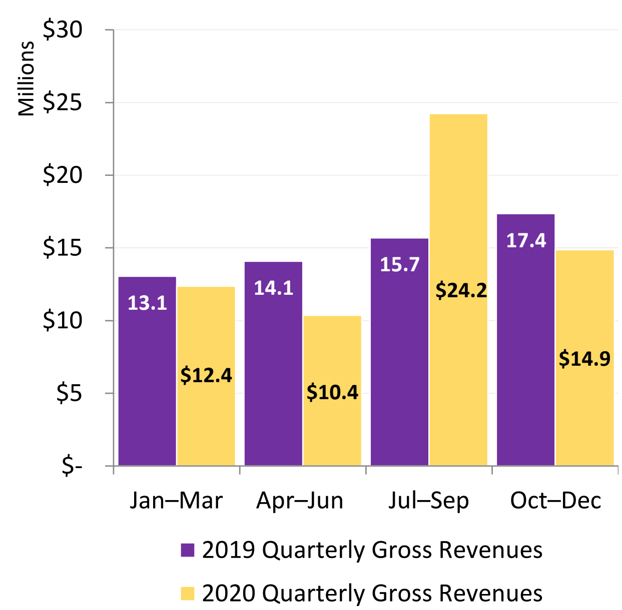


Figure 87. Quarterly gross revenues for FTA TV in 2019 and 2020

6.1.2 FTA TV Market Concentration

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

In 2020, the HHI fluctuated across all four quarters, as shown in Figure 88. Quarter one registered a value of 3,221, which fell to 3,117 by the second quarter. The HHI peaked in the third quarter with 4,108, before dropping to 3,891 in the final quarter.

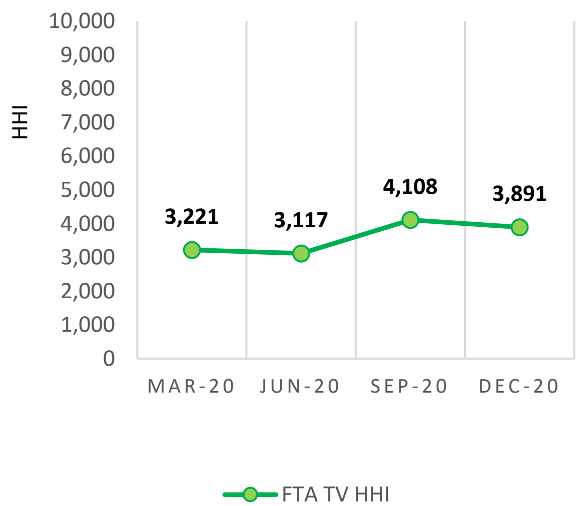


Figure 88. Quarterly HHI for the FTA TV broadcasting market in 2020

Figure 89 depicts the annual trend in HHI for the period 2016 to 2020. Relative stability was observed across 2016 and 2017, with more pronounced peaks and troughs recorded from 2018 onwards.

For 2020, the monthly average HHI was determined to be 3,462, dropping from the 2019 average value of 3,550.

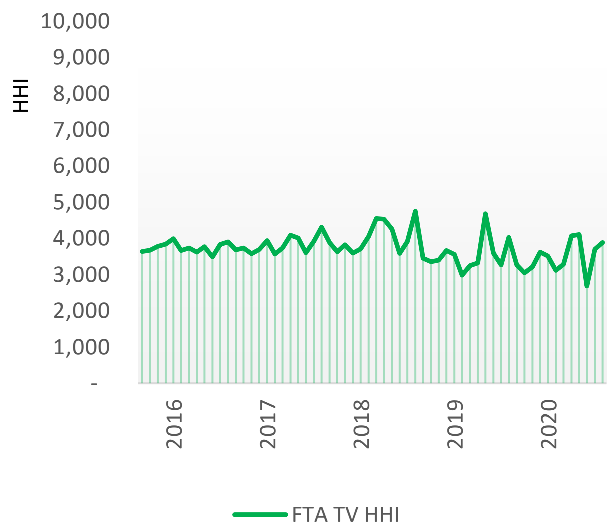


Figure 89. HHI for the FTA TV broadcasting market from 2016 to 2020

6.2 Free-to-Air (FTA) Radio Broadcasting Market

In 2020, the FTA radio broadcasting market comprised 37 radio stations[68] (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.

