

Telecommunications

Sector Report 2023



TRBR

Telecommunications,
Radiocommunications &
Broadcasting Regulator



Executive Summary

As Vanuatu is emerging from the challenges posed by the COVID-19 pandemic, many social and economic activities have begun to show recovery as Vanuatu's reliance on digital connectivity continues to remain vital in people's livelihoods and for business daily operations. The adoption of the "new normal" across various activities serves to further invigorate the growth of digital services. This growth has been significantly bolstered by the presence of high-speed, high-performance networks that have proven to be immensely advantageous and convenient for society in this post-COVID-19 era.

Even though certain remote areas of the country remain unconnected, the investments made by operators in network infrastructures through commercial deployments, coupled with the implementation of the Universal Access Policy (UAP), have yielded positive outcomes. These efforts are contributing to the bridging of the remaining coverage gaps, especially in the rural areas.



The increasing demand and usage of mobile and fixed broadband services in Vanuatu have had a significant impact on the nation's development and well-being of its population. As service providers invest in innovative solutions to meet the rising demands, numerous sectors of the economy have continued to experience transformative changes in the realm of digital services. These include domains like e-learning, digital finance, e-commerce, e-Government services, disaster preparedness and many more.

In addition, despite the advancements, challenges related to the digital divide and usage disparities persist in the remote islands of Vanuatu. These challenges arise due to factors such as lack digital skills particularly among the elderly, affordability constraints among individuals with lower incomes, and language and

content barriers. Addressing these challenges requires comprehensive and collaborative efforts and relevant stakeholders including TRBR, the service providers, and the Government have taken proactive steps in addressing these challenges through public awareness and digital literacy programs, expanding network infrastructure and putting more emphasis on the benefits and how connectivity can create life-enhancing opportunities for individuals and businesses.

This report is the seventh Telecommunications, Radiocommunications and Broadcasting Regulator (TRBR) Telecommunications Sector Report, highlighting the trends, status, and development of telecommunications in Vanuatu for the year ending 2022. It provides an assessment and analysis on the impact of the COVID-19 pandemic on the telecommunications

sector and provides insights into the sector performance, challenges, and opportunities in the aftermath of the COVID-19 pandemic. It serves as an important resource for relevant stakeholders, policy makers, investors, and Government to understand the impact of the telecommunication sector and set directions for sustainable growth and innovation.

The data obtained by the TRBR shows a substantial increase in total market revenue by 14.31% recording over VUV5 billion worth of revenue in 2022. The growth has been stimulated by the increase in the demand of connectivity driven by the expansion of 4G networks throughout Vanuatu.

As Vanuatu is progressing towards fully recovering from the COVID-19 pandemic, mobile services has proven to be an essential enabler of the new normal in facilitating these recovery efforts. In 2022, the telecom sector has witnessed a further increase in total mobile cellular subscription by 2.26% recording over 255 thousand subscribers, and mobile penetration has remained relatively flat at 83.49%. In contrast, the mobile call market has experienced other drop in mobile call revenue by 1% due to the uptake of over-the-top services, but, the mobile call traffic has gone up by 8% recording over 403 million minutes in 2022. The increase in traffic has been due to the number of bundling packages offered in the market at an affordable price.

Furthermore, the prepaid average call price has further dropped by 11% hitting a lower price of VUV1.43 per minute in 2022. In contrast, the average postpaid mobile call price has increased by 7%, peaking at VUV10.43 per minute while the combined weighted average price has dropped by 8% recording a new price of VUV1.85 per minute in the same year.

The uptake of digital services leads to an increase of international bandwidth and the trend is expected to increase as demand for digital technologies and services continue to rise. Data obtained by TRBR showed that international bandwidth acquired from ICL has increased by 13.33% recording over 8.5Gbps leased to the service providers in 2022.

The mobile broadband market has this year witnessed another growth in mobile data downloads by 99% recording over 14,700 terabytes in 2022. The uptake has been due to an increase in consumption of data as result of increasing demand of digital streaming contents and widespread adoption of various mobile technologies and online services. In addition, as market continue to experience the rapid uptake of technological advancement, average unit price per Megabyte (MB) has further declined in 2022. Data shows that average prepaid price per MB has declined by 29% peaking its lowest at VUV0.20 per MB while average postpaid price has fell to VUV0.14 per MB in the same year. The primary contributing factor to this trend is the escalating degree of market competition. Operators are introducing inventive bundling services at discounted prices, leading to a reduction in the effective price per megabyte MB.

The challenges brought about by COVID-19, have altered the way people live and do businesses. The new normal has forced a lot of individuals and businesses to rely on internet services primarily for accessing digital streaming content and online offerings. Notably, fixed broadband subscriptions have risen by 12%, marking a count of over 3,500 subscribers in 2022. These subscriptions have, in turn, generated revenue amounting to over VUV713 million.

The escalating popularity and demand of Over-the-top services have significantly influenced the downward trajectory of traditional SMS services.



Applications like Facebook messenger, IMO, WhatsApp and others offer more enriched features, including the capability to transmit multimedia content, engage in group messaging, initiate voice and video calls, and incorporate other interactive functionalities that are not available within the confines of traditional SMS. Consequently, this shift has resulted in a further dip in SMS revenue by 5% in 2022.

The Fixed telephony has also witnessed a contraction in the total number of fixed call subscriptions by 6%, however has generated an increase in revenue of over VUV277 million in 2022. Despite the gradual wane of traditional voice communication, fixed call services persist in serving a valuable role for businesses, governmental departments, and entities.

Similarly, the increasing demand and utilization of OTT services has impacted the Vanuatu's international

outbound call services. Data obtained by TRBR revealed a 16% increase in international outbound call minutes, however revenue collected from outbound call revenue dropped by 39% in 2022.

Lastly, the resurgence of the tourism sector due to the easing of travel restrictions has had a significant impact on the international inbound roaming services. Data shows that total number of international inbound roamers traveling into Vanuatu has increased by 232%, generating over VUV31 million in 2022. Similarly, the international outbound roaming market has witnessed a rise in the total number of outbound roamers by 18% earning over VUV23 million of revenue in the same year. The trend has been stimulated by the growing number of Vanuatu's labor mobility travelling overseas in pursuit for employment, business undertakings, and leisure.

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Introduction

This 2023 Telecommunications Sector Report was developed by the Telecommunications, Radiocommunications and Broadcasting Regulator (TRBR), building on from the sixth report released in 2022. This annual Sector Report covers the period beginning January 2022 to December 2022

The report provides an assessment and analysis on the impact of the COVID-19 pandemic on the telecommunications sector and provides insights into the sector performance, challenges, and opportunities in the aftermath of the COVID-19 pandemic.

The collection, analysis and dissemination of accurate and timely market information is critical for a wide range of stakeholders as well as the TRBR, and a source for the designing of effective, proportionate and efficient market policies and regulations to foster and importantly to maintain a competitive telecommunications sector. The TRBR collects statistics bi-annually for that purpose and continues to improve its collection of a range of detailed data and statistics from telecommunication service providers. These statistics are also used for awareness and for the monitoring the trends in the Vanuatu telecommunications markets, as well as enabling transparent and aggregated information to be available to the Vanuatu Government, the telecommunication industry, and the general public. The data presented in this Sector Report are also extremely useful for international and regional comparison and benchmarking.

Furthermore, this data collection framework has been a very effective regulatory tool that continues to assist the Vanuatu Government to monitor and assess the progress of working towards achieving ECO 2.9 of the Vanuatu National Sustainable Development Plan (NSDP) by giving an overall view of



how the commitment of the Government and Mobile Operators has been put in place to “increasing use of and access to information and communications technologies, including on-line Government services.”

The TRBR would like to acknowledge all the telecom service providers for honouring their commitments in submission of required data to enable the statistical analysis for this Report to be developed. The TRBR welcomes their support and cooperation and looks forward to their continuous cooperation going forward.

This Report is also available in electronic format on the TRBR’s website (<https://www.trbr.vu/en/public-register/reports/telecommunications-sector-report>) and we welcome any comments or feedback on any aspect of this Report.

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Data Source Disclaimers

Under Section 8 (Information Gathering) of the Telecommunications, Radiocommunications, and Broadcasting Regulations Act NO. 30 of 2009, as amended, the TRBR has specific powers to request the provision of relevant information from the telecommunications service providers.

The data in this Sector Report originates from a variety of sources namely, the TRBR data collection framework, Department of Customs and Inland Revenue, National Statistics and more. However, the analysis presented is predominantly based on data collected in the TRBR's bi-annual collection of market statistics from the industry under the TRBR's Order No. 1 of 2015 (Order 1) and information that is collected on *ad-hoc* basis, under the powers contained in the Telecommunications Licenses, Exceptions Licenses or the TRBR Act.

The data collected under Order 1 covers the previous six-month period, from 1st January to 30th June and 1st July to 31st December respectively. Where this Report, or the prior Report, indicates a value for a period prior to 1st January 2015, that information has typically been provided to the TRBR under prior reporting frameworks, or through an ad-hoc request for information by the TRBR under Section 8(1) of the Act. The TRBR is unable to confirm or deny the accuracy or consistency of data for the period of this Report.

For information collected under Order 1 of 2015 where the data is a measure of volume, such as revenue and minutes, the information is related to the volume utilized or accrued during a specific monthly period. Where the information describes a variable that is a snapshot in time, such as subscriber numbers, then it is related to the number of subscribers counted on the last day of the calendar month. For example, in relation to the number of mobile

subscriptions, this number represents the number of users that have initiated a chargeable event during the preceding 90-day period.

In instances where data is related to a measure of volume (e.g. a volume of usage such as total SMS sent, call minutes made, or revenue earned and so on), this data is presented as a quarterly or annual value and the TRBR has, at times, sought to combine specific values to provide more workable and useful insight on longer term trends. On occasions where a variable is a snapshot in time, such as for subscriber numbers, then the TRBR has provided the value at the end of the last month of the same quarter. For example, at 31st December for any annual subscriber values presented or the 31st March for the value for the first quarter of the year (i.e. Q1).

The Act, however, provides restrictions on the use and disclosure of information collected by the TRBR under Section 8(7) which states:

"Information furnished or documents provided under this section must not be disclosed by the Regulator except:

- (a) with the written permission of the person from whom the same was obtained; or*
- (b) in the course of proceedings under Part 9; or*
- (c) was required by a court order; or*
- (d) where, in the opinion of the Regulator, the information comprises, or will be reproduced in, aggregated data so that it does not identify any particular service provider; or*
- (e) where such disclosure is required by this Act or any other law."*

The TRBR is currently under no obligation under the Act to report on specific statistical indicators or to produce this Telecommunications Sector Report. It is

only compelled to release an Annual Report. Therefore, the TRBR is currently restricted to only disclosing information with prior approval from the provider of that information, or where the information provided is in aggregated form.

In some instances, the TRBR has chosen not to report on specific indicators so as not to compromise its adherence to Section 8(7)(d) and to avoid the disclosure of the specific service provider to which it relates.

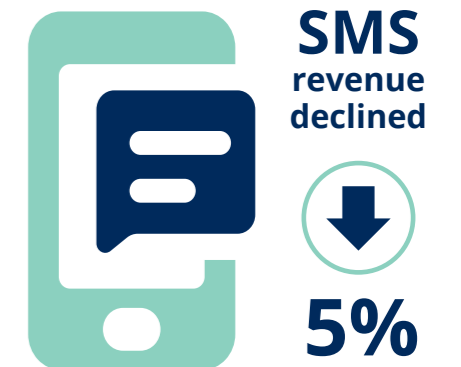
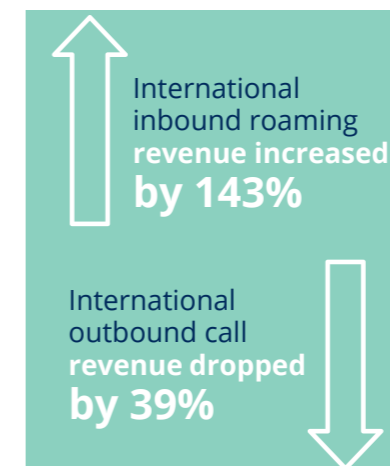
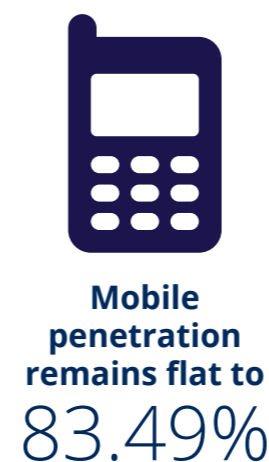
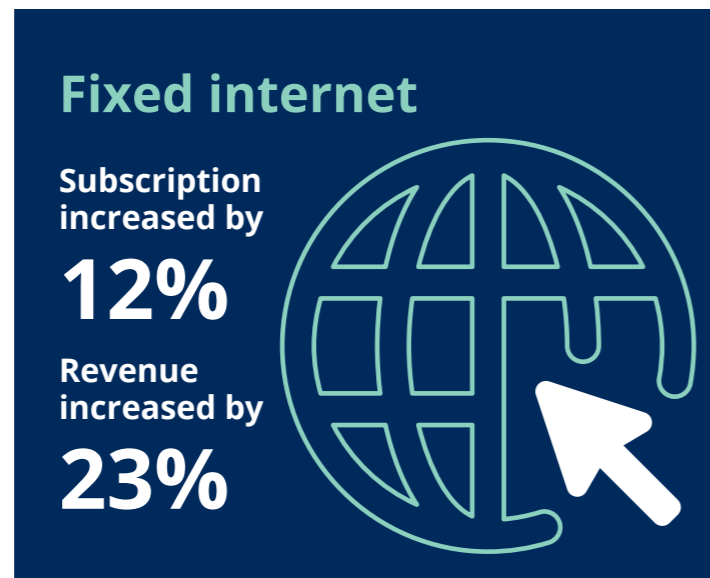
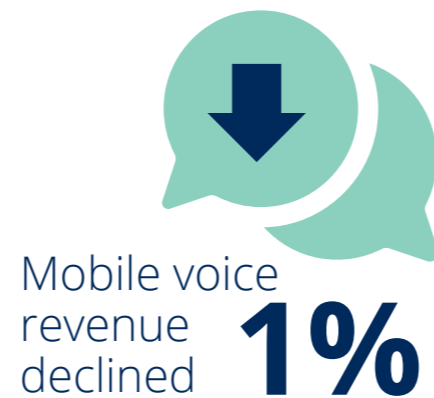
The data used may be revised by the respondents or the TRBR when it appears inaccurate, an error has been made or was an estimate. Consequently, some prior year figures used previously in other publications have been revised. We also note that not all respondents were able to provide sufficient information in order for the TRBR to appropriately compare or segregate or report on specific indicators. In such instances, the TRBR has sought to combine or estimate specific indicators or values in order to display the relevant information. In the case of estimated values, the TRBR has indicated and/or attempted to provide a further rationale, if appropriate, where such estimations have been made.