6.2.1 FTA Radio Revenues

The FTA radio broadcasting market earned TT$107.7 million in gross revenues in 2020. This represents a reduction of TT$25.6 million, or 19.2%, from 2019. Annual revenues in this market continued to decline, as illustrated in Figure 90.

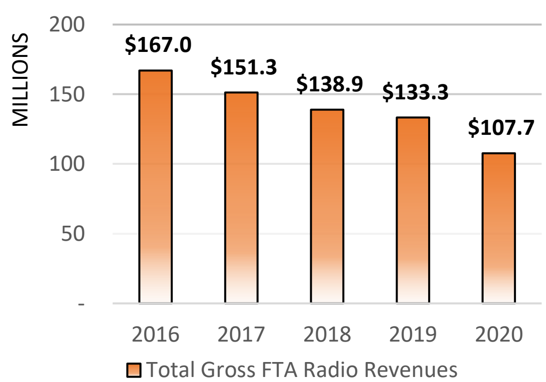


Figure 90. Gross revenues for the FTA radio broadcasting market from 2016 to 2020

Figure 91 highlights the quarterly gross revenues earned in the FTA radio broadcasting market in 2019 and 2020.

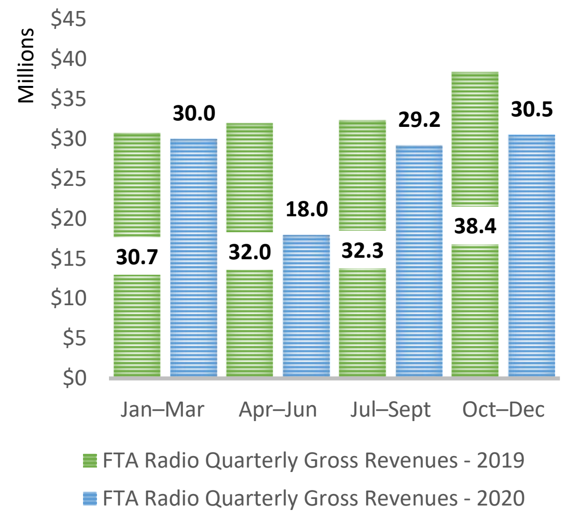


Figure 91. Quarterly revenues for FTA Radio in 2019 and 2020

The first quarter of 2020 produced TT$30 million. Revenues dropped to TT$18 million by the end of June, grew in the third quarter to TT$29.2 million, and climbed further in the final quarter to record TT$30.5 million. In comparing both years, the first quarter showed the smallest difference in revenues, with a decrease of TT$0.7 million, or 2.3%, from 2019. The greatest variation was seen in the second quarter, in which 2020 revenues plummeted by TT$14 million, or 43.8%, from the corresponding period of 2019.

[68] The following concessionaires did not provide data for the January to December 2020 review period: Trico Industries Ltd, British Broadcasting Corporation, Parliament of the Republic of Trinidad and Tobago and Caribbean Broadcasting Systems and Services Ltd.

6.2.2 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.

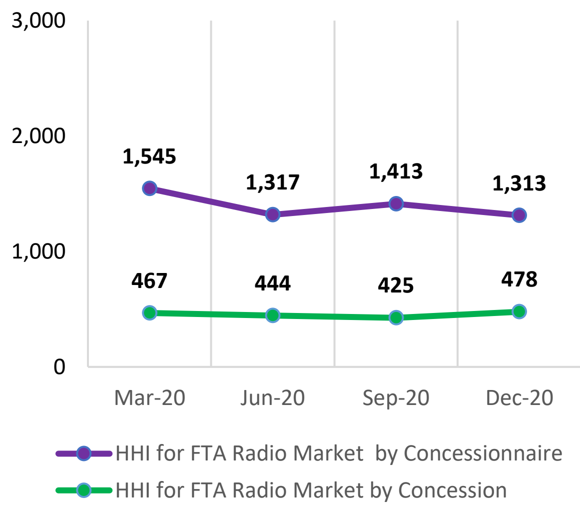


Figure 92. HHI for the FTA radio broadcasting market for 2020

Figure 92 provides an illustration of the quarterly trends in HHI for both concessionaires and concessions. With respect to HHI by concessionaire, index values fluctuated across all quarters of 2020. The first quarter registered 1,545, which was the highest value of the year, before the HHI dipped to 1,317 in the second quarter. The third quarter recorded a value of 1,413, while the final quarter had the lowest figure of the year, with 1,313.

In 2020, the average monthly HHI by concessionaire, was higher, with 1,448, than the previous year's value of 1,398. Conversely, the average monthly HHI by concession was 471, which was less than the average of 475 in 2019.