In light of such challenges, the TRBR does not make any warranties that the information in this Report is free from inaccuracies, errors or omissions, is exhaustive, is of merchantable quality and fit for a particular purpose and is not liable for any inaccuracy, error or omission in the information contained in this document.

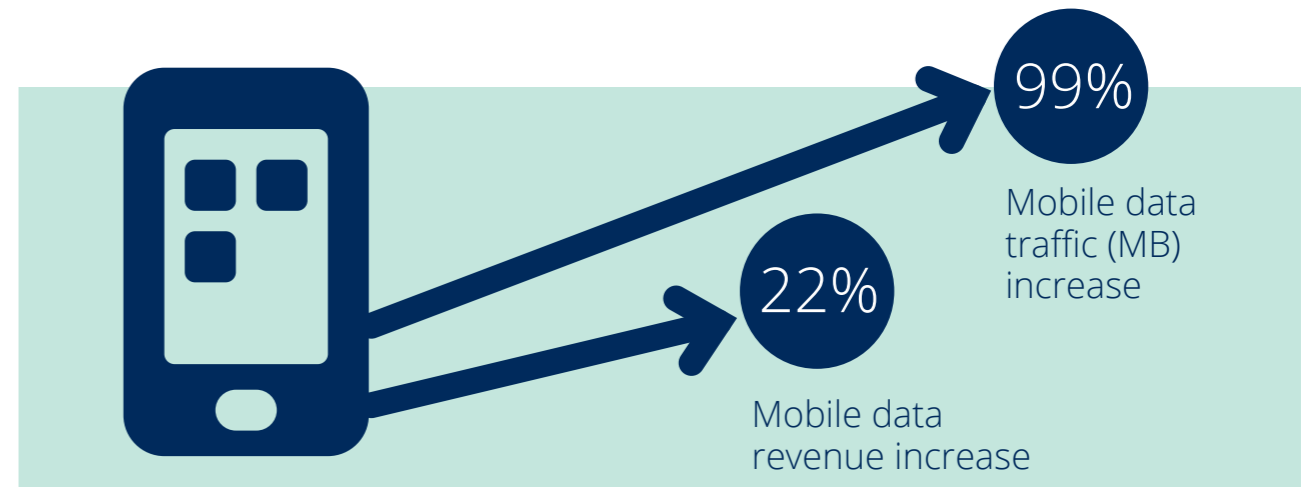
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Key Trends in the Telecommunications Sector

Key observation trends that TRBR has been able to capture for the year ending in 2022, are shown below:



Fixed telephony



4

Gross Telecommunications Revenue

The Vanuatu’s telecommunications sector has this year witnessed another significant milestone of positive recovery and the market size has been assessed to surpassed VUV5 billion in total gross revenue for the year 2022. This translates to an annual growth rate of 14.31% when compared to the aggregate revenue of VUV4.4 billion in 2021.

The telecommunications gross revenue includes revenue generated by the fixed, mobile, and data operators, including internet operators (both network and virtual operators) offering services within Vanuatu during the fiscal period under review.

The growth in total gross revenue as illustration in the graph has been driven by the continuous deployments and expansion of 4G/LTE networks around Vanuatu addressing the increase consumer’s demand and choice for emerging and innovative services and technologies.

The adoption of these new emerging technologies supported by intelligent devices such as smart phones have caused a rapid shift in overall user preference to communicate via mobile smartphones. The user-friendly interface of these smartphones not only unlocks more avenues or opportunities for innovation in product and user experience design but has significantly increased consumers engagement and utilization of mobile services. This surge in usage has played an instrumental role in propelling the expansion of the market.

Furthermore, this growth has been propelled by escalated investments in the sector. Service providers have consistently demonstrated substantial commitments to innovation in their business strategies and solutions. These endeavors have continually captivated and expedited the demand and consumption of digital services. This initiative includes taking a more advanced approach to engaging customers, achieved through offering entertainment experience via new services offers and packages as well as new business agility techniques and repositioning of new products.

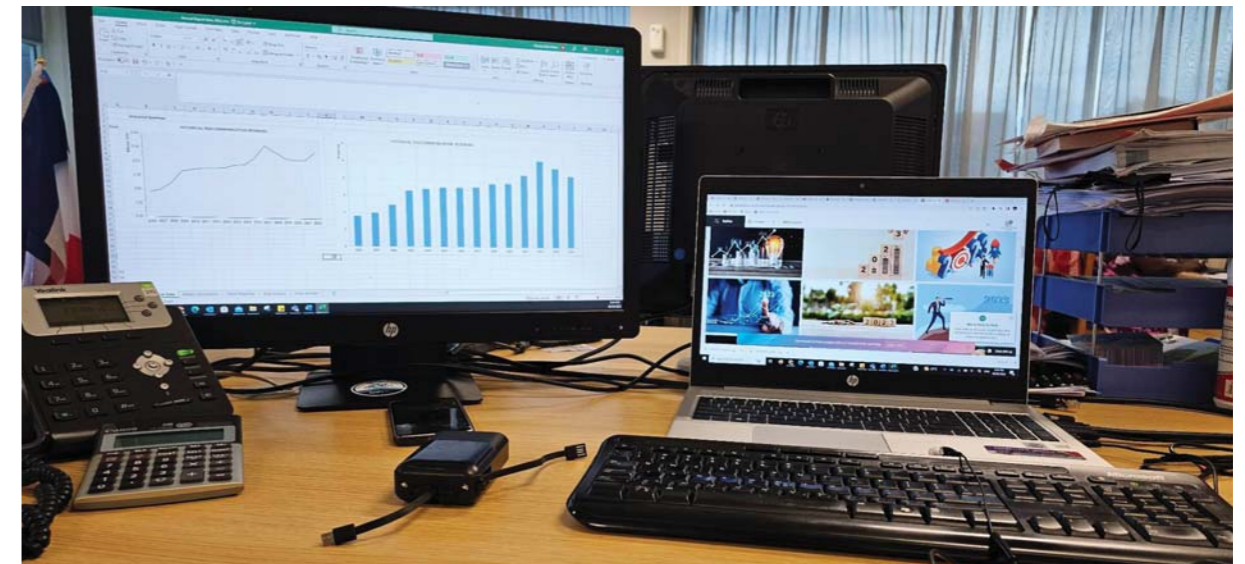
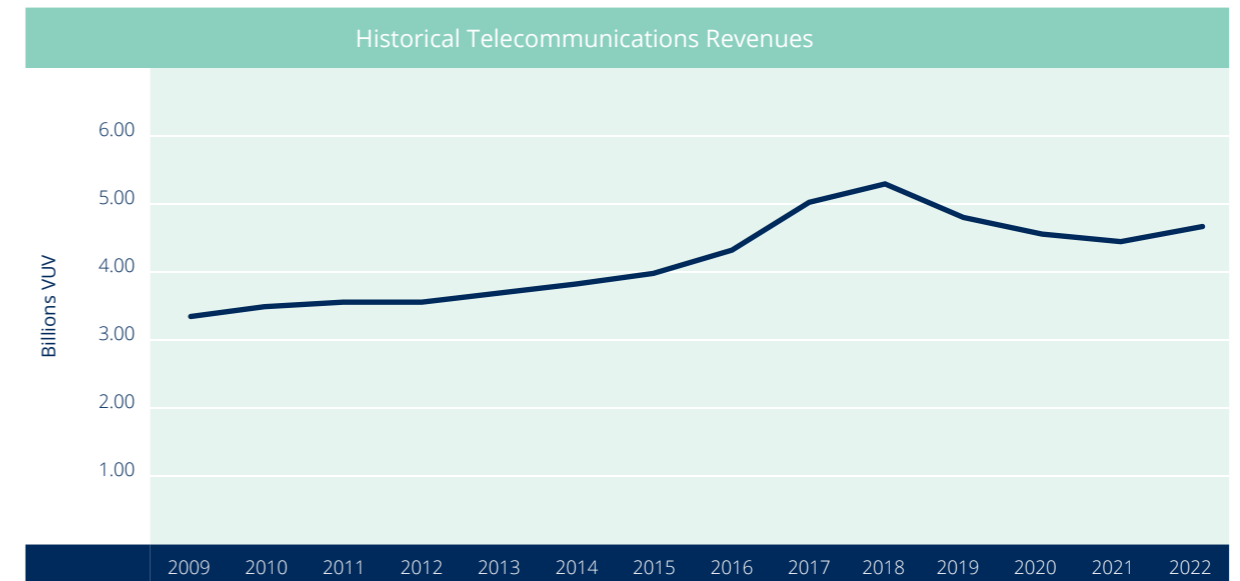


Figure 1: Telecommunications Gross Revenue



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Mobile Services

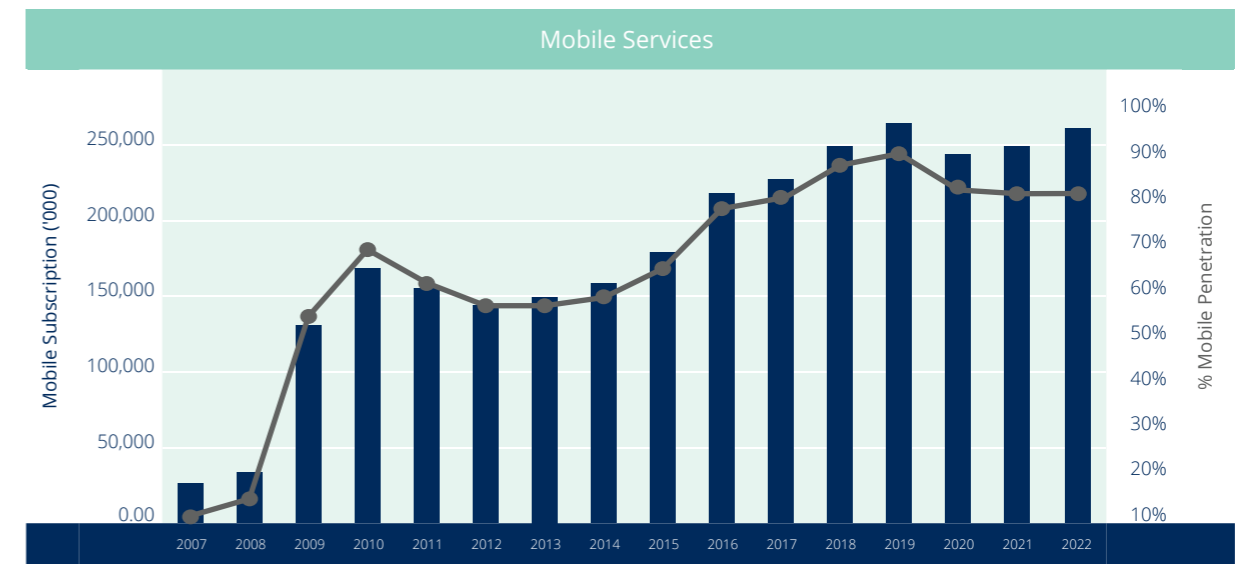


Mobile connectivity continues to remain vital in people’s lives and has play an important role in supporting daily business operations as Vanuatu navigates its way out of the repercussions of the COVID-19 pandemic. The surging demand for and utilization of mobile services have emerged as prime catalysts for the swift recovery of both social and economic activities within Vanuatu. Accessing mobile connectivity via mobile phones and smartphones has gained more popularity, with majority of the population now owning one.

The integration of mobile devices has fundamentally reshaped the lifestyle in Vanuatu and have become an essential asset in people’s daily lives. The access to these mobile services has made life very convenient and easy for the residents whether through communications, financial transactions, education, health, and social entertainment. The notion of life without these mobile services has become unimaginable for all.

5.1. Mobile Cellular Subscriptions

Figure 2: Vanuatu Mobile Subscribers & Penetration



While the Vanuatu’s economic and social activities has begun to punch back, the mobile market has again witnessed another significant growth in mobile cellular subscription in 2022. Data collected and illustrated in the graph shows that the total number of mobile subscribers went up by 2.26% recording over 255,000 subscribers in 2022.

The growth has been driven by the escalating dependence on mobile services across individuals, businesses, and households. A significant portion of these mobile devices necessitate SIM cards for accessing the spectrum of mobile services.

Further, the comprehensive marketing efforts by the

services providers continue to stimulate the increasing level of competition that propelled the growth of mobile connections. Operators’ continuous investments and commitments towards digital transformation and employing new technologies, have bolstered productivity and efficiency through innovative business solutions and affordable service packages that is currently driving the demand of digital services in the Vanuatu market.

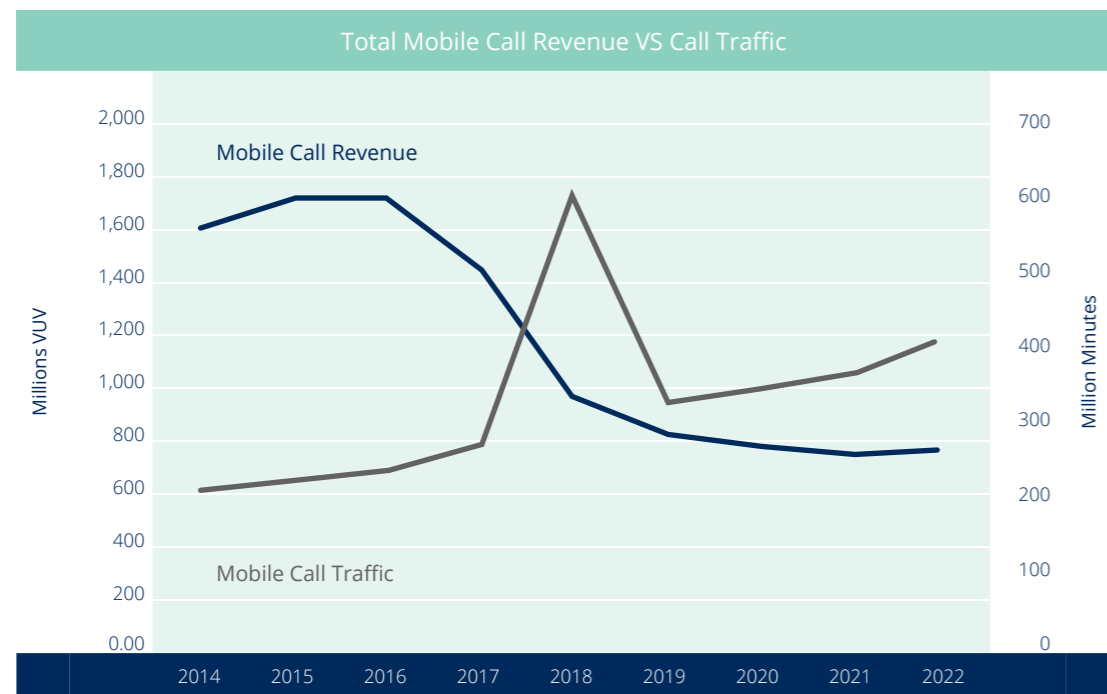
Despite the expansion of mobile subscriptions, the penetration of mobile services in Vanuatu has demonstrated a relatively stagnant trend. Gradually inching upward by 0.25%, the new penetration rate reached 83.49% in 2022, as compared to the 83%

recorded in 2021. While the calculation of penetration does not entirely account for the presence of dual SIM mobile handsets, a key contributor to this consistent trajectory is the

economic meltdown and inflationary tendencies that have affected consumer spending, particularly impacting the affordability for those with lower incomes.

5.2. Mobile Call Revenue Vs Call Minutes

Figure 3: Mobile Call Revenue Vs Mobile Call Traffic



The mobile call services have witnessed another downward trend in call revenue in the year ended 2022. The data collected and illustrated on the graph shows that mobile call revenue has fallen from VUV750 million in 2021 by 1% to VUV743 million in 2022. The reduction in mobile voice revenue can be attributed to the swift adoption of Over-the-Top (OTT) services like Messengers,

Viber, WhatsApp, and others. These alternatives are notably cost-effective and convenient for consumers. The ongoing surge in popularity and the substantial demand for these OTT services are indicative of their status as preferred substitutes over traditional mobile voice services.

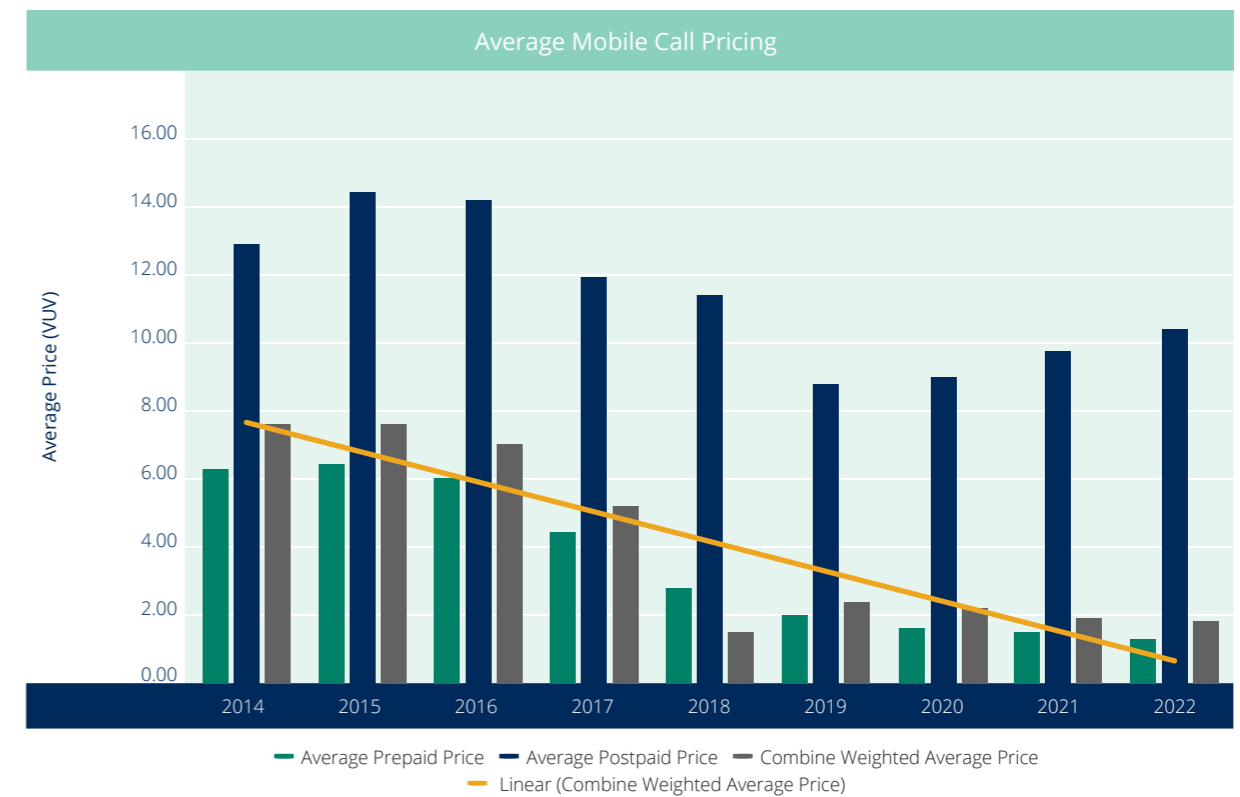
Despite that the Mobile all revenue is declining;

the mobile call market has experienced a spike in total minutes by 8% hitting a new peak of over 403 million minutes in 2022. This trend is propelled by the ongoing competitive nature of the market, where mobile operators have effectively introduced promotions and packaged services, including free minutes, at affordable

rates for the users. These bundled packages present users with a variety of options at much less rate to choose depending on how much they can afford. These low prices have stimulated growth in mobile call traffic but have directly influenced the growth of call revenue.

5.3. Average National Mobile Call Pricing

Figure 4: Average Mobile Call Pricing



Even as the advertised mobile call rates remain consistent at VUV28 per minute for on-net calls and VUV32 per minute for off-net calls, the data depicted in Figure 4 indicates a continued decrease in the average

cost of prepaid calls, dropping by 11%. This results in a new reduced rate of VUV1.43 per minute for the year 2022. In contrast, the average price for post-paid services has undergone another increase of 7%,

reaching a peak of VUV10.43 per minute in the same year.

Despite the ascent in post-paid rates, the combined weighted average price per minute for calls has seen a further 8% reduction, reaching its lowest point of VUV1.85 per minute in 2022. This drop in

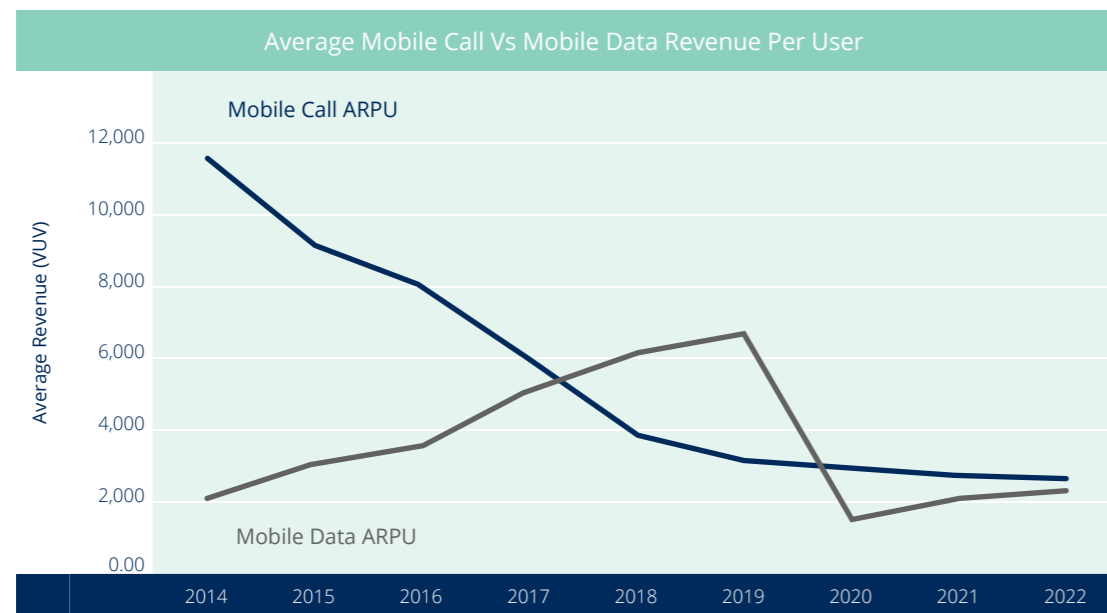
the overall average mobile call price is primarily attributed to the growing demand and utilization of prepaid mobile call services, which seems to be pushing down on the overall average call pricing.

The driving force behind this trend can be attributed to the ongoing transition of consumer preferences towards online service platforms, particularly Over-the-Top (OTT) services. This shift is a direct consequence of the data plans' low-price strategies employed by the service providers, which consumers perceive as offering

substantial value and are affordable. Even as mobile call revenue experiences a decline, the traditional voice services still remain a vital medium for communications especially for businesses, individual with low digital literacy rate and for emergency situations.

5.4. Average Mobile Revenue per Subscriber

Figure 5: Mobile Call ARPU Vs Mobile Data ARPU



Average Revenue Per User (ARPU) is an important indicator that measures the average revenue earned from each subscriber of the mobile services in specific time frame and reflects how well the operators have been able to meet customer's needs and expectations. The graph above is a comparison of how much average revenue is generated from each user of mobile call services

and mobile data services. The data illustrated on the graph shows that average revenue per mobile call user had declined by 3% hitting a lower point of VUV2,745 in 2022. Average revenue per mobile data user on the other hand has witnessed an annual growth of 4% recording a higher peak of VUV2,296 in the same year.



6

Internet Services



Access to internet connectivity is crucial and the impacts are profound and far-reaching reaching individuals, businesses, and Governments throughout most of the areas in Vanuatu. While Vanuatu is emerging from the post-impacts of COVID-19, internet continue to enable access to online services, new forms of communications, entertainments, and life-enhancing opportunities. The expansion of the internet of things and the rapidly growing network of connected devices has seen to accelerate the transformation of digital financial services, e-health as well as on-line learning in Vanuatu.