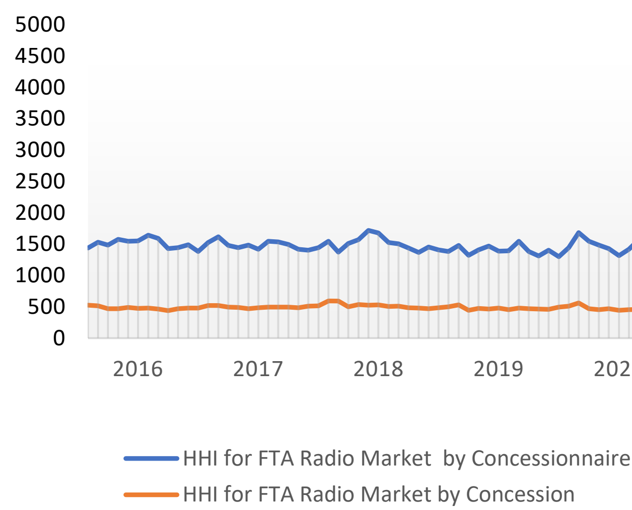


Figure 93. HHI for the FTA radio broadcasting market from 2016 to 2020

As Figure 93 shows, the HHI based on concessions was relatively stable from 2016 to 2020, while the HHI based on concessionaires had more pronounced variations over the same period.

6.3 Pay Television (TV) Broadcasting Market

The Trinidad and Tobago pay TV[69] market comprised 13 authorised service providers as at December 2020, 12 of which were operational during the review period[70].

Business entities operating in the market provided services to subscribers within their respective authorised coverage areas. Table 7 lists each service provider, the type of service utilised to deliver pay TV services and their authorised coverage areas.

Table 7. List of operational pay TV providers in 2020

Name of Provider	Type of Service	Authorised Coverage Area
Amplia Communications Limited	Digital pay TV (wired)	National
Columbus Communications Trinidad Limited	Digital pay TV (wired)	
Digicel (Trinidad & Tobago) Limited	Digital pay TV (wired)	
DirecTV Trinidad Limited	Digital pay TV (satellite)	
Green Dot Limited[71]	Digital pay TV (wireless terrestrial)	
RVR International Limited	Analogue pay TV (wired)	
Telecommunications Services of Trinidad and Tobago Limited (TSTT)	Digital pay TV (wired)	
Independent Cable Network of Trinidad &Tobago (ICNTT)	Analogue pay TV (wired)	Major territorial
Network Technologies Limited	Analogue pay TV (wired)	Niche – Mayaro and Guayaguayare
Air Link Communications Limited	Analogue and digital pay TV (wired)	Niche – Princes Town and environs
Wired Technologies Limited (previously Santa Flora Cable Network Ltd)	Analogue pay TV (wired)	Niche – Santa Flora and environs
Trico Industries Limited	Analogue and digital pay TV (wired)	Minor territorial

[69] Also referred to as subscription TV
[70] Open Telecom did not provide pay TV services during the review period.
[71] Concession renewal pending. Interim authorisation was granted to continue operations within this market.

6.3.1 Pay TV Subscriptions

6.3.1.1 Basic Package Subscriptions

Service providers in the pay 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.

The number of subscriptions decreased by 7,400, or 3%, from 2019, to record a tally of 242,400. This was the second lowest number of subscriptions over the past five years, as depicted in Figure 94.

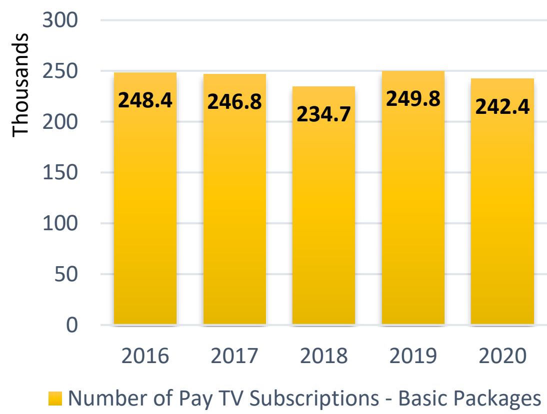


Figure 94. Number of basic pay TV subscriptions from 2016 to 2020

A comparison of pay TV subscriptions by type of service for 2016 to 2020 is given in Figure 95. In 2020, the number of subscriptions using digital technologies contracted by 2.7%, to record 236,700. The number of analogue subscriptions also dipped from 6,500 in 2019, to 5,700 – representing a decline of 12.3%.

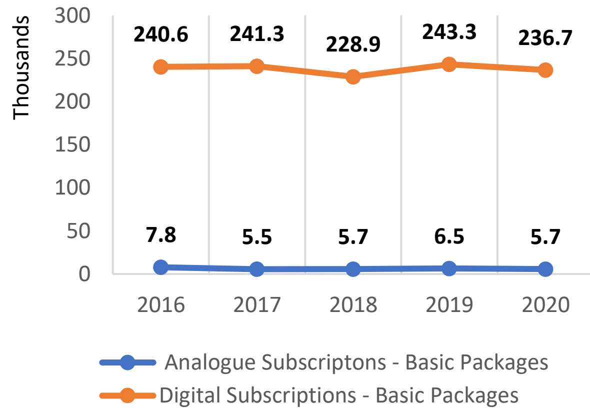


Figure 95. Pay TV subscriptions by type of service from 2016 to 2020

The proportion of subscriptions by type of service is depicted in Figure 96. In 2020, the majority of all pay TV subscriptions, were digital, specifically 97.6%, while the remaining 2.4% were analogue.

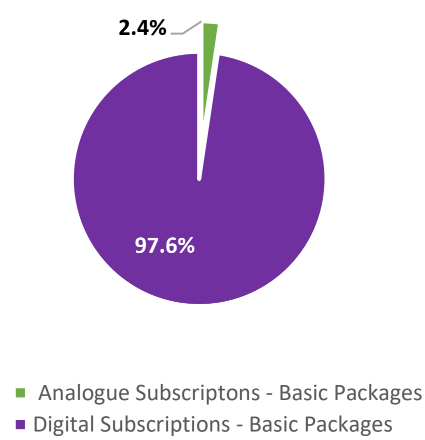


Figure 96. Proportion of pay TV subscriptions by type of service

6.3.1.2 Premium Package Subscriptions

Premium channels are additional channels or a group of channels offered by pay 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.

The total number of premium package subscriptions as at the end of December 2020 was 227,400. This represents a rise of 28,600 subscriptions, or 14.4%, from the preceding year. As depicted in Figure 97, such growth was consistent with the upward trend of premium subscription packages observed from 2016 to 2019.

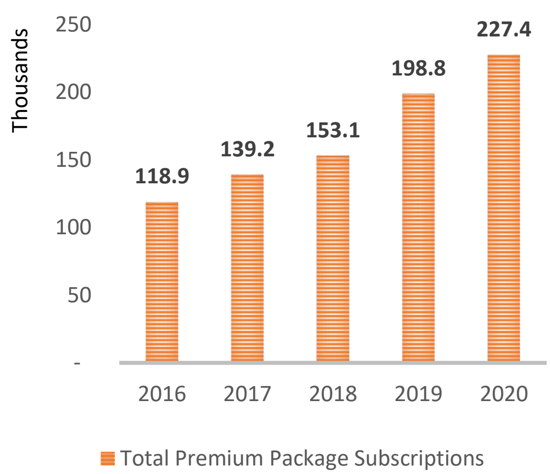


Figure 97. Number of premium package subscriptions from 2016 to 2020

The data shown in Table 8 indicate that 2020 was the fourth consecutive year in which the pay TV market recorded double digit growth in premium subscriptions.

Table 8. Growth rates in premium subscriptions from 2016 to 2020

Year-on-Year Period	Change in Premium Subscriptions	Year-on-Year Growth Rate (%)
2015-2016	2,200	1.9%
2016-2017	20,300	17.0%
2017-2018	13,900	10.0%
2018-2019	45,700	29.8%
2019-2020	28,600	14.4%

6.3.2 Pay TV Penetration

The penetration rate for pay TV services is calculated by dividing the number of pay TV subscriptions by the population size. In 2020, the penetration rate per 100 inhabitants was 17.7, which means that an estimated 18 out of every 100 persons had a pay TV subscription.

The pay TV household penetration rate, defined as the number of subscriptions per 100 households, was determined to be 60.4 in 2020. The interpretation is that, for every 100 households within Trinidad and Tobago, 60 had a pay TV subscription.

Figure 98 highlights the penetration rates for the past five years. Comparison with 2019 revealed that both the penetration rate per 100 inhabitants and the penetration rate per 100 households for 2020 were lower.