While the uptake of internet usage widens, there are also concerns raised over data privacy, cybersecurity, digital harmful content and many more that continue to hinder the use of internet due to fear of on-line safety. In working towards closing these usage gaps, there are on-going discussions amongst the relevant stakeholders in the industry to tighten legal frameworks to efficiently

address these issues. Nevertheless, the pandemic has emphasized the importance of internet connectivity and has been an alarm for the policy makers to take

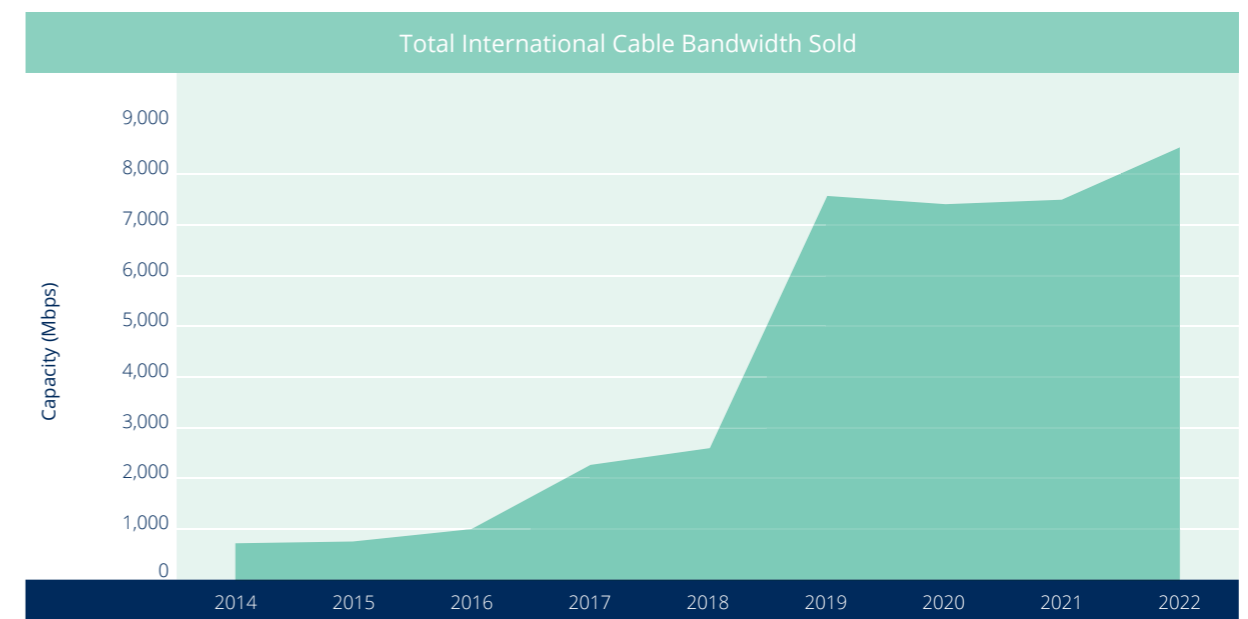
actions to prepare for the future challenges and driving digitalization to improve resilience in Vanuatu.

6.1. International Bandwidth.

International bandwidth is an important foundation for internet traffic in Vanuatu and enabled connectivity and access to a lot of important life-enhancing services. Businesses had been able adopt digitalization more efficiently leading to rapid uptake of innovative services. The positive impact has been stimulated through on-going utilization of high-speed broadband bandwidth supplied by Interchange Limited (ICL) via subsea network services and through satellite service providers.

The unrelenting consumption of broadband services in Vanuatu in this post-world of COVID is driving the demand for international bandwidth. While the access to fast and reliable subsea cable bandwidth through fiber optic is limited to urban only, Satellite broadband continues to provide connectivity to the remote and outer islands, including parts of Vanuatu where mobile telecommunications networks is not accessible.

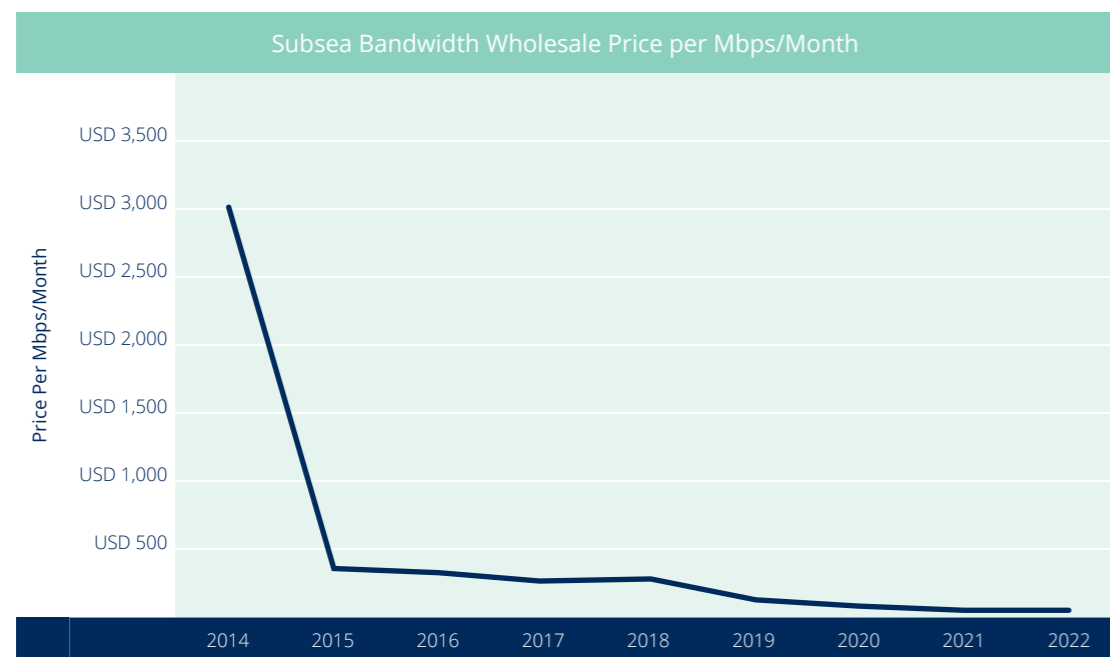
Figure: 6 International Cable Bandwidth sold by ICL



The subsea international bandwidth market has this year witnessed another significant increase in the demand of bandwidth as consumption and usage of fixed and mobile broadband services in the retail market continue to accelerate. Data illustrated in Figure 6 shows that international bandwidth has gone up with total capacity sold having increased by 13.33% hitting a new point of 8.5Gbps in 2022. This trend has been due to the 77% reduction of maximum approved price of bandwidth by ICL from USD285.00 per Mbps/Month to USD65.00 in 2022 as illustrated in Figure 7 below.

Furthermore, satellite communications technology offered by Kacific has again proven its importance and has continue to show positive impact in enabling connectivity to urban and remote areas in Vanuatu. This new modernized technology has changed the way people communicate through the provision of secure, affordable, and reliable means of communications across vast distances. Individuals, Businesses and Government are able to stay connected and exchange information while at the same time allows for rapid delivery of vital services such as emergency health care services, natural disaster updates and disaster relief programs during the wake of a disaster.

Figure 7: Subsea Wholesale Bandwidth Pricing



6.2. Mobile Broadband Services

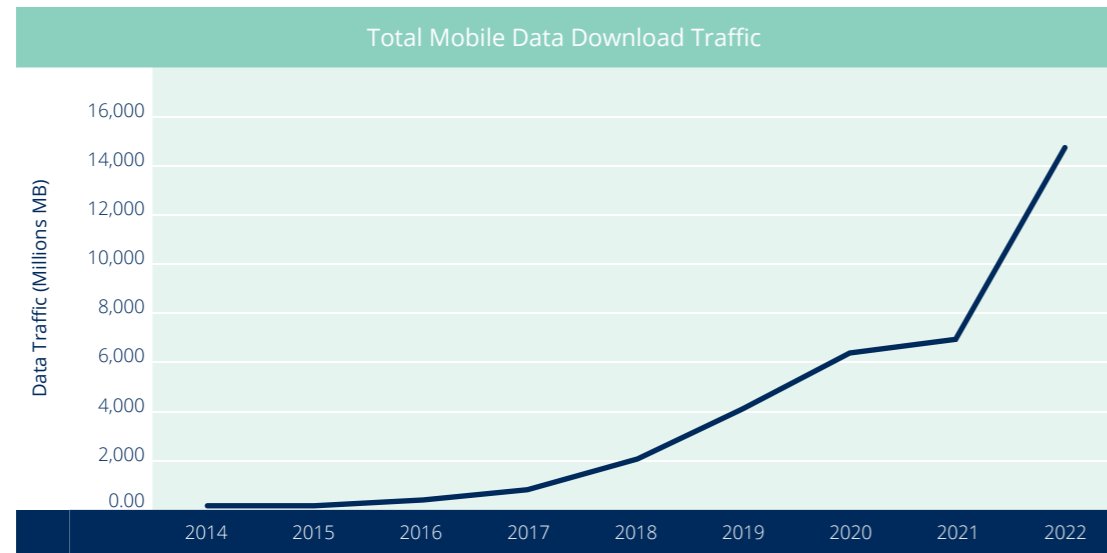


6.2.1. Mobile Data Traffic

Mobile devices continue to play a vital role in enabling access to internet services. For many, it is the only primary way to access internet services in urban and in rural areas. The challenges faced during COVID-19 pandemic has highlighted the importance of mobile broadband services to access digital services and mobile operators has continue to provide innovative solutions to meet the rising demand in the market.

With this rapid uptake of digitalization, the mobile broadband market has this year witnessed another huge explosive growth in mobile data downloads. Data illustrated in Figure 8 shows that mobile download traffic has increased by 99% hitting a new peak of over 14,700 terabytes in 2022.

Figure 8: Showing growth of Mobile Data Traffic



The growth in mobile data traffic has been attributed to three important factors namely the improved device capabilities, an increase in data-intensive content and the improvement of the network performance.

The increasing adoption and usage of smartphones and user-relevant applications has played a significant role in stimulating growth in mobile data consumption. With the uptake of technological advancement, most devices and smartphones use to accessed mobile broadband in Vanuatu comes with improved capabilities where users can access and use wider range of digital services and contents via their mobile handsets. The device improvements such as high-resolutions displays, faster processors and improved graphics has continued to boost consumers experience to enjoy contents such as video streaming, gaming, and other visual-rich

websites. These user experiences have been the key driver encouraging consumers to spend more leading to growth in mobile data consumption.

Furthermore, the increasing consumption of data-intensive content also contributes to the growth of mobile data traffic. The improved device capabilities have enabled users to enjoy data-intensive content such as online-video streaming platform namely Netflix, YouTube, social media, and music streaming platform such as Spotify and apple music. These various platforms and applications require intensive use of mobile data and have been stimulating growth in mobile data consumption as demand of these online contents rises.

Likewise, the upgrade of mobile networks to 4G/LTE throughout Vanuatu has a crucial impact on the uptake of mobile broadband usage. With improved network performance which enable

users to experience faster speed, improved streaming quality, expansion of network coverage through utilization of 700Mhz band and use of new technologies, have stimulated the increasing demand and usage of mobile data services.

The growth of mobile data traffic is expected to continue in the next few years as technological advancement, and demand and supply for mobile data services will continue to remain vital for the livelihoods of the people in Vanuatu.

6.2.2. Mobile Data Revenue Vs Mobile Voice Revenue

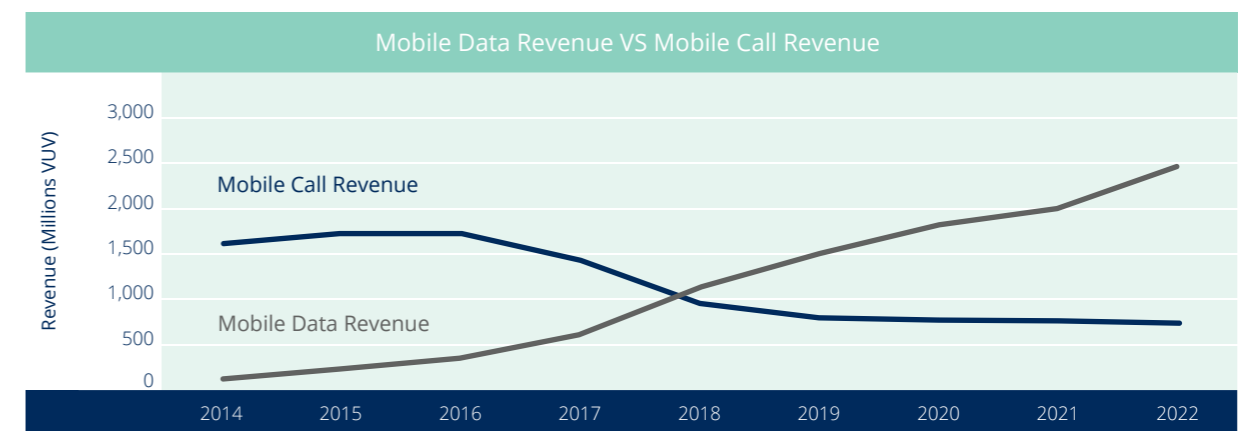
The mobile broadband market continues to witness a significant increase in mobile data revenue while mobile voice revenue continues to experience its downward trend. Data illustrated in Figure 9 below shows that mobile data revenue has increased from VUV2 billion in 2021 to VUV2.4 billion in 2022. This represents a year-on-year growth rate of 22%.