The average penetration rate per 100 inhabitants for the five-year period was 17.7, whereas the average penetration rate per 100 households was 60.9.

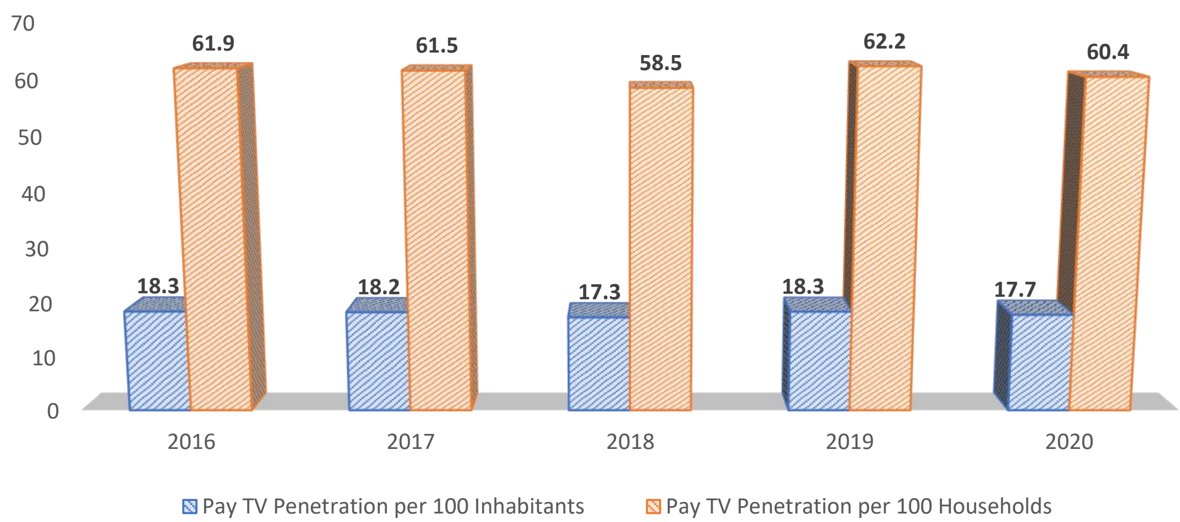


Figure 98. Pay TV penetration rates from 2016 to 2020

6.3.3 Pay TV Revenues

Gross revenues[72] generated in the pay TV market include service providers' earnings from the provision of both analogue and digital technologies.

In 2020, the pay TV market earned revenues amounting to TT$690.4 million. This represents a 5% decline from the previous year, with a difference of TT$36.5 million. Figure 99 provides an overview of the trend in pay TV gross revenues for the past five years.

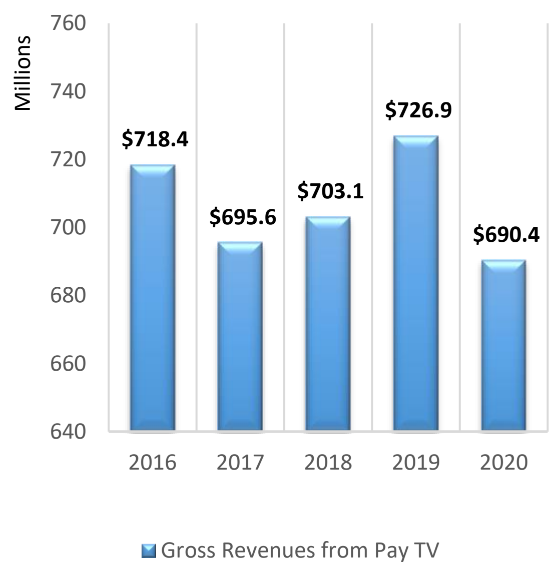


Figure 99. Pay TV gross revenues from 2016 to 2020

Most of the revenues generated in the pay TV market were derived from digital technologies as depicted in Figure 100. Digital pay TV revenues made up 98% of total revenues, or TT$676.6 million. The remaining 2% of revenues were acquired from analogue pay TV services and amounted to TT$13.8 million.

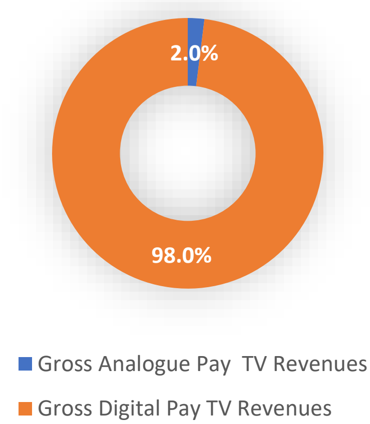


Figure 100. Pay TV revenues by type for 2020

[72] Revenues include income generated from connection, re-connection, installation and usage.

6.3.4 Pay TV Market Concentration

The HHI, which estimates the level of concentration, is calculated as the sum of the squares of the market share[73] of all service providers in the market.

The first quarter registered an index score of 3,154 − the lowest of the year. The level of concentration climbed in the second quarter to 3,182, fell to 3,163 by the third quarter before rising to 3,201 in the final quarter − the highest figure of the year.

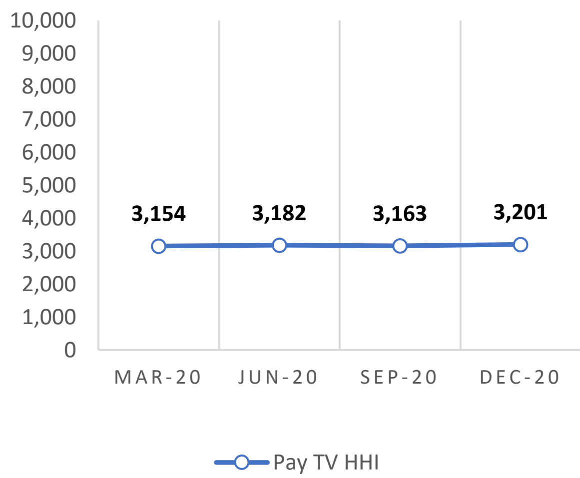


Figure 101. Quarterly HHI for pay TV market in 2020

As highlighted in Figure 102, the HHI for the pay TV market fell from 2016 to 2017, registering a five-year low of 2,964. Since then, the level of concentration has risen consistently each year, recording values of 3,136 and 3,201 in 2019 and 2020, respectively. This year-on-year increase from 2019 to 2020 was equivalent to 65 points – a rise of 2.1%.

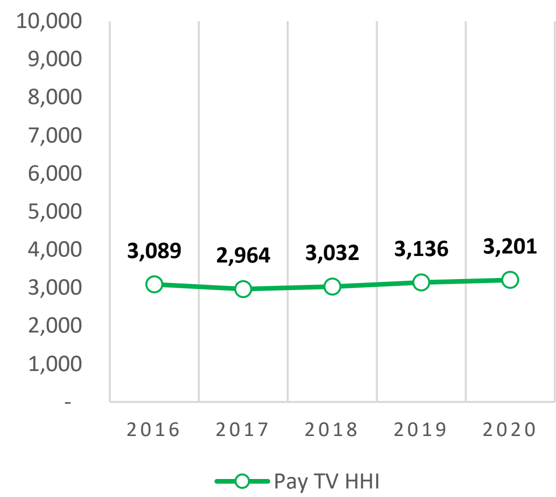


Figure 102. Annual HHI for the pay TV market from 2016 to 2020

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

6.3.5 Pay TV Average Revenue per User (ARPU)

The ARPU is calculated by dividing gross revenues by the average number of monthly subscriptions. For 2020, the ARPU was determined to be TT$2,840 – a contraction of 3.8%, or TT$112, from the previous year.

As Figure 103 indicates, within the last five years, 2016 grossed the highest ARPU which then dipped to TT$2,861 in 2017. Revenues grew in the following two years before falling in 2020 to TT$2,840 – the lowest ARPU over this period.