These activities are stimulating the increased in the demand and consumption for mobile data which is currently boosting revenue growth.

Furthermore, the shift of consumers communications preference from traditional voice to data-based communications applications or Over-the-top services have also contributed heavily to the uptake of mobile data services. These online communication applications such as WhatsApp, Messenger, IMO, Viber, and many more, have special features and capabilities that permit users to communicate using text messaging, Voice over IP (VoIP), and video calls via mobile networks. The increasing demand of the OTT services has led to rapid growth in mobile data consumption leading to a growth of mobile data revenue.

The growth in mobile data revenue has been boosted by the increasing data consumption. With the improvement of device capabilities and expansion of mobile networks, the demand of digital services and contents continue to rise, and mobile users increasingly rely on mobile data services to access and enjoy various on-line entertainments and activities such as video and music streaming, social media, and online services such as digital finance, education, and government services.

Figure 9: Showing Mobile Data Revenue Vs Mobile Voice Revenue



The data analysed by TRBR forecasted that the overall trend in the telecommunication sector illustrate a rapid shift towards mobile data as the primary mode of communications and revenue driver. This is expected to prolong as demand

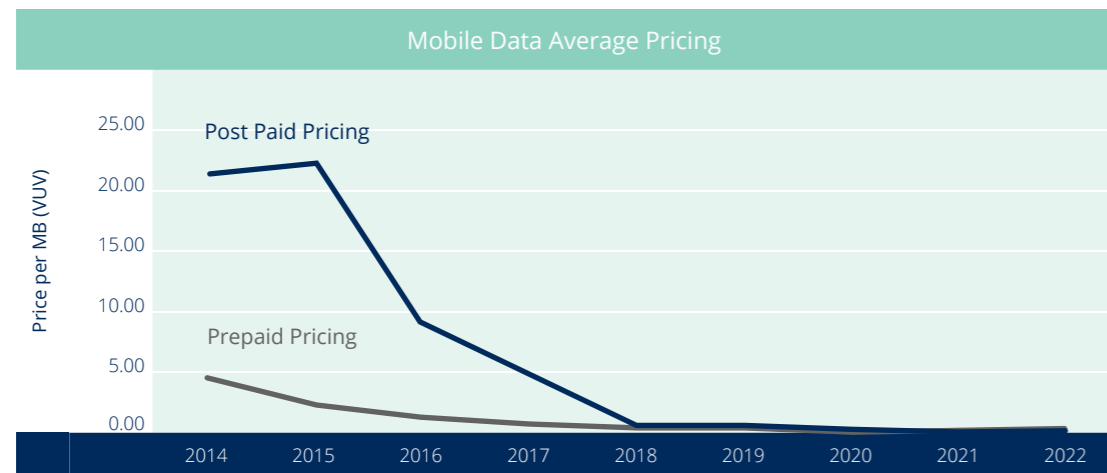
for OTT services will continue to rise, reflecting the digital transformation of communications preference and data-intensive activities for mobile users.

6.2.3. Average Price of Mobile Data

The surge in market competition and the wave of digitalization in Vanuatu has boosted mobile operators to become more innovative, leading them to offer more attractive and innovative data plans and packages in the market. The on-going introduction of these new and diverse data plans and packages continue to address escalating demand unitizations of mobile data services. These data plans offer large value in terms of data allowances at affordable pricing and some of which offer special data allowances for data-intensive applications and contents. This has encouraged growth in mobile data consumption as consumer spending continues to increase leading to the gradual decline of average price per MB.

The mobile broadband market has this year experienced further decline in the average price of mobile data. The data collected illustrated in Figure 10 below indicates that average prepaid pricing has dropped by 29% to a lower price of VUV0.20 per MB in 2022. Further, the average post-paid pricing has also decreased by 42% recording its new lower price of VUV0.14 per MB. With both prepaid and post-paid downward trend, the combined-weighted average price has also decreased by 37% hitting a new point of VUV0.17 per MB. The downward trend is anticipated to continue in the next few years as mobile data services continue to dominate the mobile market.

Figure 10: Showing Mobile Data Average Pricing



6.3. Fixed Internet Services



Amid the ongoing efforts to overcome the adversities brought about by the COVID-19 pandemic, the significance of fixed internet services continues to remain vital in this post-pandemic landscape. These services are instrumental in connecting individuals across Vanuatu, particularly in remote regions where mobile connections may not be feasible. The dependability of fixed internet connectivity has also ensured the uninterrupted continuation of people's daily lives and business activities. It has accomplished this by facilitating remote work, fostering connections among friends and family, enabling online education,

facilitating digital financial transactions, supporting e-commerce, and offering avenues for online entertainment.

The business sector has also thrived within this new digital realm, utilizing the robust and high-speed infrastructure of fixed internet connectivity to access the necessary resources. In essence, fixed internet services stand as a vital bridge that not only facilitates connectivity but also nurtures a flourishing environment for various aspects of life and enterprise.

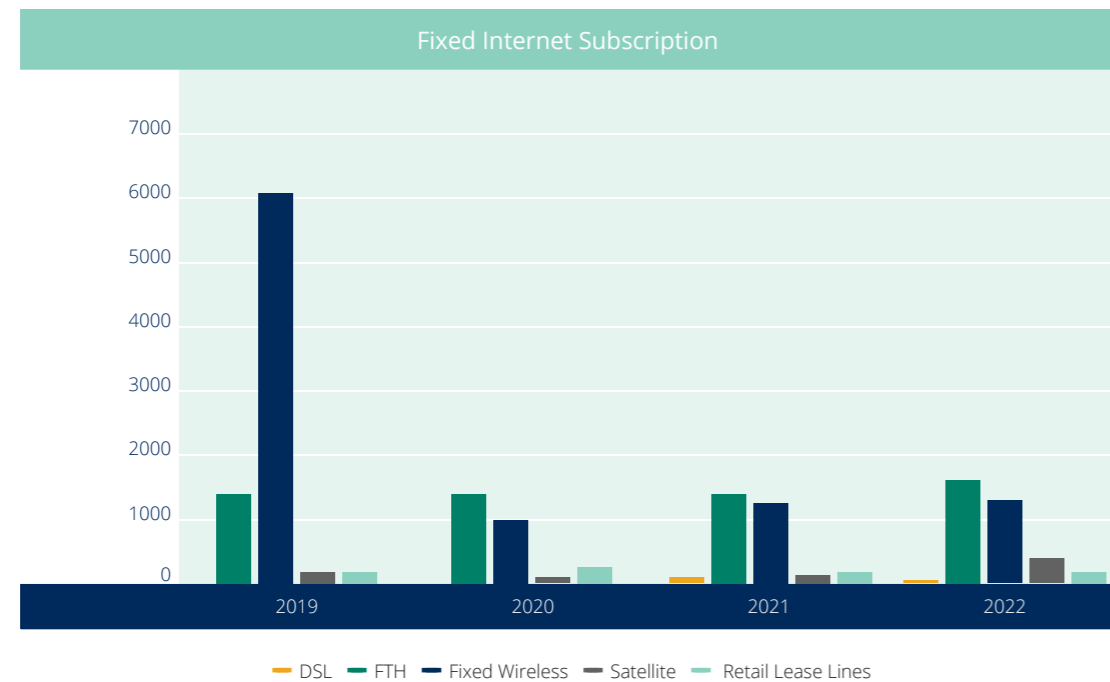
6.4. Fixed Internet Subscriptions

The investments commitments from the service providers continue to stimulate the uptake of digitalization through the deployment of new technologies and services. Thus, creating new opportunities and boosting demand from individuals and businesses and where access to fiber optic network or mobile network is not available, satellites services play a crucial role in connecting people. Thus, driving social and economic digital transformation.

With the increasing demand of broadband services, the Vanuatu's fixed internet market has witnessed another significant increase in total fixed broadband subscription by 12% recording

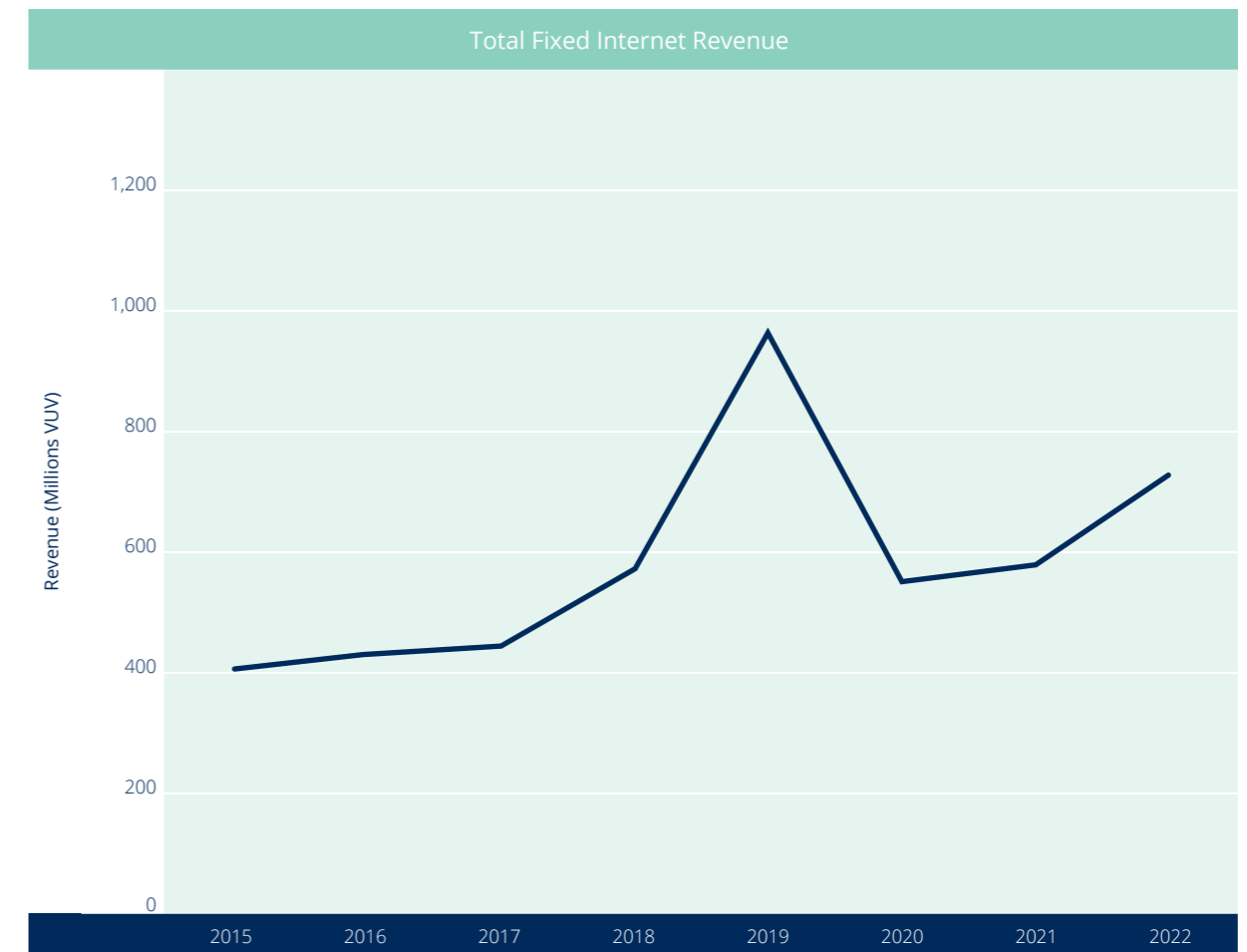
over 3,500 subscribers in 2022. The total fixed subscription consists of Digital Subscriber Line (DSL), Fiber-to-Home (FTH), Fixed wireless, satellite and retail leased lines. Data illustrated in Figure 11 below shows that DSL subscription has declined to less than 80 subscribers with revenue falling by 37% in 2022. Fiber to Home (FTH) subscriptions on the other hand has further spiked by 13% recording an increase in revenue earned by 2% in 2022. The fixed wireless market also experienced a slight increase in subscription by 1%, recording a growth in revenue of 5% in the same year. Furthermore, the satellite market has witnessed another spike in subscription by 131% generating over VUV101 million in 2022.

Figure 11: Fixed Internet Subscription



6.5. Fixed Internet Revenue

Figure 12: Showing Total Internet Revenue

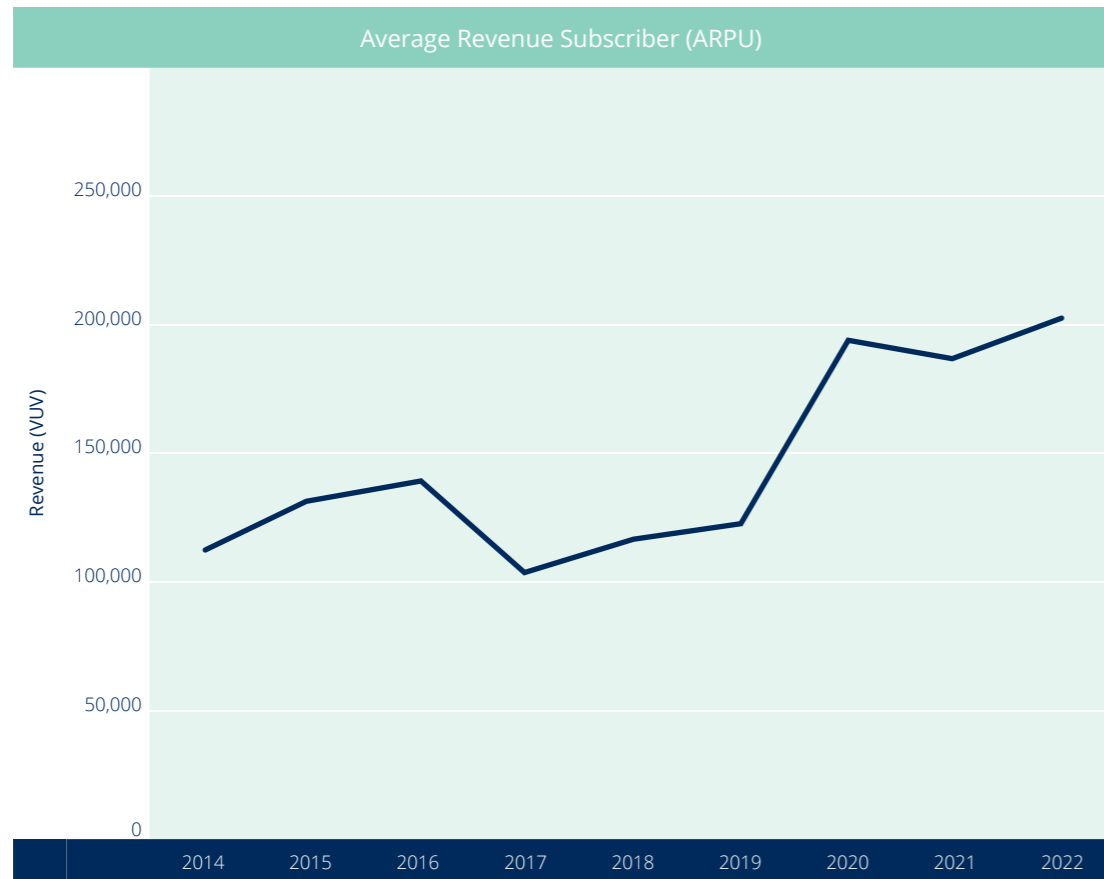


The Vanuatu's fixed broadband services market has this year recorded another increased in revenue by an annual growth rate of 23%. The revenue has grown from VUV580 million in 2021 to over VUV713 million in 2022. This trajectory is projected to persist in the

coming years, as the inclination towards high-speed broadband services and the demand for accessing digital content continue to escalate in tandem with the advancing wave of technological evolution.

6.6. Average Fixed Internet Revenue per Subscriber

Figure 13: Showing Trend of Fixed internet Revenue per Subscriber



While the market is experiencing the spike in the number of fixed internet subscriptions, data presented in Figure 13 illustrates that fixed internet revenue per subscriber has increased by 10% with a peaked revenue of VUV202,000 per subscriber in 2022. An important contributing factor to this trend, is the increasing data consumption by users to access digital services and contents such as

video streaming, online gaming and other cloud-based applications that requires users to consume more data than ever before. The appetite has boosted service providers to introduce more innovative packages with huge data allowances to meet the growth demand, thereby stimulating more spending from the users leading to growth in ARPU.



7

Traditional Short Message Service (SMS)



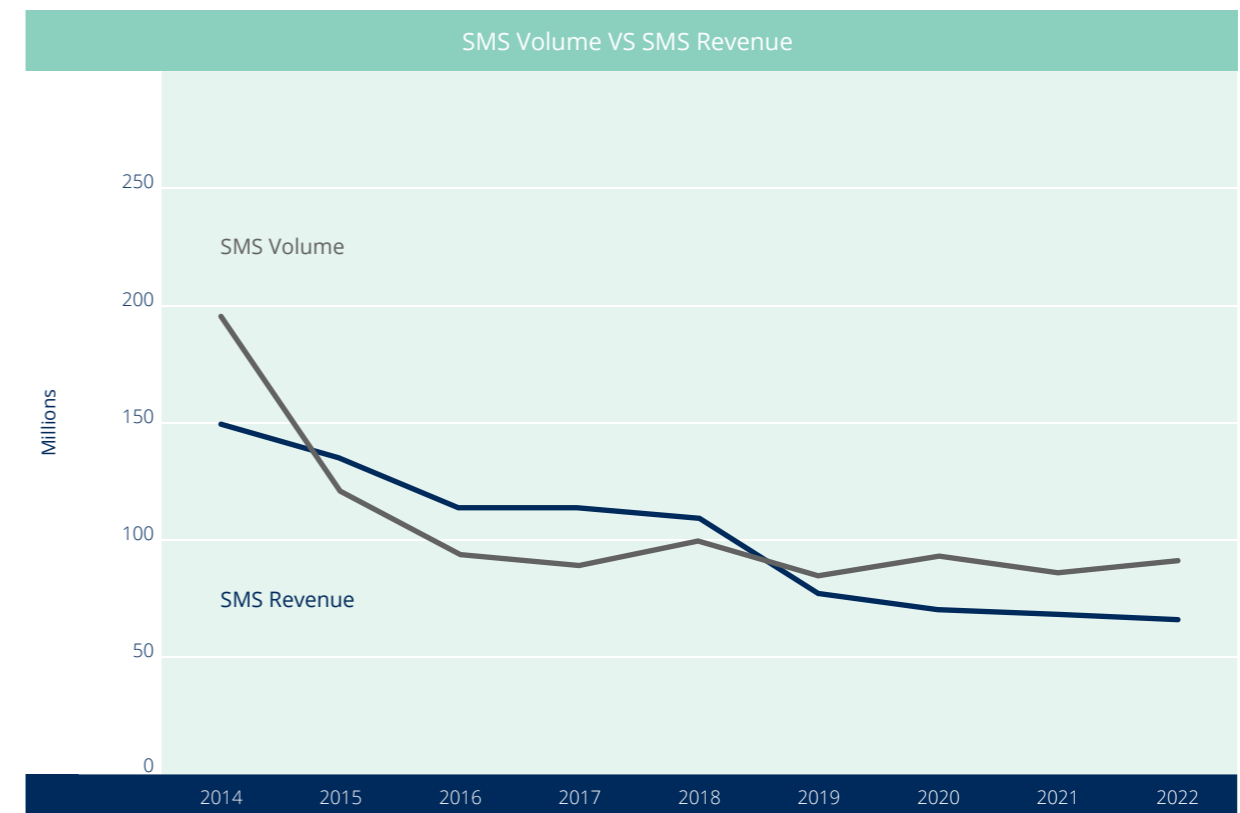
While Vanuatu is striving through the post-covid19 pandemic situation, economic and social activities have been relying heavily on the digitalization of ICT platforms to ensure continuance of people livelihood and businesses operations. Short Messaging Services (SMS) has also played a crucial role in this new trend of emerging lifestyle and has proven to be an essential and cost-effective communication tool for individuals, businesses, and organizations. Even as the surge in digital transformation stimulating demand and usage of instant messaging applications and social media platforms, SMS has upheld its significance owing to its dependable nature, wide accessibility, and compatibility across a multitude of mobile devices.

7.1. SMS Traffic & Revenue

The advancement of mobile technologies has enabled mobile phones to become a dominant tool for disseminating information and have undoubtedly become the primary mode of accessing SMS. Where internet connectivity is limited or unavailable, SMS services often is available and connect people in areas where mobile coverage is accessible even in the remote areas in Vanuatu. The capabilities have proven SMS to be a useful and reliable service for dissemination of

information related to natural disasters, and further, SMS messages can be disseminated to larger number of users simultaneously making it more convenient and efficient way to reach wider group of people before a disaster strikes. This has proven to help save many lives as information and early warning messages were received by the population in advance via SMS services, for the residents to prepare for the impacts of a disaster and facilitating response efforts.

Figure 14: Showing Trend of Traditional SMS Revenue & Volume



The Vanuatu SMS market has witnessed this year an increased in SMS volume by 5% recording over 88 million SMS in 2022. While SMS volume has also spiked, however, data confirms that SMS revenue has further declined by 5% earning a total revenue of VUV65 million compared to the total revenue of VUV68 million recorded in 2021.

A major driving factor to this downward trend is the increasing demand and popularity of Over-the-top (OTT) services such as WhatsApp, Facebook messenger, IMO and many more, has

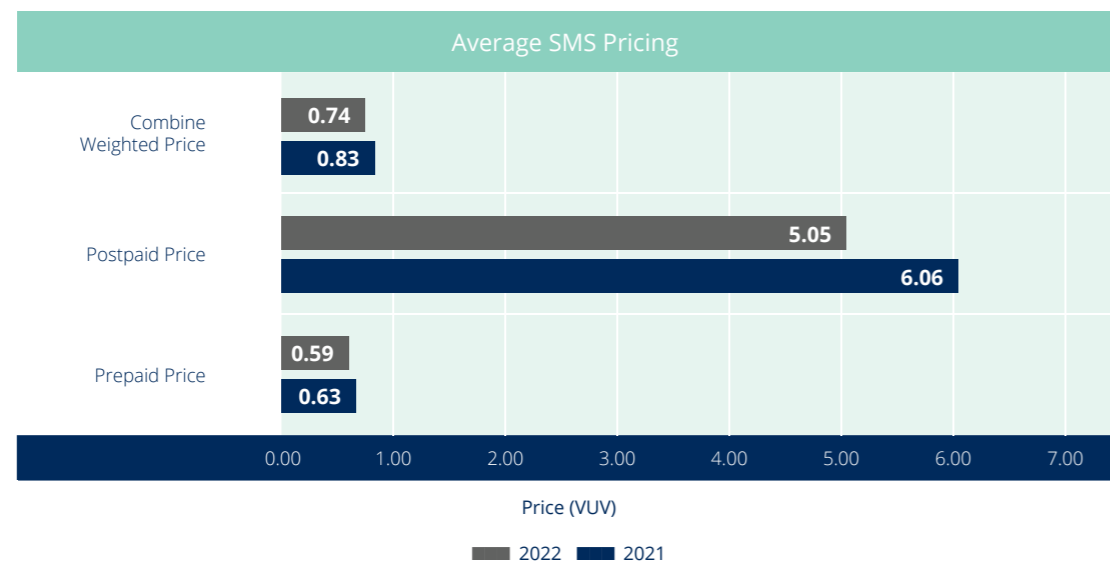
7.2. Average SMS Pricing

While the average standard price remains unchanged at VUV10.50 per on-net SMS and VUV11.50 per off-net SMS, data illustrated in Figure 15 shows that the average prepaid price has dropped by 6% to a new price of VUV0.59 per SMS in 2022. Similarly, the average postpaid price also

led to shift in consumers taste and preference from traditional SMS. The consumer's reliance on these free or low-cost instant messaging apps continues to dominate the market due to its rich and advanced features that allows users to send voice multimedia files, videos, engage in group chats, utilize interactive sticker and emojis and more, therefore boosted the demand for mobile data services which consequently causing the gradual drop in SMS revenue.

fell by 17% recording a new low price of VUV5.05 per SMS in the same. With the downward trend of both prepaid and postpaid pricing, the combined weighted SMS price has also decreased by 11% hitting its lowest peak of VUV0.74 per SMS in 2022.