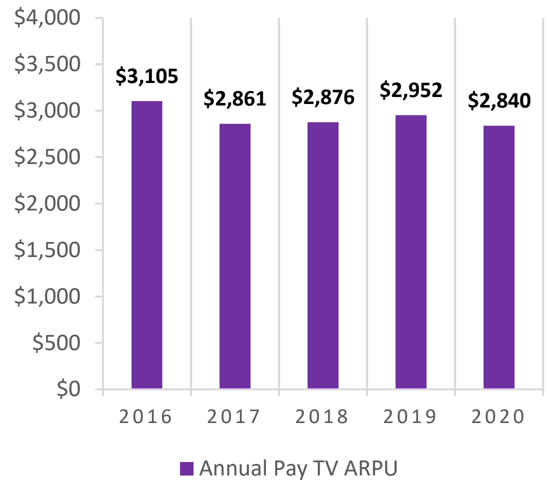


Figure 103. Pay TV ARPU from 2016 to 2020

Appendix I: Domestic Telecommunications and Selected Broadcasting Statistics

Table 9. Domestic telecommunications and selected broadcasting statistics

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
General	Population (millions)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	**1.4**
	Telecommunications and Broadcasting revenues (US$ million)	521.3	775.3	685.2	713.1	737.0	834	864.4	881.5	876.7	836.0	771.8[74]	832.1	740.7	**697.1**
	Total telephone subscriptions ('000s)	1,817	2,120.9	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**
	Total telephone penetration	138.7	163.2.1	164.3	167.2	160.7	163.8	168.7	171.4	180.7	186.6	177.3	172.9	183.0	**169.2**
Fixed Voice	Fixed voice subscriptions ('000s)	307.3	314.8	303.2	293.3	291.5	286.1	291.3	289.8	269.8	305.7	318.7	317.7	332.3	**323.9**
	Fixed voice penetration	23.6	24.1	23.2	22.3	22.0	21.6	21.7	21.7	20.0	22.6	23.5	23.4	24.4	**23.7**
	Fixed voice household penetration	71.5	73.3	70.1	67.5	67.1	55.3	56.2	56.6	52.5	62.1	66.3	66.7	71.0	**69.7**
	Average revenue per user (ARPU) US$	422.4	486.5	403.5	411.5	417.3	430.5	413.1	410.7	424.2	402.4	359.0	272.4	235.6	**214.1**
	Fixed voice subscription growth (%)	-5.6	2.4	-3.7	-3.3	-0.6	-1.9	1.6	-0.7	-6.3	13.3	4.2	-0.3	4.6	**-2.5**

[74] Telecommunications revenues for 2017 were revised from US$758.1 million previously reported to US$771.8.

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mobile	Mobile subscriptions ('000s)	1,511.1	1,806.1	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**
	Mobile penetration	115.9	138.0	141.1	143.8	138.6	142.2	146.4	149.1	157.3	160.0	150.0	145.1	158.6	**145.5**
	Average revenue per user (ARPU) US$	207.0	197.0	170.0	164.0	173.0	188.0	189.0	174.5	147.1	136.8	113.0	89.0	70.7	**65.1**
	Mobile subscription growth (%)	-0.6	19.6	2.2	2.6	-3.6	3.1	3.2	1.9	7.2	2.0	-6.2	-2.9	9.7	**-7.9**
Internet	Total Internet subscriptions[75] ('000s)	93.3	129.6	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**
	Fixed Internet subscriptions [76] ('000s)	82.6	114.1	145.0	171.1	192.0	224.2	231.7	249.6	279.8	294.4	327.0	341.3	339.4	**376.8**
	Mobile Internet subscriptions [77] ('000s)	10.7	15.6	93.3	138.8	133.2	422.5[78]	450.6	570.5	645.4	707.3	704.6	678.6	653.3	**770.2**
	Fixed broadband subscriptions [79] ('000s)	35.5	85.4	130.1	162.9	187.9	221.3	229.6	248.1	278.5	294.3	326.8	341.1	339.3	**376.8**
	Fixed Internet users[80] ('000s)	429.0	456.0	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**
	Fixed Internet penetration	6.3	8.7	11.1	13.0	14.6	16.9	17.4	18.7	21.1	21.7	24.2	25.1	24.9	**27.6**
	Mobile Internet penetration	0.8	1.2	7.1	10.5	10.1	31.9	33.9	43.0	47.8	52.2	52.0	49.9	47.9	**56.3**
	Fixed Internet users penetration	32.8	34.9	44.3	48.5	55.0	51.8	53.0	57.1	63.1	57.2	74.0	77.4	77.6	**85.9**

[75] Total Internet subscriptions are the sum of fixed Internet subscriptions and mobile postpaid Internet subscriptions.
[76] Fixed Internet subscriptions are the total number of subscriptions with fixed wired or fixed wireless Internet access.
[77] Mobile Internet subscriptions from 2003 to 2011 include postpaid mobile customers who subscribe to monthly Internet airtime and who are billed accordingly.
[78] Mobile Internet subscriptions from 2012 onwards include prepaid and postpaid mobile Internet users.
[79] Fixed broadband subscriptions are the number of Internet subscriptions with access to download speeds of 256 kbit/s or higher.
[80] Fixed Internet users are the number of persons who regularly use fixed Internet services.

	Fixed Internet household penetration	4.9	21.4	40.1	49.6	52.8	52.1	54.2	58.3	65.4	69.3	76.9	80.8	79.9	**88.6**
	Average revenue per user (ARPU) US$ for fixed Internet	552.3	491.8	433.2	409.9	431.9	422.8	442.5	448.6	430.3	470.5	417.5	492.7	510.8	**475.0**
	Fixed Internet subscription growth (%)	12.8	38.9	27.1	18.0	12.2	16.7	3.3	7.8	12.1	5.2	11.1	4.4	-0.5	**11.0**

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
International Traffic	International: outgoing minutes (millions)	265.9	304.3	259.2	282.9	274.5	263.5	277.9	268.3	247.2	170.9	125.2	125.9	79.7	**58.5**
	International: incoming minutes (millions)	323.0	375.4	399.4	358.5	256.2	245.7	234.8	234.1	199.2	202.7	192.9	127.1	91.9	**95.5**
	Inbound/outbound int'l traffic ratio	1.2	1.2	1.5	1.3	0.93	0.93	0.84	0.87	0.81	1.2	1.5	0.99	1.2	**1.6**
Pay TV	Pay TV subscriptions ('000s)	151.2	163.0	179.6	178.9	187.8	198.7	209.3	228.8	232.8	248.4	246.7	234.7	249.8	**242.4**
	Pay TV penetration	11.6	14.2	13.7	13.6	14.1	14.8	15.8	17.2	17.2	18.3	18.2	17.3	18.3	**17.7**
	Subscription TV household penetration	44.0	47.5	52.3	52.1	54.0	48.2	52.1	57.0	58.0	61.9	61.5	58.5	62.2	**60.4**
	Average revenue per user (ARPU) US$	344.9	337.0	404.9	431.2	468.6	505.5	520.8	493.2	497.7	486.8	425.2	427.5	435.4	**418.9**
	Pay TV subscription growth	8.1	12.5	10.2	-0.4	5.0	5.8	5.3	9.3	1.7	6.7	-0.6	-4.9	6.4	**-3.0**

Appendix II: List of Concessionaires and Concessions as at December 2020

Concessions granted (July 1, 2004 – December 31, 2020)

CONCESSIONAIRE	NETWORK AND/ OR SERVICE	TERRITORY	TYPE	TERM	DATE OF GRANT	EXPIRY DATE	FREQUENCY / SPECTRUM
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
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

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
Network Technologies Limited	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network	Niche - Mayaro and Guayaguayare	Type 2	10 Years	5 January 2016	4 January 2026	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

FIXED TELECOMMUNICATIONS (Cont'd)							
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
Wireless Telecommunications Ltd	Public Domestic Fixed Telecommunications Services via a Public Domestic Fixed Telecommunications Network (Wireless)	National	Type 2	10 years	27 November 2013	26 November 2023	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

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
Caribbean Broadcasting Systems and Services Limited	Broadcasting Services (Free-to-Air FM)	National	Type 5	10 Years	23 February 2016	22 February 2026	91.5 FM
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

FREE-TO-AIR RADIO BROADCASTING (Cont'd)							
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	102.1 FM
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

FREE-TO-AIR RADIO BROADCASTING (Cont'd)							
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 2012	9 October 2022	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

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
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, UHF 13, 20
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
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
Network Technologies Limited	Subscription Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	Niche - Mayaro and Guayaguayare	Type 5	10 Years	5 January 2016	4 January 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

SUBSCRIPTION TELEVISION BROADCASTING (Cont'd)							
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
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
Environmental Management Authority	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	3 September 2015	2 September 2025	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 2012	10 October 2022	N/A
Ice Media Group Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	12 August 2015	11 August 2025	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	6th May 2023	N/A

TELEVISION BROADCASTING SERVICE VIA CABLE (Cont'd)							
Sankhya Television Limited	Broadcasting Service (over a Public Domestic Fixed Telecom. Network only)	National	Type 5	10 Years	7 May 2013	6th 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 *(formerly Video Associates 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 (UHF 4, VHF 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/about/
- bmobile: http://www.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): http://www.pbstechgroup.com/

Appendix IV: Glossary of Terms

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

Terms	**Definition**
Average revenue per user	Measures 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 or pay
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, and ranges from 0 to 10,000. It is computed as the sum of the squares of the market share of all firms in the market. A value of 10,000 indicates a monopoly, where one firm has 100% of the market, while low index values suggest an industry closer to perfect competition, in which many firms share 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
Pay 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. Pay TV is also known as subscription TV
Penetration rate	Defined as the number of persons per 100 inhabitants who subscribe to telecommunications and/or broadcasting services

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