Figure 15: Showing Average SMS Pricing



The decline in the combine weighted average price per SMS has been stimulated by the increasing demand and usage of prepaid SMS services. Though the prepaid SMS revenue remains flat at VUV50 million, the prepaid SMS market has witnessed a spike in SMS Volume by 8% recording over 85 million SMS in 2022. This has been

7.3. On-net and Off-net SMS

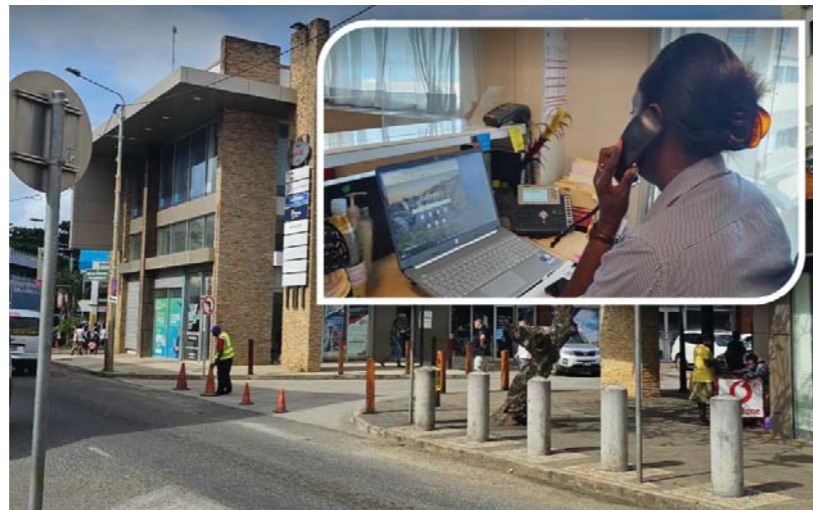
Data collected by TRBR confirms that, though on-net SMS traffic has increased by 7% recording over 86 million SMS in 2022, the on-net SMS has shown a significant decline in revenue by 9% earning a lower revenue of just below VUV46 million in the same year. This was driven by the availability of on-net bundling packages in the market, which offer attractively low average prices. These packages are drawing demand from individuals, government entities, and businesses, enabling them to

maintain connections with their intended audiences. This is particularly crucial in regions where access to broadband services remains unavailable. In contrast, the volume of off-net SMS messages has surged, surpassing 2.2 million SMS messages in 2022. Concurrently, revenue has also experienced a notable 11% increase, reaching its peak at VUV15.7 million within the same year.



8

Fixed Voice Services



The COVID-19 pandemic has reaffirmed the critical importance of reliable telecommunications and digital services for Vanuatu in accelerating the efforts of social and economic recoveries. As operator investments continue to increase, the momentum of digitalization gains further traction. While mobile and internet-driven communications surge in popularity and prominence, the fixed voice services have proven to be important in ensuring reliable, accessible, and secure communications during this post-COVID world.

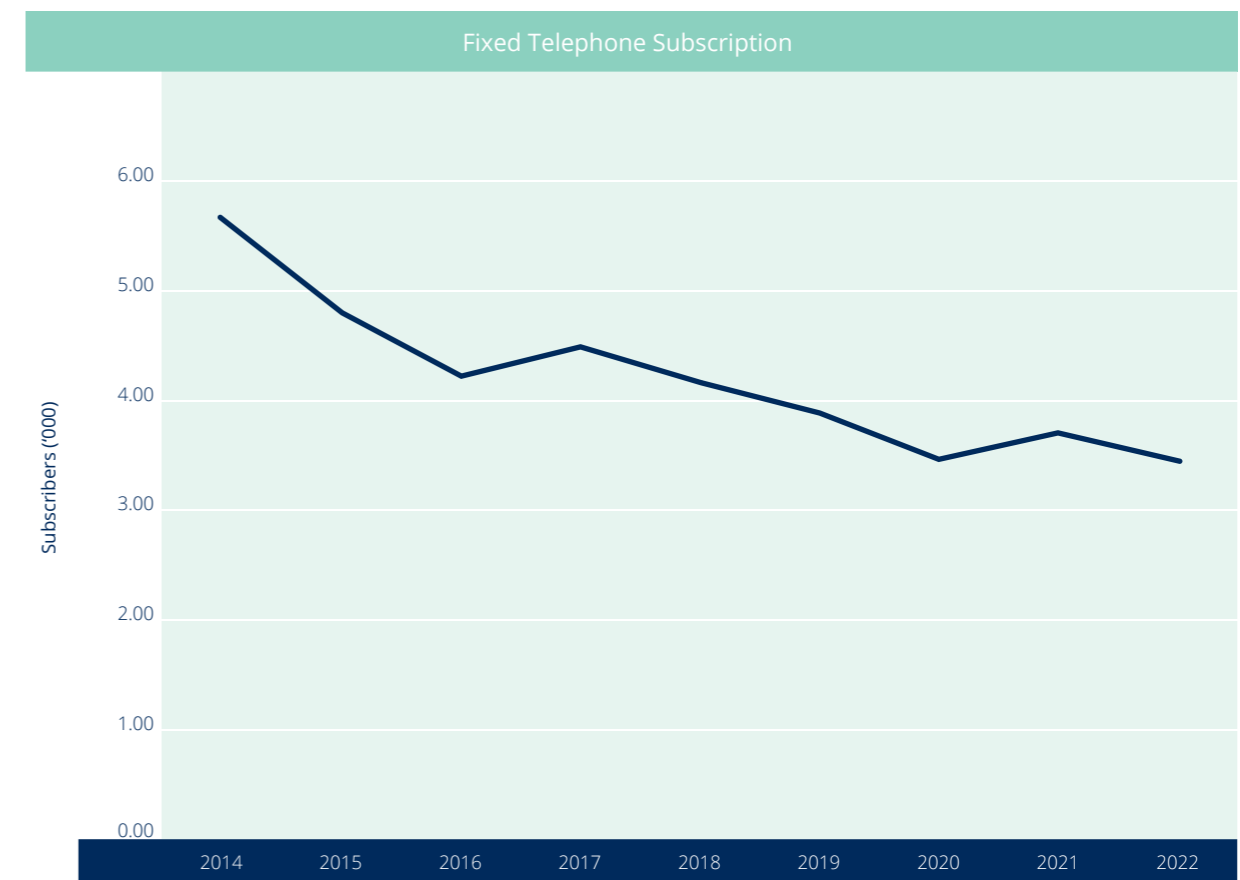
8.1. Fixed Voice Subscription

Vanuatu's fixed telephony market has this year witnessed a drop in fixed telephone subscriptions by 6% recording only 3,430 subscribers in 2022.

The downward trend is expected to continue as mobile services continue to dominate the market and become widely available and convenient for users. These

mobile services offer packages that include SMS, call minutes, and data allowances that are better suited to today's mobile and data-intense lifestyles such as video streaming, gaming, messaging, and accessing online services such as education, Government services, health, and digital finance.

Figure 16: Showing Fixed Line Telephone Subscription



8.2. Fixed Voice Revenue

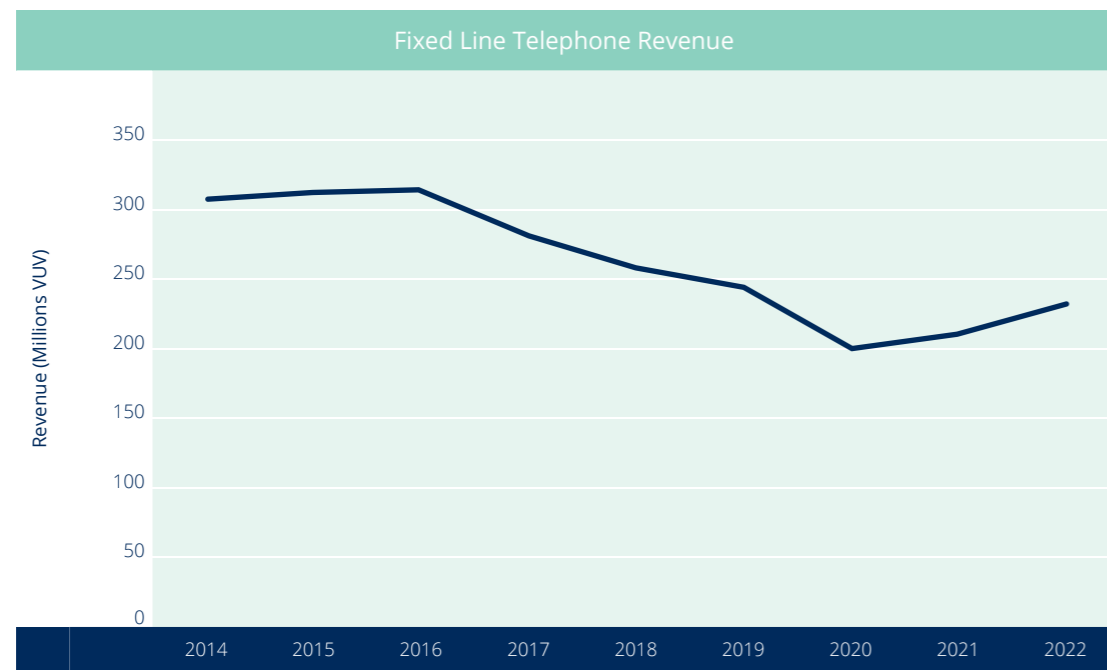
Though the total number of subscribers has declined, the fixed voice market has recorded another year-on-year increase in revenue by 9% generating over VUV277 million in 2022.

A major factor contributing to this trend is the increasing competitiveness of the market where service providers are more innovative in differentiating themselves by offering bundling services such as fixed voice, broadband and SMS services. This market approach has successfully captured the attention of consumers who value the convenience of bundled services alongside fixed voice offerings. This strategy has resulted in heightened revenue growth, capitalizing on the widespread appeal and demand for these service

combinations that are coupled with fixed voice services.

Many businesses including small and medium enterprises (SMEs), Government departments and other organizations continue to rely heavily on fixed voice services for daily operations. Digital transformation has enabled these services to offer additional advanced features like call forwarding, conference calls and other innovative functionalities which presents an affordable and convenient way to operate daily businesses. These comprehensive and attractive packages have led to increasing demand and usage of fixed voice services resulting in the growth of revenue witnessed in 2022.

Figure 17: Showing Fixed Line Telephone Revenue



9

International Calls



International call services continue to play vital role in connecting Vanuatu to the rest of the world. While the service operators are investing to improve the reliability and resilient of their respective network infrastructures, international call services continue to enable individual, businesses and Government to connect and communicate across international borders.

These services have additionally played a pivotal role in aiding the recovery of the Vanuatu tourism and labour mobility sector. They empower travellers to maintain connections with their loved ones while facilitating seamless tourist reservations and travel arrangements. This has also elevated the overall travel experience and contributed to increased customer satisfaction for both inbound and outbound travellers.

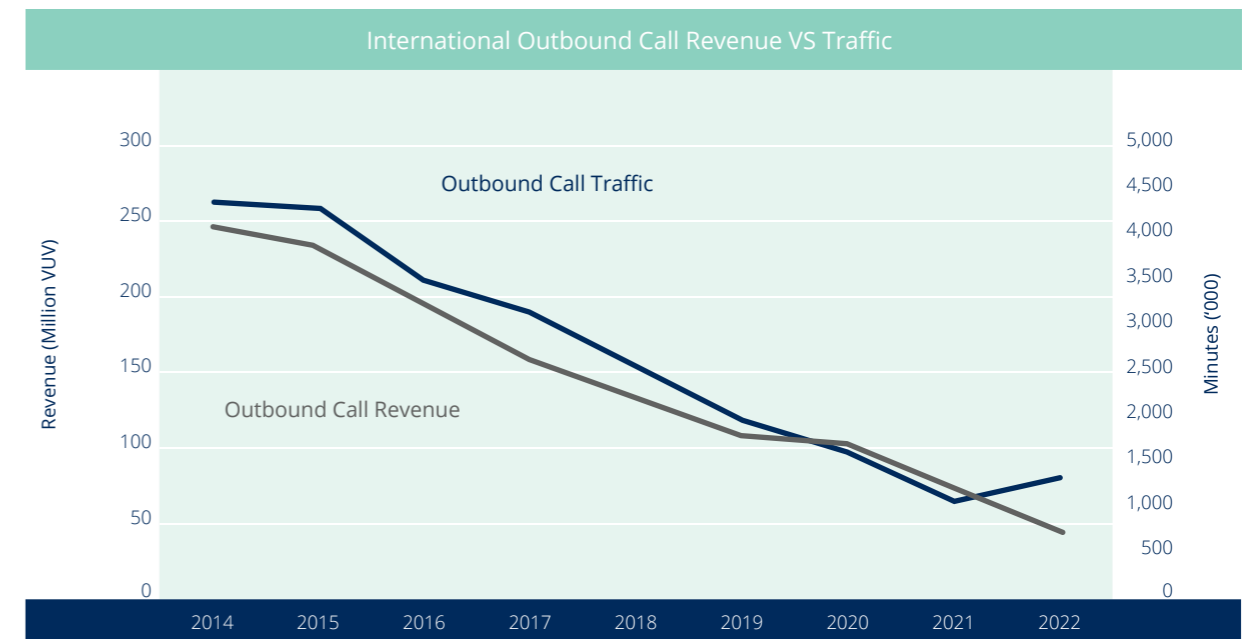
9.1. International Outbound Call Traffic

The international outbound call services refer to calls made from Vanuatu to recipient in other countries. With the global downward trend of traditional voice communications due to OTT applications, the Vanuatu international outbound call market has this year witness a spiked in call traffic by 16% recording over 1.2million minutes in 2022. In contrast, international outbound call revenue as shown in Figure 18 continue to decline recording an annual drop of 39% hitting its lowest peak of VUV46 million in 2022 compared to VUV75 million earned in 2021.

An important factor currently influencing this trend is the uptake of innovation and digital services in

the market. The technological advancement in communications has boosted demand of OTT services and other internet-based communications applications. Services such as WhatsApp, VoIP, Viber, Messenger and many more, offer low-cost international call options that can be accessible via internet. These services come with advanced features that enable consumers to make voice and video calls to communicate anywhere overseas at lower cost than traditional voice. This has caused the international outbound call revenue to shrink as consumers continue to divert preference towards OTT services.

Figure 18: Showing International Outbound Call Revenue & Traffic



9.2. International Call Roaming

The re-opening of Vanuatu international borders has had a very significant impact in boosting international call roaming services in Vanuatu. While the tourism sector continues to experience an increased in the total number of Visitors in and out of the country, data obtained by the TRBR

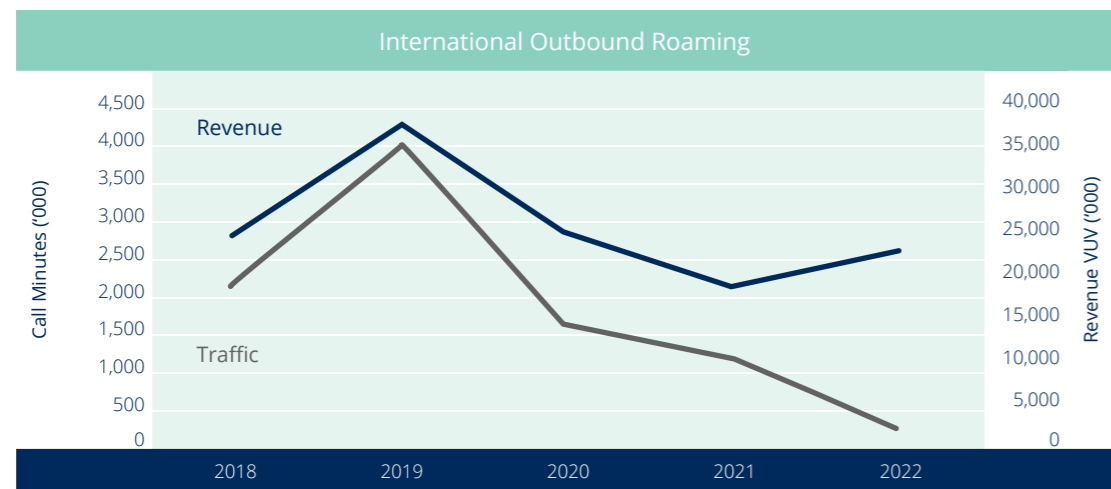
shows that total international call roaming traffic has slumped by 25%, the roaming market has witnessed a surged in roaming revenue earning over VUV54 million in 2022. The growth represents a year-on-year growth rate of 71% from a VUV31 million worth of revenue generated in 2021.

9.2.1. International Outbound Roaming

Even as Over-the-Top (OTT) services dominate the realm of communication platforms, international outbound roaming services persist in providing travellers with the ability to engage in calls, send messages, and access internet services while journeying abroad. These services enable users to link up with partner networks beyond Vanuatu, utilizing their local numbers for seamless connectivity.

The uplift of the travelling restrictions has led to the growth in international outbound roamers by 18% recording over 1,700 roamers in 2022. Data illustrated in Figure 19 shows that while outbound roaming minutes has shrunk by 72%, outbound roaming market has generated over VUV23 million worth of revenue in 2022. The growth in revenue has been driven by the increasing number of roamers due to the increase in the total number of Vanuatu Labour mobility workers travelling to Australia and New Zealand in search for employment.

Figure 19: Showing International Outbound Roaming Call Traffic & Revenue



9.2.2. International Inbound Roaming

The boost in the tourism sector in the wake of the free flow of visitors in and out of the country has had a significant impact in stimulating international inbound roaming services in Vanuatu. This service has presented a valuable avenue for travellers to stay connected via their mobile numbers while visiting Vanuatu, making it possible and convenient for them to receive calls, text, and access data services without the need to purchase a local SIM card or number in Vanuatu.

Data collected by the TRBR revealed that the Vanuatu's international inbound roaming market has witnessed a significant increase in the total number of roamers by 232% recording over 7,000 roamers in 2022. While the market has experienced this growth, data presented in Figure 20 indicates also an increase in total inbound call traffic by 140% recording over 800,000 minutes in 2022. The uptake in call traffic has led to the growth in revenue by 143% generating over VUV31 million in 2022.

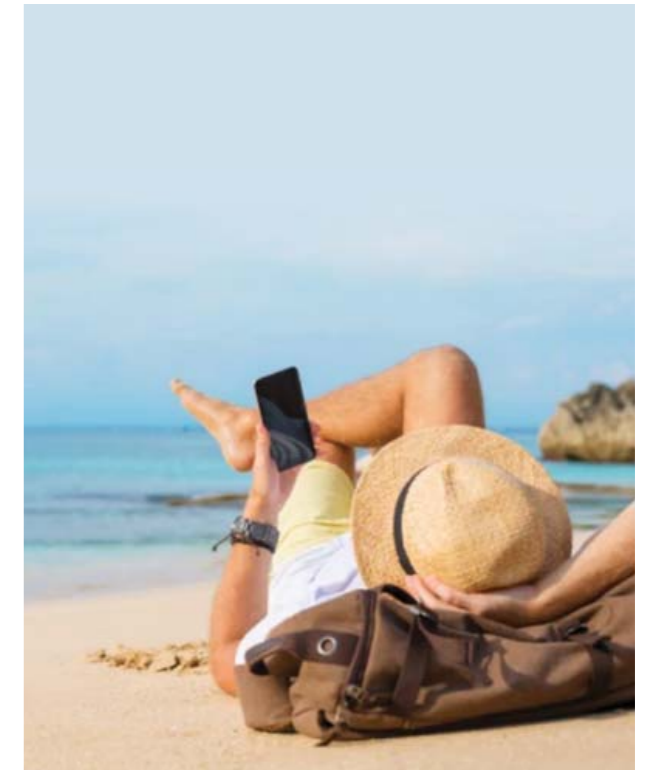


Figure 20: Showing Trend of International Inbound Minutes & Revenue

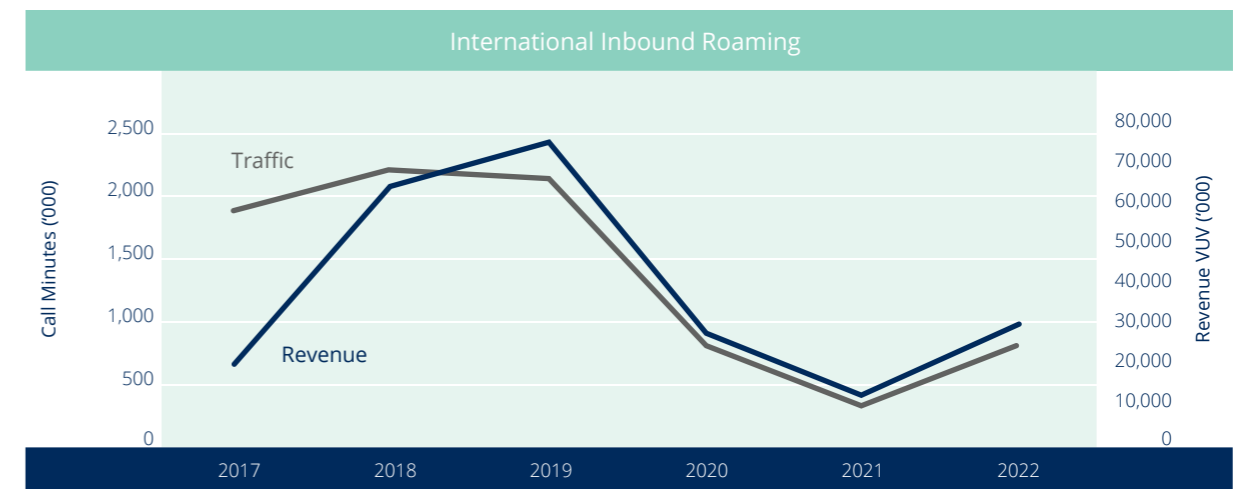


Table 1: Summary of Overseas Migration

YEAR	MONTH	ARRIVALS						DEPARTURES						CRUISESHIP ARRIVALS
		PORT VILA		LUGANVILLE		TOTAL		PORT VILA		LUGANVILLE		TOTAL		
		Residents	Visitors	Residents	Visitors	Residents	Visitors	Residents	Visitors	Residents	Visitors	Residents	Visitors	
2017		27,418	103,463	830	5,707	28,248	109,170	25,845	108,427	441	3,831	26,286	112,258	223,551
2018		28,426	111,296	510	4,338	28,936	115,634	28,160	120,736	231	3,840	26,322	124,576	234,567
2019		34,575	117,154	326 #	3,474	34,901	120,628	35,876	142,012	529	3,303	36,405	145,315	135,357
2020		10,392	21,764	17 #	201	10,409	21,965	9,122	28,095	253	39	9,375	28,134	60,401
2021		3,495	-	-	-	3,495	-	8,964	-	-	-	8,964	-	-
2017	February	1,405	5,307	33	303	1,438	5,610	1,997	5,081	8	184	2,005	5,265	18,628
2018	February	1,355	6,089	65	177	1,420	6,266	2,234	6,443	35	125	2,269	6,568	21,674
2019	February	1,401	5,757	8	108	1,409	5,835	2,535	6,792	9	84	2,544	6,876	9,849
2020	February	2,070	6,594	-	-	2,070	6,594	3,429	6,890	-	-	3,429	6,890	16,493
2021	February	209	-	-	-	209	-	936	-	-	-	936	-	-
2022	February	374	-	-	-	374	-	1,179	-	-	-	1,179	-	-
	March	16	-	-	-	16	-	865	-	-	-	865	-	-
	April	65	-	-	-	65	-	1,213	-	-	-	1,213	-	-
	May	1,056	-	-	-	1,056	-	1,040	-	-	-	1,040	-	-
	June	950	-	-	-	950	-	827	-	-	-	827	-	-
	July	3,342	3,538	-	2	3,342	3,540	1,150	3,623	-	12	1,150	3,623	-
	Aug	2,390	4,575	-	-	2,390	4,575	1,343	4,579	-	-	1,343	4,579	-
	Sept	2,546	5,636	-	-	2,546	5,636	1,031	3,028	-	-	1,031	3,028	-
	Oc	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Nov	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Dec	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2023	Jan (p)	1,703	6,597	-	-	1,703	6,597	2,047	9,307	-	-	2,047	9,307	25,851
	Feb (p)	1,938	2,935	-	-	1,938	2,935	3,121	4,357	-	-	3,121	4,357	16,827

Source - Department of Customs and Inland Revenue

No Visitors/Residents were recorded for the reference month N/A not available

The border re-openings and the uplifting of all travelling restrictions has been the major contributing factor to the increase in the demand and usage of international inbound roaming services in Vanuatu. Although OTT services have asserted their dominance in the mobile market, the upswing in Vanuatu's tourism sector has triggered a rise in the overall number of visitors journeying into the country for vacations, business ventures, and other reasons.

Consequently, this surge has translated into an increase of roamers, and the need to stay connected while abroad. This, in turn, is fuelling the demand for international inbound roaming services, leading to a noticeable expansion in inbound roaming revenue, as evidenced by the developments in 2022.

10

Conclusion

While Vanuatu is experiencing the rapid pace of digital transformation, this telecommunications report emphasizes on the dynamics and nature of the telecom sector and its on-going transformation to meet the ever-changing demands of the new normal in the society. The escalating reliance on connectivity is steadfastly aiding individuals in their daily endeavours and facilitating secure operations for businesses. As Vanuatu navigates through the post-COVID era, mobile connectivity remains essential for innovative digital solutions to meet present market. Further, the increasing adoption and deployment of digital technologies such as 4G and cloud services are driving economic growth and enabling digital transformation in every sectors.

Though there are a lot of room for improvement, Vanuatu continues to witness increasing level of competition in the market and regulatory frameworks continue to enable an environment that is seen to be fostering development in the telecom sector. This rising demand of digital services has continued to stimulate growth in the consumption of mobile and fixed broadband services and continue to drive operators' investments and deployment of innovative technologies in their networks to meet consumer demands with improved offerings at low cost.

Furthermore, this report also acknowledges that there are still a lot of challenges that needs be addressed and concerns arising from digital divide, accessibility to devices by gender and usage gaps by gender especially in the remote areas, remains a priority for the Government. The uptake in the implementation of the Government's Universal Access Policy has also continued to address these concerns. Nevertheless, it is also important that people must be able to accept technological developments and transformation and adopt new innovative technologies to foster their way of life.

Above all, it is now an urgent priority for the Government and other stakeholders to establish and implement relevant policies to accelerate digital transformation that can boost social and economic growth and address current challenges in the telecom sector. Success to this relies heavily on effective collaboration across sectors and across borders to ensure that the ecosystem provides an avenue that supports and address these challenges in more effective and convenient way.





TRBR

Telecommunications,
Radiocommunications &
Broadcasting Regulator